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THE ARCHITECT AND CONTRACT REPORTER.

VOL. LXI.

PRINTED BY
SPOTTISWOODE AND CO., NEW-STREET SQUARE,
LONDON

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THE ARCHITECT

AND

Contract Reporter.

A WEEKLY

ILLUSTRATED JOURNAL

OF

ART,

CIVIL ENGINEERING,

AND

BUILDING.

Nothing useless is, or low;
Each thing in its place is best;
And what seems but idle show
Strengthens and supports the rest.

For the structure that we raise
Time is with materials filled;
Our to-days and yesterdays
Are the blocks with which we build.

LONGFELLOW.

VOL. LXI.

JANUARY TO JUNE, 1899.

LONDON:

PUBLISHED AT IMPERIAL BUILDINGS, LUDGATE CIRCUS, E.C.

THE
ARCHITECT
AND CONTRACT REPORTER.
A JOURNAL OF ART, CIVIL ENGINEERING & BUILDING.

THE WEEK.

FOR over thirty years "175 Strand" has served as the publishing offices of *The Architect*. The connection between the two is, therefore, close in the minds of our subscribers and of the public. If it has to be severed even temporarily, there will be regret, for we have reason to be proud of our success, and naturally associate a part with the building. But improvements cannot be stayed in the Strand any more than elsewhere. The whole block of which No. 175 is a part has to be rebuilt, and there must be at least a temporary removal. We shall, therefore, occupy our city offices at Imperial Buildings, Ludgate Circus, which many consider to be the most central position in London, as a substitute, and we are confident that our friends will not in any way suffer inconvenience beyond having to change the address of their letters to us. There we hope to have a continuance of the same success which has hitherto attended us, and we are sure our supporters will give us their good wishes. For our part we sincerely desire that the closing years of the century may bring them happiness and prosperity.

SCOTTISH law differs in many ways from what is exercised in the South, but it is satisfactory to find that the equitable principle of permitting the architect to act justly is equally recognised in both. A builder lately sued a parish minister in the Kirkcaldy court for 73*l.* 8*s.* 9*d.* for work done. In the contract it was stated that the work was to be done to the satisfaction of Mr. LITTLE, architect. He declined to give his certificate until the contract was complete in all details. The builder complained that the architect was "unreasonable and faddy," and said that while doing the work he suffered from needless and vexatious interference. The minister expressed willingness to pay as soon as the certificate was produced, but not before. Then proceedings were taken. After hearing the evidence the case was dismissed. In the usual note or explanation of his decision, Sheriff GILLESPIE, the judge, wrote as follows:—"The substantial question raised is, whether the pursuer is entitled to get behind the architect named in the contract. His averments must be closely scanned. He does not aver that the defender has influenced Mr. LITTLE in refusing a certificate. Even the grounds stated against Mr. LITTLE are slender. The gist of the pursuer's complaint is that Mr. LITTLE had insisted on exact compliance with the terms of the contract — in other words, that Mr. LITTLE has done his duty as an architect. Then he goes on to say that Mr. LITTLE has been fanciful in his requirements — which is a matter of opinion. I am not prepared to say that a contractor would have no remedy if the architect persistently refused to grant a certificate without stating what was wrong with the contractor's work and what he required to be done. There are some allegations in the pursuer's condescendence (pleadings) which, read by themselves, might suggest such a case; but it is tolerably plain from the condescendence itself, read as a whole, and still more plain from the correspondence in process on which pursuer finds that he knew quite well what Mr. LITTLE wanted. He had, no doubt, considered that Mr. LITTLE was 'unreasonable and faddy,' but it is a different thing from ignorance of what he wanted. After stating his requirements, Mr. LITTLE was not bound to state them over again." That is a satisfactory conclusion, but in days when knowledge is so widely diffused in Scotland, a builder should not have to undergo the expense of discovering what is an architect's duty.

THE intention to expend 300,000*l.* at least on a lunatic asylum for East Sussex alone—in the western division of the county there is a similar building in progress—may cause Sussex to be called silly instead of stupid. The truth is lunacy is a growing evil and, like the majority of railway stations, the county asylums have been planned without a recognition that the future must be considered rather than the present. The county asylum at Hayward's Heath, which was supposed to be adequate for the whole of East Sussex, is to be taken over by Brighton, to provide for the impending needs of "the queen of watering-places," and we suppose an expert would say the arrangement was prudent. In the new asylum there will have to be arrangements for the classification of patients according to the varieties of disease, and for allowing some degree of liberty to selected patients. The new asylum is to be very plain in character, and the average cost of 275*l.* per bed will be consequently reduced to 267*l.* It is expected that the total outlay will not be more than a rate of $1\frac{3}{4}d.$ in the £, and if paying patients can be attracted the rate may be reduced to $1\frac{1}{4}d.$ in the £.

EFFORTS are made in the United States to make known the wealth which exists in the country in beautiful marbles and other ornamental stones. At the recent convention of architects specimens of onyx, alabaster, porphyry, catlinite, verd antique, pegmatite, &c., were exhibited. They were admitted to be equal in quality not only to the varieties which are now obtainable from foreign quarries, but to the ancient specimens found in museums. Professor MERRILL, who introduced and described the specimens, was, however, compelled to own that the American products were handicapped by the cost of production. He told the architects how "the high prices now put upon skilled labour, and enforced by labour unions, have in our country very largely counteracted the cheapening of methods of transportation through the introduction of steam-power. Indeed, owing to the cheapness of foreign labour as compared with that of the United States, the Italian materials will to-day compete on equal terms in our Eastern markets with those of the United States; and were it not that modern ingenuity has called into play a score of mechanical devices whereby the labour of one man is multiplied many fold, it would be impossible for any but the very wealthiest of our people to indulge their taste in any but the most commonplace of art objects made from domestic materials so obdurate as stone." One of the consequences was that scarcely one of the stones he displayed was to be found at present on the American market. The Americans, who have a weakness for beautiful varieties of stone, must be thankful that in Italy and elsewhere in Europe trades unions are not encouraged by Government as they are in the States.

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REMBRANDTS AT THE ROYAL ACADEMY.

IT is disputed whether REMBRANDT visited England, but the number of his works in Burlington House is evidence of the remarkable attraction he has exercised upon collectors. Over a hundred of his oil-paintings were lent, besides sketches, and the thirtieth winter exhibition of the Royal Academy is confined to them. It is needless to say many more of REMBRANDT'S works are to be found in this country, but those selected are sufficient to suggest the greatness of the master. If we bear in mind that according to BODE there are only 377 paintings by him in existence, of which number Holland has but twenty, the value of the exhibition will be more apparent.

As usually happens in these exhibitions the Academicians appear to be indisposed to turn the treasures confided to them to the best account. Ideas are not much valued in Burlington House, and to suggest that a collection of paintings can be arranged in such a way as to establish a principle would be an absurdity to the academic mind. A picture is supposed to be a piece of coloured canvas of a certain size in a frame, sometimes longer than broad, sometimes with more breadth than length. To place a big canvas in a central space, to arrange a certain number of others of corresponding forms on each side is considered the perfection of hanging. Whether there is any relation between the pictures or whether they will bewilder a spectator by their variety is of no concern. The sizes of the frames are of more importance than the subjects.

For REMBRANDT especially there could not be a worse arrangement of his paintings than that commonly adopted in the Royal Academy, for it is fatal to the personal note which his works can be made to express. He must be considered as the most egotistic of all painters. Whether he was right or wrong in forcing himself on our notice we need not inquire, but we cannot appreciate his works properly if we lose sight of him. The numerous portraits of REMBRANDT are revelations of his moods from time to time, and his own feelings were a guide to the interpretation of those of his subjects. The Academicians have been fortunate in obtaining about a dozen of those portraits which are like pages from an autobiography, but as they were judged by the dimensions of the frames they are found scattered through several galleries instead of being placed in succession together as their character demanded. Or, if that arrangement was considered too simple, then one of the artist's portraits could be placed amidst the works which were produced about the same time. The Academicians did not, however, realise that REMBRANDT'S portraits were of any more importance than those of the rabbis and burgomasters, and in consequence the exhibition fails to express not only the man, but the artist, as would have been possible if a satisfactory idea inspired the hanging.

That REMBRANDT did not make a subject of himself for his own gratification alone is evident. But we cannot now understand how or why the portraits should have market value. If any of the Royal Academicians tried to imitate his practice, we are afraid the likenesses would not be in demand. REMBRANDT could represent himself in oils or with his etching-needle without any apprehension of wasting his time. His contemporaries, we suppose, found as much pleasure in the portraits as Frenchmen some years before discovered in MONTAIGNE'S revelations of himself. The Dutchmen were pleased when they saw their great portraitist with his wife on his knees, with one hand round her waist and an immense glass in the other, or staring as if in fear, or laughing as if for a wager, or smiling as if proud of "the three moustaches." In the Academy exhibition we are not fortunate in having humorous portraits of the painter, but those on the walls are not monotonous or conventional.

We begin with one painted in 1632, when the artist was in his twenty-fourth year, for the archives record his birth as an event of 1608 rather than of 1606 or 1607. It is evident from the sweetness of the expression that REMBRANDT was then happy. He was living in Amsterdam, and as in 1632 he had produced his wonderful *Lesson in Anatomy*, which is now in The Hague, his supremacy was acknowledged. In a portrait of 1637 he appears as a gentleman who is at ease and to whom fate was kind. REMBRANDT had married "SASKIA" in 1634 and received a large fortune with her. Her face was as favourite a subject to him as his own. It is believed by some critics that the girl whose presence illuminates the so-called *Night Watch* by her face as much as by her dress and jewels, is "SASKIA," and as she died in the year the picture was painted, the mysterious figure might be a symbol of the light-bringer who shed a radiance over eight years of the artist's life, and whose departure was destined to be followed by a long period of gloom. REMBRANDT loved to see his wife adorned as an Eastern princess, and in the Duke of BUCCLEUCH'S picture she appears as a phantom of delight in gorgeous raiment, her head crowned with flowers and bearing a wand as if she were an enchantress. As usual, she smiles and appears beyond domestic cares. In the second portrait on view she is more terrestrial, with her velvet dress, embroidered cloak, necklace, earrings and cross. REMBRANDT considered that "SASKIA" looked best in yellow, and from wearing a robe of that colour and from the quantity of jewels introduced, we believe it is she who appears in the so-called *Burgomaster Pancras and his Wife*, and that the title should be *Rembrandt and his Wife*. It belongs to the Queen. Her features were those of a Dutchwoman, that is to say, she was not endowed with Greek or Italian beauty, but on that account she was more comely in REMBRANDT'S eyes. There is a wonderful portrait of him lent by Lady DE ROTHSCHILD, which, according to the catalogue, was painted in 1656. We prefer to believe it was painted prior to "SASKIA'S" death. REMBRANDT appears in it as if he were a companion to his wife in some fête. There is so much that is Eastern about the costume and appearance of the man, it might be taken, if it bore no title, as a portrait of an actor who was about to appear as OTHELLO, but whose "make-up" was not complete. The face is grey rather than black or brown. The artist wears one of those large brown caps he admired, but it surmounts one that is close-fitting and which is crossed with stripes of colour.

After 1642 there is a change. The *Man with the Sword*, if a portrait of REMBRANDT, has none of the truculence we should expect from the owner of such a weapon. It is a quiet, subdued warrior who gazes at the spectator. Nor is there any trace of the roystering artist in the portrait from Buckingham Palace, although he wears a red vest inside his black cloak. In the portrait belonging to Lord ILCHESTER, which is dated 1658, the painter appears almost like an elderly rabbi, in a grand robe with a silver-topped cane which reflects much light, while in one painted in the following year he is evidently oppressed by time and care. REMBRANDT is an old and saddened man in Lord KINNAIRD'S portrait, while in one (No. 4) dated 1660 he appears to be seventy-two rather than fifty-two. A more pathetic portrait than the latter it would be difficult to find, for the very resignation it expresses reveals that fate has done its worst. Another portrait (No. 20) shows him as still painting, and there is a big circle introduced as a panel, by which he may have intended to suggest that his hand was firm enough to draw GIOTTO'S O, but the face is too adipose for a man who is vigorous. It is the last of the series, and, although the handling continues to be remarkable, leaves a melancholy impression on the observer. It is supposed to belong to the period between 1660 and 1665. On October 8, 1669, the great painter who, as BYRON says, "made his darkness equal light," was buried in a pauper's grave in the churchyard of the Westerkerk, at an expense of 15 florins to the congregation. The visitor should be enabled to compare these portraits without having to hunt after them through the various galleries. REMBRANDT has in them suggested the story of his life, and they lose much of their interest when they are distributed at random.

There are also materials to show his affection to his family. The portrait of HARMEN GERRITSZ, the painter's father, is painted with an elaboration which proves how delightful was the labour. Every hair appears at first sight to have a separate existence on the canvas, and the chain which he wears over his black robe, and was probably an insignia of office, might be painted by HOLBEIN. There is a small portrait of the artist's mother, which in execution resembles a miniature. A second which is exhibited must be a replica, and from REMBRANDT'S temperament we doubt whether he could attempt a copy without introducing something new. One or more of the numerous "old ladies"

may also be inspired by filial love. Of his sister we have four portraits. She was more regular in feature than "SASKIA," but she was adapted like one of the Misses FLAMBOROUGH to be represented as holding an orange; to show so quiet a girl grasping a dagger was one of her brother's pictorial jokes. A portrait of REMBRANDT'S son TITUS shows he was not more fond of study than the majority of little boys. We afterwards see him as a young man. He was not successful as a painter, and died before his father.

It is not only by REMBRANDT'S portraits of himself we are puzzled; his Scripture scenes also present a difficulty to the inquirer. For whom were they painted? There was no place for them in Dutch churches. On that account the very large *Deposition* belonging to the Duke of ABERCORN will give rise to doubt about its authenticity. In what Dutch house could room be found for so vast a work? If considered in its technique it seems to be derived from a study of Italian pictures, and the only part which has the characteristics of REMBRANDT'S manner is the fine head of JOSEPH of Arimathea, who bends over the SAVIOUR'S body. There is no effort to add dignity or mystery to the scene by means of chiaroscuro, and the endeavour to contrast lifeless flesh with a white sheet, which gained RUBENS a triumph, is shirked, although for REMBRANDT it would be likely to have irresistible fascination. Where the painter is most successful is in his small representations of Biblical scenes, especially those from the Old Testament, and which Jewish patrons may have commissioned. Whenever the large *Belshazzar's Feast* out of Lord DERBY'S gallery appears in an exhibition—it was first shown in London in 1821—it is sure to be abused. If it were not assumed to be one of his early works we should say it was left unfinished by REMBRANDT, or the paints may have faded, and the part where the handwriting on the wall appears has less of a contrast with the remainder of the picture than formerly. The Hebrew lettering is too prominent and perfect, and must be the handiwork of a sign-painter.

REMBRANDT was more at ease with cabinet pictures, and most of all in his etchings. He possessed engravings of famous Italian paintings which were found in churches, but he adopted a different mode of interpretation. He saw around him a display of wealth among his Jewish patrons, and he knew they believed that in their own land they possessed whatever the East could supply as an aid to luxury. Consequently in *Isaac and Esau* we see a bedroom rich in tapestries, gilding, cushions, which surpasses anything shown by DELAROCHE in the royal chambers of France. *Abraham dismissing Hagar and Ishmael* is not a scene to excite pity. The woman is "mounted on a richly-caparisoned donkey" which her son holds, and the patriarch appears to bid them good-bye, as if they are departing to one of his numerous properties. In *Joseph's Coat* JACOB is overcome by the sight of the garment and his grief is represented with much power, but the buildings in the background are signs of a very wealthy cattle-dealer.

The New Testament scenes could also be found in an Hebrew's house without being evidence of apostasy. It would be wrong, perhaps, to say there was a little of Mr. Facing-both-ways in REMBRANDT, but he is not definite in marking the difference between the two Dispensations. His etching, *The Death of the Virgin*, is a magnificent scene, which might have taken place in SOLOMON'S palace. In one of the etchings of *The Resurrection of Lazarus*, Our LORD is endowed with majesty, but generally the artist was disposed to indicate He was despised and abject among men. In the *Christ and Mary Magdalene at the Tomb*, which used to be known as *The Entrance to the Tomb*, or *Noli Me Tangere*, from the Royal Collection (it once belonged to the Empress JOSEPHINE), CHRIST appears in a broad straw hat and holds a spade. There is nothing to suggest the figure is more than mortal. It is in scenes like *The Tribute Money*, *The Circumcision*, *The Adoration of the Magi*, &c., where crowds can be introduced, and the figures are too little to excite theological questions, that REMBRANDT appears to have found most enjoyment. He could alter the buildings which serve as backgrounds to suit his requirements, and had no apprehension about breaking architectural or other laws. If compared with Italian representations of similar subjects, they do not appear to have had a common origin.

From the figures which appear in the Temple scenes to the portraits of the rabbis and other Jews there is no great distance. The difference is one of scale. With many of the men who sat for their portraits REMBRANDT must have had financial business, and his experience was, we suppose, like that of artists of later time. Some were generous, others exacting. There is only one man among the Jewish subjects who corresponds with SHYLOCK, and the painting comes from the Hampton Court collection. The portrait belonging to Earl BROWNLOW shows an invalid rather than a usurer. There are two portraits of an elderly rabbi in a gold-embroidered turban and dark robe, with a jewelled clasp, who looks like a man who had authority in Israel. It is hard to decide which is the original, for both are marvellous representations of a man who has disagreeable duties to perform, but has sufficient control of his feelings to execute them. Another richly adorned rabbi belongs to Lord DERBY, and many of the old men have Jewish physiognomies.

It is to be regretted that we do not know more about the subjects and their connection with REMBRANDT, for evidently the artist was most successful in painting the men and women whom he admired. There is *Dr. Bonus*, for example, whose diamond ring has gained a success which is not likely to befall the Koh-i-noor, for it inspired a masterly etching. In the oil picture the Doctor appears as a young man in a dark dress, with stripes that suggest silk, a cloak and high-crowned hat. If all the medical men of the seventeenth century resembled him, then the satirists must have wandered far from the truth, for he appears to have as much kindness and intellect as any London physician of our time. *Burgomaster Six* is another celebrity of the etchings, and he appears in the portrait as a young man with long fair hair in a black gown. The face is tenderly painted as if affection inspired the artist. All thought of effect seems to have been laid aside, and REMBRANDT painted his friend with the expression that he must have liked to see spread over his features. A third marvellous piece of characterisation is the portrait *Nicholas Berchem*, who appears as if uttering some sly joke or sarcasm that did not wound deeply. But there is nothing more vivid than the *Shipbuilder and his Wife*, which was painted by REMBRANDT in his twenty-fifth year. The old man must surely have drawn the section of a ship which is lying before him, and the half-resentful glance he casts at his wife when she interrupts his meditation by rushing in with a letter shows REMBRANDT'S very keen insight. A man of the same metal, to whom the sea was an instructress, is presented in the portrait belonging to Mr. FITZWILLIAM. Apparently the artist was less at ease before the women of that time, especially those who were not aged. They have an air of living up to their stiff costumes. Even Madame SIX appears to assert her dignity. A portrait of a lady from Buckingham Palace shows so much beauty that we cannot believe she is a Dutch woman, and an old lady seen in Captain HOLFORD'S portrait is so merry that she compensates for the pessimism that is seen in some of the other portraits.

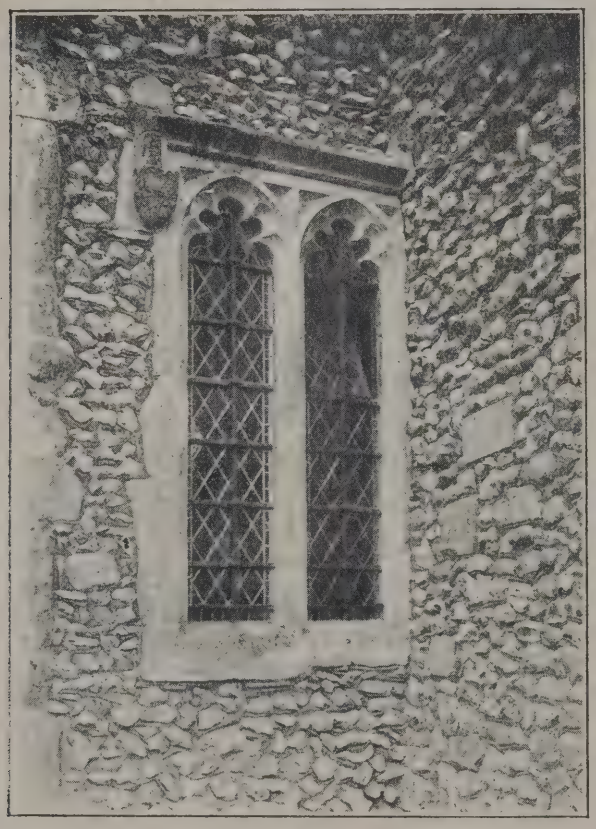
The Man in Armour, belonging to the Corporation of Glasgow, is undoubtedly a fine picture, but if REMBRANDT had once drawn such a helmet it would have appeared again and again among his figures. *An Orator*, belonging to the Duke of NEWCASTLE, shows nothing to bear out the title, and it might with as much propriety be called *A Poet*; but it is not a picture which would be recognised at the first glance as REMBRANDT'S. But in every exhibition of Old Masters we must expect to see doubtful works. There are a few landscapes, *The Mill* being the most important. Over two hundred sketches by REMBRANDT are exhibited, but the exhibition should also present examples of his etchings. By omitting them REMBRANDT is only partially revealed to the visitor; but the indifference is only a further proof of the perfunctory manner in which all the arrangements for the thirtieth exhibition were carried out.

Professor Gardner will deliver the first of a course of lectures and demonstrations on Greek vases, &c., at University College upon the 16th inst. at 4 P.M.

A PRIORY IN A VILLAGE IN FORMER TIMES.

By Rev. J. K. Floyer, M.A., F.S.A.

On the banks of the Avon, and on the borders of the diocese of Winchester and the county of Hampshire, stands the village of Breamore. The church is shown by recent investigation to be in substance of Saxon origin. An inscription, apparently recording the fulfilment of a vow, is carved in Saxon letters and language on a contemporary transept arch, and the general outline of the church is similar to that of other Saxon churches. Presumably its original establishment was due to the preaching of Birinus, first bishop of the West Saxons, who for fourteen years, beginning in A.D. 634, exercised his ministry in the kingdom of Wessex, and possibly crossed the river at Cerdic's Ford, now Charford, which is a mile from Breamore Church, and which had been the site of a great victory 115 years before of Cerdic over the Britons. Breamore then, with its Saxon church, most probably formed one of the earliest parishes of Birinus, though no part of the existing church is apparently of earlier date than the tenth or eleventh century.



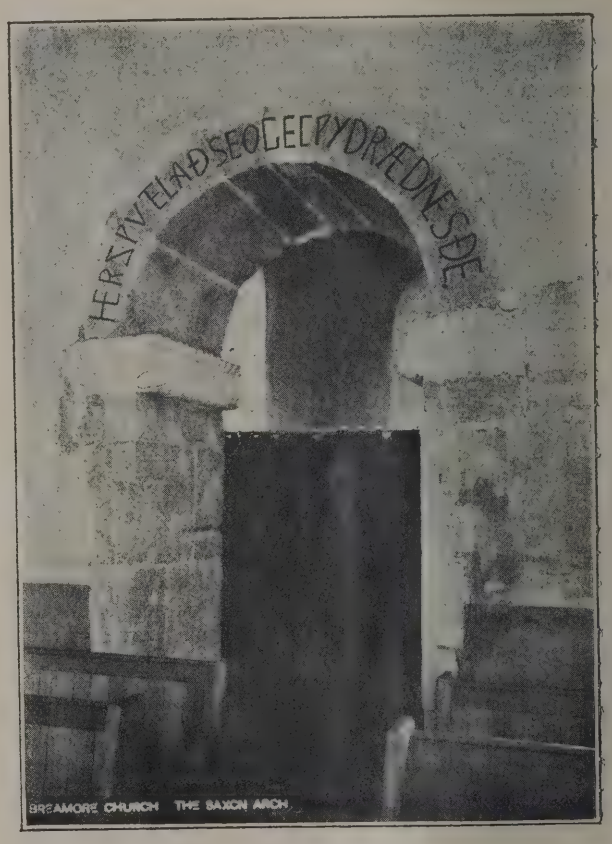
And so it continued as the only recorded ecclesiastical institution of the parish until the twelfth century, when Hugh de Port and his nephew Baldwin de Redvers, Earl of Devon and Lord of the Manor of Breamore, followed the pious custom most highly esteemed at the time and founded a priory of Black or Augustinian canons in the parish,* a mile from the church and on the bank of the river. Baldwin was buried at Quarr, in the Isle of Wight, in another monastery which he had founded for the Cistercian Order.

The Priory of St. Michael of Breamore figures but little in history, but bears an important part in the ecclesiastical life of the parish. At different periods it acquired the right to impropriate the rectories of Breamore itself, of Rockburne, a few miles distant,† of Whitsbury, on the downs close by,‡ and of Bardyng (Brading), in the Isle of Wight.§ Hale, too, and South Charford, both chapelries of Breamore, came into the hands of the priory, and were served by those canons who were ordained.

* Tanner, *Not. Monast.* 1744, p. 162.
† Madox, *Formulare Anglicanum*, 1702, p. 22.
‡ Letters and Papers, Henry VIII. No. 1217.
§ Pat. Roll, 29 Ed. I.

It would be interesting to ascertain what proportion of the canons of this house proceeded to holy orders, but in the absence of any evidence as to the number which the priory contained at any one time, we can only say that in all probability a sufficient number were ordained to serve the churches under the charge of the monastic house, and to read the offices in the home chapel. In the seven years from 1316-23 there are notices of four Breamore canons receiving priests' orders, two others being ordained as acolyte and subdeacon in consecutive years, and a third couple passing through the subdiaconate and diaconate to the priesthood.* The number in the priory at the Dissolution was only nine,† and may never have been greater.

But their influence by the appropriation of rectories extended over a considerable area, though North Charford, which adjoins South Charford, had its independent church in the gift of the Prior of St. John of Jerusalem early in the fourteenth century, and never seems to have come under the control of the Breamore house.‡ North Charford is now extra parochial, has no church, and the tithe is paid to a layman. At Whitsbury the canon who was appointed to the rectory was bound to reside; but William Coke, who was instituted in 1321, was only in deacon's orders.



The priory served these churches perhaps better than the secular clergy, who, according to the accounts given by the monastic writers, were inclined on the whole to be negligent in their discipline. But while it did this, to a large extent it destroyed a prominent feature of early English church life, by taking away the responsible priests from their cures and causing the churches to be served by those who, if more diligent in their duties, were certainly unable by their common life, lived under rule apart from their parishioners, to keep the people so well in touch with the church. The two systems, originally supplementary one to the other, eventually became antagonistic. The parochial system promoted the limitation of territorial districts to the jurisdiction of one bishop, and the subdivision into parishes in charge of one responsible 'persona' or rector. The monastic system, on the other hand, tended to form centres of learning and piety with branches wherever they could be established, and where, as in the case of Breamore, it grafted itself upon the parochial system by the appropriation of

* Registers of Asserio and of Sandal. Edited by Baigent.
† Tanner, *Not. Monast.* as above.
‡ Bps. Regs. as above.

rectories, it practically crushed the life out of the system and supplanted it.

The Priory of Breamore, as the administrator of alms to the poor, and as the chief ecclesiastical power of the district, was undoubtedly much respected and esteemed. Its life was quiet and uneventful. In 1281 Archbishop PECKAM, the reformer of ecclesiastical abuses, was at Breamore,* and sixteen years later the king's agent came there on his round from Langley, offering protections and pardons to those who would contribute to the Crusade, and terrifying the monks with stories of enemies already landed in England, who had carried off sacred vessels and ornaments from the churches and barbarously murdered ecclesiastics and decrepit persons.†

being made on the site of the priory are found several stone coffins, arranged with some method, two at one end of a building and one in the middle, covered by a circular design in tiles made for the place where they are laid. The coffin to which this especial honour was given may have been the one which contained the bones of the Countess ISABELLA.

By the end of the fourteenth century the foundation of monastic houses had ceased all over England, and a great stimulus was given to secular church building, especially in the diocese of Winchester, by WILLIAM OF WYKEHAM, one of the great architect-bishops. The influence of this also was felt at Breamore. A little before A.D. 1400 Sir JOHN POPHAM was born,* probably at Southampton.



In 1296 died ISABELLA, Countess of Albemarle and sometime Countess of Devon. She was taken ill at Sutton, on her way from Canterbury, and was taken to Stockwell, where she died.‡ Brother WILLIAM DE GAYNESBURGH, who had been her confessor for four years previously, attended her, and her body was taken to Breamore Priory and buried there.§ The prior was one of her executors, and the advowson of Brading in the Isle of Wight was transferred to the priory, that prayers might be said at Breamore for her soul.‖ Among the excavations which are

* Registrum Epistolarum Johannis Peckam.
† Cal. Pat. Rolls, 29 Ed. I. ‡ *Ibid.* 1301.
§ Liber Rubeus de Scaccario, 1293.
‖ Cal. Pat. Rolls, 1301.

Now it has not infrequently happened that of two historic personages bearing the same name and exercising much the same functions, one has entirely obscured the other from public view. Sir JOHN POPHAM of Hampshire requires to be carefully distinguished from Sir JOHN POPHAM of Littlecote. From the romantic stories connected with the acquisition of the Littlecote property and the crime of DARRELL, which have been stamped with the authority of Sir WALTER SCOTT and MACAULAY, the attempt to work in the ballad of the "Green Lady" as part of the POPHAM history instead of that of the BOLLES family, the tradition that Sir JOHN POPHAM, as Lord Chief Justice of HENRY VIII's.

* Cf. Art. in *Dict. of Nat. Biog.*

reign, hung in later years the thieves in whose company he had formerly picked pockets on Tower Hill—these and other incidents, none of them possessing more than partial truth, and some of them without a trace of it, have hitherto concentrated the glance of public interest on the more romantic if not more illustrious figure of the two bearing the same name.

Sir JOHN POPHAM, sen., for he lived a generation before the Chief Justice and was but a distant cousin, was in 1415 constable of Southampton, where his family had hereditary possessions. In this capacity he had the custody of the Earl of CAMBRIDGE and others engaged in the conspiracy to assassinate HENRY V. on his embarkation with 1,500 ships for the French wars. POPHAM himself subsequently embarked with thirty men-at-arms and ninety archers, and soon distinguished himself as one of HENRY'S most prominent followers in the conquest of Normandy, and received honours and rewards. Continuing in the French wars under the Duke of BEDFORD he was made Chancellor of Anjou and Maine and Captain of St. Susanne.* After the Duke of BEDFORD'S death he was appointed to serve on the Duke of YORK'S Council in Normandy, and in 1437 made Treasurer of the Household to King HENRY VI. Upon this he added a bezant to his paternal coat of arms of two bucks' heads.

On March 19, 1439, he set out on an embassy to the Earl of WARWICK in France, and also to make a treaty with the "bastarde of Orlyance" in Brittany. On his arrival at Cherbourg on his return home he was met by messengers from the king, in consequence of which he went to Rouen and waited there until the end of August, when he was employed by the king to make terms for the truce. POPHAM did not relish the prolonged stay in France, and when permission to return was sent him on the last day of September, he "shope hymne into Engdondewarde in the goodliest hast that he might, and spede hymne in sech wyse that, blest by God, he comme to Londone agene the xx day of October,† after being absent 200 days." After this he retired from his warlike life and sat as member of Parliament for his native Hampshire in 1449. He was chosen Speaker of the House of Commons, but begged the king to excuse him on the ground of the infirmities of an old soldier and the burden of advancing age. His request was granted, and WILLIAM TRESHAM appointed in his stead.‡ He died on April 14, 1463.§

His part in the ecclesiastical history of Breamore has partly been brought to light by the discovery of a Service-book in the British Museum.‖ The accounts of the foundation of parish churches in the Middle Ages are so rare that it is worth while recording in detail his contributions to the building of churches.

The Service-book mentioned above records that the "parish church of South Chardeford, together with the burying-ground, in the diocese of Winchester and the county of Southampton, was dedicated on the festival of St. AGNES THE VIRGIN (January 21), A.D. 1404,¶ by NICHOLAS, by the Grace of GOD bishop of CHRISTOPOLIS, which NICHOLAS aforesaid had full power from THOMAS ARUNDEL, venerable lord and father in CHRIST, then Archbishop of CANTERBURY, during the vacancy of the see of Winchester after the death of the venerable father, WILLIAM of WYKEHAM, sometime Bishop of WINCHESTER, and this at the instance of Sir JOHN POPHAM, Lord of Southchardeforthe, at his own cost and expense, with the assent and consent of brother JOHN LONDON, at that time prior of Bremmore and of the convent of that place. Also the said NICHOLAS has granted to all truly contrite and humble faithful entering and going round the aforesaid burying-ground and saying Pater Noster and Ave Maria in pious devotion for the faithful departed, forty days' indulgence, as often and so often as they shall begin and finish this holy work. Besides this, the said Sir JOHN POPHAM devoutly asks that all and every one shall devoutly pray GOD for the salvation of his soul, and the souls of all benefactors of this place, past, present and future, having charity in mind."

* *Wars of the English in France*, Henry VI. Rolls ed.
† *Ibid.* Rolls ed. vol. ii. pt. 1.
‡ *Dict. Nat. Biog.*, Art. Popham.
§ Brass at St. Lawrence, Reading.
‖ Bibl. Reg. 2A xxi. 8.
¶ Old Style. Wykeham died September 27, 1404.

In the beginning of the book is another inscription, which may be translated as follows :—

Memorandum.—That in the year of our Lord 1408, Sir John Popham, of the county of Southampton, provided and freely gave this book to the parish church of Southchardeforth on the festival of the Purification of the Blessed Virgin Mary. All who look on this volume shall piously pray to God for his soul and for the souls of their benefactors. And he who shall alienate this book, the anathema of God, of the Blessed Mary, and of all saints shall cleave to him for ever. Amen, in mercy.

The volume in question is a Manual, and contains five Offices, four of them parochial, the other a processional one: —1. The order of baptism. 2. Benediction of the fire. 3. Order of matrimony. 4. The visitation of the sick. 5. Mass for the dead and office for the vigils of the dead.

The benediction of the fire was part of the great ceremonial of Easter Eve, and is contained in the Sarum Processional, where it is most carefully described. In addition to the foundation of the parish church at South Charford, a mile from Breamore Priory, POPHAM made additions to the parish church of Breamore. At least two south windows are of his construction. They abut on the walls of the Saxon transept on either side, and the stone weathering over the head of each is designed as though the transept did not intervene, but that the windows were one. On a shield at the western terminal are the Popham arms, POPHAM and SOUCH quarterly, with the bezant of the king's treasurer; at the corresponding terminal eastwards is the head of a bishop, possibly intended for WILLIAM WYKEHAM.

POPHAM also built the south porch, the tower, and made several other additions to St. Sepulchre's Baily, in London,* where his statue formerly stood in the position now occupied by a bay window in the parvise. A curious fatality attended the works which should have been his memorial. St. Sepulchre's was a good deal burnt in the Great Fire of London; the church of Charford fell with the priory; the very brass which once recorded his dignity in the cloisters of the Charterhouse in London was taken away at the Dissolution, and in 1528 made to serve for the epitaph of one WALTER BARTON at St. Lawrence's Church, Reading,† where still it hangs as a palimpsest. Here POPHAM is called "sometime Lord of Tournay, in Normandy, and Lord of Chardeford, of Dene, of Alvyngton and elsewhere, in England," &c.

Breamore Priory then wove itself into the fibres of the parochial system, not only by the appropriation of the rectories, but by causing the new parish church which was founded to be placed indirectly under its charge. We shall see further how the legislation of HENRY VIII., by wounding the creeper wounded also the stock, and in the abolition of an alien institution practically exempt from episcopal jurisdiction, and a supporter of the POPE'S claims, injured that which it had encircled and appropriated.

WILLIAM FYNCHE was appointed prior of Breamore before 1530. In that year he represented the Abbot of Netley in the obsequious Convocation‡ which granted the king 100,000*l.* under penalty of Præmunire, and acknowledged the king's supremacy. FYNCHE served the king at the expense of his priory. In August 1533 he wrote from Breamore to THOMAS CROMWELL, "If there be anything in their poor house to pleasure CROMWELL it shall be at his commandment," and again two years later he wrote to the same purpose.‡ The priory was dissolved in 1536, and FYNCHE received a pension of 18*l.*, which was taken away on his appointment in 1538 as first bishop suffragan of Taunton, on the nomination of the Bishop of BATH AND WELLS.§

The priory was granted in 1536 to HENRY, Marquis of Exeter, with all the manors, advowsons and other ecclesiastical property it had acquired. The Marquis for some time kept a servant to receive the dues, and there are indications in the recent excavations that the buildings were used for other purposes than their original ones, so that they were most likely used for farm purposes and eventually destroyed or left to decay.

* Stowe's *Survey of London*, 1633, p. 423.
† Cf. Kerry's *Hist. of St. Lawrence, Reading.*
‡ Letters and Papers, Henry VIII.
§ Syll. of Rymer's *Fœdera*. (Fynche is here incorrectly described.)

Breamore, Hale and Rockbourne became donative rectories. The church at Charford, being an encumbrance on the rectory of Breamore, was destroyed in the last or preceding century. The tithe is still partly paid to Breamore and partly to the neighbouring donative rectory of Hale.

Hale, which was in 1534, like Charford, a chapelry of Breamore,* may have for a time shared the same fate with regard to its church, but it was rebuilt, it is said, from the designs of Sir CHRISTOPHER WREN,† and is still served as a rectory. Brading is registered in the king's books as a lapsed vicarage. Thus the monastic system in Breamore came and went, possibly on the whole a beneficent institution, offering at times in its history an example of a religious life, and being to some extent a bulwark against the various spoliations and taxations which would otherwise have fallen more severely upon the parish churches. But the parish churches saw it come and saw it go, being in number after the Reformation, until Hale was rebuilt, exactly what they were when the priory was founded, though in one or two cases mulcted of their revenues and changed as to their administration. The additions they received to their fabrics or their revenues were, so far as may be discovered, entirely the work of private benefactors, and not due to the instigation of the monastic system. The parish system was content to contribute to the support of a guest which came under good auspices, which assumed for a time control of the household, and which departed, taking some of the property of the house with it. The experience of the past is the lesson for to-day.

MAINS FOR ELECTRICITY SUPPLY.

By F. J. WARDEN-STEVENS.

THE increasing development of electricity supply, involving as it does interference with the streets, makes this subject one of great importance, and it is proposed here to deal both with the cables and with the methods of laying them.

In the first place it may be pointed out that with electric cables it is important that the positive and negative shall be so supported and arranged that they do not touch each other, and so that it is impossible for a leakage to occur. It is necessary if one conductor is in contact with the ground, that the other be specially insulated, but it is more usual to insulate both conductors from each other and also from the earth. The strain on the insulation is often considerable, and is proportional to the electrical pressure; it is therefore necessary to provide extra insulation for high-pressure cables.

A system of mains consists of feeders, distributing cables and services. The first-named are tapped at the end only, and the distributors have service connections at frequent intervals.

Bare Copper on Insulators.—This is one of the oldest used systems of electric mains. A conduit is laid along the street, usually under the pavement, and the top is generally made so that it can be removed and the mains be examined when desired. The usual plan adopted is to fix across a concrete conduit wooden bars to which are attached the insulators, and on these are supported the copper conductors, which are generally in the form of strip. In some cases the insulators are of glass, in others porcelain, and in yet others vitrified stoneware. There are many ways of fixing the copper, but generally copper strip is laid flat in grooves formed out of the insulators, the lengths being usually strained tight by means of weights or other straining devices in boxes placed at intervals. In other cases the copper is made in a tubular form, or a strip is placed on edge so that it will support itself without straining, and in yet other cases the insulators are laid near together so that the strip cannot sag to any great extent. The chief objections to this system are (1) that gas from the surrounding soil can enter the conduit, and in consequence the slightest spark will cause an explosion; (2) it is exceedingly difficult to keep the conduits dry. It is, of course, possible to keep water from accumulating seriously, but damp and films of moisture are apt to creep over the insulators. If the moisture becomes excessive, as often occurs in foggy weather, the positives of the copper strips begin to electrolyse, and the copper hydroxide which is formed covers the surface of the insulators. The result is that owing to the film being a partial conductor, at the next appearance of moisture electrolysis again sets in with greater rapidity, which will go on till the strip is nearly eaten through, when heating will occur, and a spark eventually which may ignite the gas if any be in the conduit; finally the strip will fall and will probably form a short circuit with another conductor of opposite polarity. It may be taken that conduits of this kind are not suitable for laying in roads, consequently insulated cables must be laid for crossings. Copper tubes have been laid in drain pipes in the road, but it is now generally admitted that to be a success a conduit must be used to which access can be obtained all along its length.

The disadvantages of bare copper mains may be summarised as the high first cost, the large space occupied by the conduit, the necessity for a straight run between boxes, the fact that insulated cables must be used when roads are crossed, the troubles caused by electrolysis and the possibility of explosion.

The advantages are, however, the ease with which the copper can be added to, as the demand justifies, without increasing the cost of insulation; the fact that the depreciation is very little, if the culverts are kept dry; and the facility for making service connections to the bare copper; also the saving in capital outlay from this cause making the system suitable for distributing mains.

The disadvantages which are inevitable with bare underground cables are absent if the overhead system can be adopted, as dampness can do no harm, explosions are impossible, and the system is very cheap. The only depreciation which can occur is in the poles, and this can be reduced by adopting iron.

Insulated Cables.—The general practice at the present time is undoubtedly to use cables protected along their whole length by an outside covering which is known as insulation.

The first insulation which was used for electric street mains was gutta-percha; but although this is very good for submarine cables and for all cases where it is either damp or immersed in water and is kept at an even temperature, the conditions cannot be relied upon in street mains, and it is well known that gutta-percha when exposed to the air crumbles and cracks, and finally disintegrates and goes to powder.

The next substance to be used generally was pure rubber. Although pure rubber is itself waterproof, yet when lapped on a cable there is not sufficient adhesion between the laps to insure the insulation being water-tight, and, further, pure rubber is very expensive.

Vulcanised rubber is waterproof, and is now extensively used in cable manufacture. All vulcanising rubber contains from 25 per cent. to 75 per cent. of pure rubber, and the rest is made up of a mixture. The curing of such a rubber is practically keeping it at a certain temperature for a certain time, the temperatures and times varying with the class of rubber. It is necessary to cover the conductors first with pure rubber, as the insulating properties of vulcanised rubber are low, and the vulcanised rubber is put on outside to provide the waterproof qualities, and the whole is then covered with proof tape or braiding and compound. The outer covering is merely a mechanical protection, it is neither insulation nor moisture resisting. The great weakness of vulcanised rubber is that it will not permanently withstand the action of being alternately wet and dry. This is the condition existing in underground mains, and therefore the use of vulcanised rubber is not destined to extend. Already for high-pressure work there are several cases where the rubber cables have had to be removed. The advantages of rubber cables are chiefly the ease with which they may be handled, their flexibility, the facility with which satisfactory joints may be made, and no doubt to some extent their portability, for they are light.

As soon as it was recognised that vulcanised rubber was really unsuitable for electric cables to be laid in the streets, the course was adopted of sheathing it with lead

* *Valor Ecclesiasticus*, 20 Henry VIII.
† *Notes*, by Rev. J. H. Blunt, rector of Breamore, 1867.

which keeps the cable from becoming affected by moisture. There is no doubt that this greatly extends the life of a cable, but still the chemical deterioration of the rubber will go on.

There are several compounds on the market which are claimed to be better than rubber; they are wholly or partially non-hygroscopic, and where lead-covered they are proving successful.

A class of insulation has been in use for some years which is permanent and practically everlasting. The insulation is hygroscopic; that is, it will absorb moisture, and consequently it must be covered with a complete watertight lead sheathing. The insulation itself is composed of jute, cotton or paper soaked in an insulating compound usually of a resinous nature. The compound is not in itself an absorbent of moisture, but however much of it is present in the cable it will not entirely prevent the fibre from taking up moisture to some extent. The materials with which these cables are composed are comparatively cheap, and in consequence a lead-covered fibre cable is much cheaper than an ordinary braided rubber cable. For instance, taking a cable of nineteen strands, each strand being of 16 standard wire gauge, the price of the rubber cable is 135*l.* per mile, while a lead-covered fibre cable is 79*l.* and the lead-covered rubber cable is 155*l.* per mile, *i.e.* double the fibre. The prices are those of a certain firm manufacturing both classes of cable.

There are three classes of fibre cable manufactured—(1) jute or cotton impregnated; (2) jute and cotton for half the insulation and paper for the rest; (3) all paper. The jute impregnated cable has a high insulation resistance, while the paper is not so good an insulator, but has an enormous spark-resisting power. The combination of the two is useful where both high spark-resisting powers and insulation is required, and it is undoubtedly more flexible than the paper cables. These three classes of cables are being extensively used for street mains.

The disadvantages of the lead-covered hygroscopic cables are:—A whole length of the insulation may be ruined by moisture entering at one spot; a minute hole in the lead will often allow sufficient moisture to enter. The cables are difficult to join, as special skill is needed in making a watertight joint with the lead, especially as there is no easy means of detecting minute holes left in the solder. They are heavy, which increases the cost for freightage, and they are not flexible, so drums of large diameter must be used for purposes of carriage. Great care must be exercised at end connections, and unless these are made in watertight boxes and filled in suitably, the taping, if used, may be burst by the pressure of the insulating liquid. The great size of the cable is also a disadvantage where conduits are used, as these have to be large, which increases the expense. Despite these disadvantages, however, the low rate of depreciation and reliability and the moderate cost are securing for them a large demand.

Direct Laid System.—The simplest method of laying cables is direct in the ground. To allow of cables being laid direct it is necessary to armour them with steel strip to prevent mechanical damage, and further to cover the armouring with a preservative compound to prevent corrosion. As a matter of fact, direct laid cables are almost always twin or concentric and not separate. This is necessary with alternating current systems in order to prevent the iron armouring and lead covering from having induced or eddy currents set up in them, and also to keep the wires sufficiently near together to prevent self-induction, which acts as a resistance in reducing the pressure, although there is no direct loss of energy.

The method of laying an armoured cable is very simple. The cable is coiled on a drum which runs on wheels, and can therefore be uncoiled by fixing one end and drawing the drum along the road. A trench is dug either under the footpath or in the road, and the depth of this varies from about 9 inches to 2 feet according to the situation; for instance, the depth must be greater in the road than under a footpath. A layer of sand is then spread over the bottom of the trench to a depth of about 2 inches, the cable is laid on this and a further layer of sand is placed over. If the cable is laid in a place where the ground is likely to be again disturbed, it is well to lay tarred boards or bricks over the sand before filling in the earth. This gives warning to workmen and is also of use in keeping stones, &c., from being forced into the cable by heavy traffic.

The lengths of cable are jointed together, as a rule, in cast-iron watertight boxes, which are usually filled with compound This prevents moisture from entering the cable even if it gets through the box.

Built-in Systems.—There are several built-in systems, the chief one being the bitumen. A trough usually made of iron or of wood is laid in the trench, and the cables which are not armoured are laid on wood distance-pieces. The whole space is then filled up with bitumen, and a cover is laid on so that the cables are well protected from mechanical or chemical injury, and are accessible to a certain extent. In this system the cables need not be as highly insulated as with others, part of the insulation being the bitumen. Lead-covered cables (unarmoured) laid in this way are claimed to be practically everlasting, and this method of laying is being extensively adopted.

Drawn-in Systems.—There are a number of these systems, and it is unnecessary to give a complete list of the different conduits used. The principle is that the cables are drawn into conduits which are laid previously, and there are boxes placed at intervals from which drawing-in and jointing operations can be carried on. Conduits are made of cast and wrought-iron, earthenware, bitumen and other substances. The chief difficulty experienced with them is the jointing together of the lengths in a flexible and watertight manner, as the ground is always liable to sink a little with the result that the joints, if rigid, will crack and let in water. An important point is that cables drawn into conduits are subjected to a wet and dry action, for although water may not enter, with most materials the inside surface of the conduit will "sweat." Further, it is almost impossible to insure that water shall not enter. It is well, therefore, to use lead-covered cables with conduit systems, or an insulating material which is unaffected by the "wet and dry" action.

Iron pipes are laid exactly as they would be for gas or water, *i.e.* usually with a lead cast joint. In most cases with iron pipes large ones are used in preference to several small ones, owing to the relatively high prices of the latter. For this reason the usual course is to draw more than one cable into a pipe. This method has often been condemned, as a failure of one cable is apt to affect the others. Drain pipes have been used, laid in the ordinary way, and with lead-covered cables; they have been successful and are inexpensive. A flexible joint on the ball and socket principle has been introduced, and should come largely into use. All that is required in laying these earthenware pipes with the ball and socket joint is to push one into the other and fill in. It is immaterial whether they are laid straight or not, or whether the ground sinks afterwards. It is claimed that under all reasonable and even possible conditions the joint will remain good.

Stoneware casings are largely used for conduits. They are generally of oblong section, and contain several square "ways" for the cables, a separate cable being drawn into each way. The joints are made with cement or bitumen, the jointing material being poured in between earthenware or iron saddle pieces placed round the ends of the two adjoining casings. Stops are placed in the conduit during the jointing process to insure that the cement or bitumen, as the case may be, shall not run into the inside, and by this means the ways are kept smooth. Great care must be exercised with this conduit to insure its being firmly bedded, otherwise joints are liable to crack.

It is considered to be unsuitable for laying in roads, so the footpath is generally utilised, a box being placed at each side of any road to be crossed and iron pipes laid between them.

In one system bitumen blocks having holes or ways moulded in them are laid in a similar way to the other casings, the joints being poured with hot bitumen. A great objection to this system is that cables are apt to sink into the bitumen when left for any length of time, in which case they cannot be removed.

Another system in which bitumen is used is very similar to the bitumen solid system. Instead of laying the cables in the trough, paper tubes impregnated with bitumen are

laid on separators and the whole is filled with bitumen as before. The result is a series of ways in a bitumen conduit through which the cables may be drawn without fear of their sticking.

It may be of interest to give a comparison of the cost of various conduits, the standard being for a three-way conduit, each way being 2 inches across. Three separate pipes have been taken for the iron, as one large pipe is unsuitable for comparison.

Material.	Cost of the Material. s. d.	Cost of Jointing, &c. s. d.	Total. s. d.
Stoneware casing . . from	1 10	0 2	2 0
to	2 3	0 6	2 9
Bitumen blocks with ways .	2 9	0 6	3 3
Three cast-iron pipes . .	3 6	1 0	4 6
Three wrought-iron pipes .	4 1½	1 0	5 1½
Bitumen with embedded paper tubes	—	—	10 0

The cost of excavation and reinstating is not included, and no boxes are allowed for. The total cost in the cable is that per yard for a length of not less than one mile, the conduits being laid in a prepared trench and left ready, when boxes are added, for the drawing-in of the cables.

(To be continued.)

DURHAM CATHEDRAL.

THE cathedral of Durham, which occupies a lordly position that suggests it was a representative of the Church militant in more than one sense, is interesting not only from its architectural character, but from the fact that it was apparently the first building of magnitude in which there was a departure from the type which was introduced by the Norman ecclesiastics and which signified Norman dominion. The change was seen in the arrangement by which nave and choir approximated in area and in the substitution of a vaulted roof of stone for one of timber. The cathedral was therefore an assertion of native skill remarkable enough for the courage required in the designers, and it inspired many other experiments until finally English Gothic became an independent style with characteristics which were not to be found in France, Germany or elsewhere.

The site could easily be imagined as selected by a military strategist, and indeed the Norman bishops who erected a part of the existing building could not expect to reign if they depended on spiritual arms alone. The whole region was known to be occupied by a stubborn race who could only be controlled by force. Indeed, the first of the Norman bishops was slain at Gateshead, and although it is supposed his own men were the murderers, yet that circumstance only proves more strongly the danger of episcopal rule in the place, for there could be no confidence in either Normans or Britons. The site, however, was not selected with a view to defence in case of insurrection, it was determined by circumstances in which neither artists nor soldiers had a part. To explain them will need a glance through the mists of an age which no historian has succeeded in dispelling.

It is generally admitted that the Roman missionaries were not as successful in the north of England as in the south. The inhabitants were partly derived from Danes, Norwegians and other rovers, who in their own lands were opposed to Christian doctrines out of loyalty to their pagan ancestors. It was not to be expected that their descendants would be more tractable. PAULINUS made his way to the Northumbrian court, and of him WORDSWORTH gives a vivid picture :—

> Who comes with functions apostolical?
> Mark him, of shoulders curved and stature tall,
> Black hair and vivid eye and meagre cheek,
> His prominent feature like an eagle's beak:
> A man whose aspect doth at once appal
> And strike with reverence.

EDWIN, who reigned in Northumbria, called a synod of his councillors, a primitive Parliament, to consider the difference between Paganism and Christianity, and it was then one old chief compared man's life to the passage of a bird across a hall, coming from a place which nobody knew and going again into a mysterious obscurity. PAULINUS was heard, and as a consequence the figures of WODIN and THOR were overturned. The Roman missionary was granted a house in York, and became bishop of the district. EDWIN was afterwards slain at Hatfield Chase, and his death retarded the progress of Christianity. The sceptre passed into another branch of his family, and paganism was restored. Eventually it was grasped by OSWALD, who was a Christian. He had found a refuge in Scotland, and there it is supposed he was baptized. It was as a Christian he returned to England to fight against CEADWALLA, who had seized the country, and his success was attributed by him to the aid of Heaven. Out of gratitude he resolved to promote Christianity, and he sought teachers not from York but from Scoto-Irish monasteries. One of the men sent was AIDAN, who received from OSWALD the island or semi-island of Lindisfarne as a monastic property. OSWALD, however, could not escape the fate of a Northern prince. He was slain in a battle by his pagan opponents. Amidst the troubles which followed Lindisfarne or Holy Isle was not without a supply of monks from Iona. FINAN, who succeeded AIDAN, built a timber church, which was covered with reeds. Then came COLMAN, TUDA and EATA. The last brought with him from Iona a youth named CUTHBERT, who was afterwards a monk at Melrose. In turn CUTHBERT became prior at Lindisfarne, but he desired a more penitential life, and sought a hermitage in one of the little Ferne Isles off Bamborough Head. Subsequently he was elected Bishop of Hexham, but was allowed to exchange it for the bishop's office at Lindisfarne. The old longing for solitude, however, prevailed over him. He again retreated to his rocky isle, and there he died, as is supposed in 687. His remains were brought to Lindisfarne.

For about three centuries the body of the saint was a treasure which could be guarded with difficulty. Until the middle of the ninth century the great diocese was ruled from Lindisfarne. The island was supposed to be more secure against Danish invaders than the mainland. Provision had to be made for the training of ecclesiastics, and in those days a monastery was considered to be the best of seminaries. But at last the bishop was compelled to leave the island with his community. They appear to have spent several years in wandering: apparently it was not easy to find a place where the episcopal chair could be set up in peace. The saint's body was carried with the wanderers. Chester-le-Street was at last selected, and a cathedral was erected on a site given by GUTHRED, the Dane. But an invasion compelled the clerics to leave that shelter. Then when peace was established they wished to return, but, according to one account, on reaching a place called Wardlaw the saint's coffin became immovable, and a member of the party announced that he was informed in a revelation it would remain in that condition unless they decided to seek a resting-place at Dunholme, which is now known as Durham. Sir WALTER SCOTT has given the following rhymed version of the legend :—

> Nor did Saint Cuthbert's daughters fail
> To vie with these in holy tale;
> His body's resting-place, of old,
> How oft their patron chang'd, they told;
> How, when the rude Dane burned their pile,
> The monks fled forth from Holy Isle;
> O'er northern mountain, marsh, and moor,
> From sea to sea, from shore to shore,
> Seven years Saint Cuthbert's corpse they bore.
> They rested them in fair Melrose;
> But though, alive, he loved it well,
> Not there his relics might repose;
> For, wondrous tale to tell!
> In his stone-coffin forth he rides,
> A ponderous bark for river tides,
> Yet light as gossamer it glides,
> Downward to Tilmouth cell.
> Nor long was his abiding there,
> For southward did the saint repair;
> Chester-le-Street and Rippon saw
> His holy corpse, ere Wardilaw
> Hailed him with joy and fear;
> And after many wanderings past,
> He chose his lordly seat at last,
> Where his cathedral, huge and vast,
> Looks down upon the Wear:

There, deep in Durham's Gothic shade,
His relics are in secret laid;
But none may know the place,
Save of his holiest servants three,
Deep sworn to solemn secrecy
Who share that wondrous grace.

The concluding lines are no longer exact, for in 1827 the floor of the shrine in Durham Cathedral was opened and remains were found enclosed in three coffins, which were respectively of the years 1541, 1041 and 698. The skeleton was swathed in embroidered robes, and various insignia were with it. Parts of the inner coffin were preserved and are in the cathedral library. From the character of the carved figures of saints upon it there is no doubt the coffin is over a thousand years old.

The account of the connection of St. CUTHBERT with Durham is not irrelevant. A cathedral or great abbey was incomplete without relics that were recognised as important. We have already narrated some of the circumstances which made St. Albans Abbey dangerous, because even the Danes were eager to steal the body of the British protomartyr. In Canterbury the relics of St. THOMAS were rigorously guarded. When we find the Venetians organising an expedition to carry off what survived of St. MARK, the conclusion is irresistible that saint stealing was not deemed a heinous crime, except by the religious who were plundered. The monastery that contained St. CUTHBERT's relics became, therefore, the chief religious house of the diocese, and its church was the cathedral. What kind of building was erected by ALDHUN at the end of the tenth century is unknown, but the stones were likely to be used by the Normans.

The advantages of the site could not fail to be recognised by the invaders, and the security it offered is shown by the erection close by of the castle. There was no part of England in which danger to the Norman was more imminent. As a consequence, no less than twenty-seven years elapsed after the Battle of Hastings before WILLIAM CARILEF, the bishop, was in a position to commence a new cathedral. His Norman predecessor, Bishop WALCHER, realised that the see was equal to a principality, and accordingly purchased an earldom; but the people did not understand the open combination of secular and spiritual power, and he was slain as a tyrant. CARILEF was also to have experience of the vicissitudes of fortune. Before he commenced building he wished to reform the organisation of the cathedral. Attached to it were secular priests, some of whom were married, and he resolved to dispossess them and substitute Benedictine monks. It is right to say the new-comers were not all foreigners. But the bishop somehow fell into disfavour and was exiled. It was not until after his return he undertook the erection of a cathedral.

CARILEF began with the best intentions. As death removed him after two or three years, he was not able to erect much more than the choir. ALDHUN'S church no doubt served as a nave. Whether he commenced the stone vaulting is uncertain. There were no precedents in England to be followed, and the question is, could enough skilful masons be found in England to deal with the difficulties? Bishop FLAMBARD, who followed, continued CARILEF'S work. By the year 1104 the church was so far complete that the body of St. CUTHBERT, which had been placed in a temporary building in the cloisters, was removed to the choir. In connection with the removal a new legend arose. It was apprehended that some timber which was in the choir might succumb and cause damage to the shrine. They were unable to remove the timber, which may have consisted of centreing and supporting props, but during one night the whole of the timber was said to have been taken down and piled in order on the floor, and the conclusion drawn was that St. CUTHBERT had undertaken the work. FLAMBARD raised the walls to the springing of the vaulting, and then died. The bishopric was vacant between 1128 and 1133, but the monks went on with his work in the nave and transepts.

GALFRID RUFUS is credited with the construction of the chapter-house, but of late years it is considered that there was more than one style exhibited in it, and there can be no certainty on the subject. The building was annihilated during WYATT'S operations. CARTER, who saw it in 1795, speaks of it as "one of the proud examples of the Saxon species of architecture, and which alone would have established the skill of our ancestors were this room the only proof of their high abilities." He was mistaken in calling the work Saxon, but his words suggest the impressiveness of the structure.

HUGH DE PUISET or PUDSEY presided over the see from 1153 until 1195. His tenure is memorable, for in it originated the Galilee, which is likely to be always a subject of contest among archæologists. It is recorded that he kept two architects named ROGER and WILLIAM in his employment. Their artistic skill was superior to their constructive powers. They erected the Galilee, which is marvellous in its lightness and grace, especially if compared with the work around it; but if care had not been taken at a subsequent time to construct buttresses to withstand the thrust of the arches the Galilee would have collapsed. There were some operations at the east end of the cathedral in PUDSEY'S time which were likewise unsuccessful. The tradition is that he intended to add a lady chapel to CARILEF'S choir, and began the work. The operations did not advance in a way that satisfied him, and he concluded that the addition was not acceptable to Heaven. St. CUTHBERT, who in life was a woman hater, was supposed to be inimical to the existence near his shrine of a place where they could congregate. The work was accordingly abandoned in that place. But the bishop carried out his resolve by erecting a chapel at the west end of the cathedral which was called the Galilee. Whether it was intended to serve as an ordinary lady chapel, a chapel for short services, a place for penitents and pagans or other purposes must be left to conjecture. CARTER described it as "an architectural labyrinth," and the phrase is sufficiently expressive of the appearance of the Galilee with its clustered columns and zigzagged arches. Apart from its beauty it is valuable as evidence of the aspirations towards delicacy in the twelfth century.

RICHARD POORE, who had gained credit by his work at Salisbury, was PUDSEY'S successor. He was able to make the east end secure, and he intended to erect the chapel of the Nine Altars behind the choir. But that work was commenced by his successor, NICHOLAS FERNHAM, in 1242, and is supposed to have occupied forty years. In style it is Early English of a most refined type.

The great central tower is not equal in effect to the Canterbury example, but it is an admirable work, and is well adapted by its general appearance to be the crowning feature of the cathedral. Although erected so late as the fifteenth century, and having the characteristics of the Gothic of that time, the general mass suggests that attention was given by the designer to the form of its predecessor or predecessors. The smaller towers are more in keeping with the character of the cathedral, a building in which there is combined the spirit of Iona and of Rome, of Normandy and of England.

THE INSTITUTION OF CIVIL ENGINEERS.

THE majority of our metropolitan scientific societies have followed the example of the old society by establishing clubs financially independent of the institutions they represent. One exceptional case is that of the Institution of Civil Engineers, which, instead of having given birth to a club, may be said to have sprung from one. This is the Smeatonian Club. This association, established by the celebrated Smeaton, met originally to discuss engineering matters over a Welsh rabbit and porter, the members being limited to this humble pabulum; but as engineering prospered and engineers became rich the fare increased in abundance and excellence; and a Smeatonian Club dinner ranks with the best of London club feasts, the Smeatonians being, we presume, desirous of impressing on their guests how engineering has flourished since the days of Smeaton and the Welsh rabbits. But while the members of this club are fully aware of the importance of progress, they have very properly retained some of the original features of their association. Thus the card of invitation to a club dinner is headed by these words, "To order all things in measure and number and weight," taken from the apocryphal book of Wisdom; and the following quaint sentiment, attributed to Smeaton, is drunk with due ceremony at every club dinner:—"Dam the canals—sink the coal-pits—blast the minerals—consume the manufactures—disperse the commerce of Great Britain and Ireland."

M. FRÉMIET'S ST. GEORGE.

AMONG the Seven Champions of Christendom the preference is usually given by children to the English St. GEORGE, and artists have followed them. The fine figure by DONATELLO in Florence is considered to be almost the ideal Christian warrior. The Mediæval sculptor who created the statue of St. GEORGE in Westminster has reached a higher standard than the Italian. In England we have become familiar with the saint through PISTRUCCI's representation on the coinage, for which a Greek type was adopted both for the man and the steed.

M. EMMANUEL FRÉMIET, in the group we illustrate, comes nearer to the Westminster than to the neo-Grec warrior. The Mediæval figure represents a man who is not a youth like DONATELLO's figure, and we may conclude he was not inspired by rashness but by a conviction of duty when he undertook the task of slaying the dragon. M. FRÉMIET prefers action to repose in his statues, and in this group he has been able to contrast the struggle of the horse to escape from the touch of the monster with the dying struggle of the dragon. For the latter figure our sculptor has studied extinct as well as living creatures.



NOTES AND COMMENTS.

WHEN Sir GEORGE BIRDWOOD has to renounce official duties in the India Office—he is now a supernumerary until after the Paris Exhibition—it is to be hoped he will have more opportunities to enrich the world by writings on Indian subjects. Especially is it desirable that he should continue his protests against the degradation of art by official efforts to impose on the world prisoners' work that is lower in quality than any product of a machine, as if it were produced by genuine handicraftsmen. His belief is that "every house in India is a nursery of the beautiful," and he has endeavoured to repel the system which would make ugliness cross every threshold. If the arts of India are known and appreciated beyond the boundaries of the empire, it is in a large measure owing to Sir GEORGE BIRDWOOD'S efforts. His encyclopædic knowledge would find in Indian arts enough to expatiate on if he were to live to the age of the patriarchs. Occasionally he has found western topics worth notice, for his scrutiny of flowers, trees and fruit in Academy pictures made many a painter ashamed, and helped to secure accurate representations of vegetation.

PROFESSOR ADOLF MENZEL, who is one of the five honorary foreign members of our Royal Academy, has well earned the distinction of the Order of the Black Eagle, bestowed on him by the Emperor of GERMANY. He has mainly devoted his powers to the illustration of the life of FREDERICK THE GREAT, and his oil-paintings and drawings are far above the usual level of court painters. If the Emperor gave the decoration which brings with it the right to be a "Von" simply as a token of esteem or of gratitude for services rendered, it would be a gracious act. But when it is announced that the Order is intended to serve as a stimulus to other artists, in order to induce them to perform similar work, the affair assumes a different character. German subjects are generally adapted for the pleasure of German amateurs, although much is produced which has that touch of nature which makes all the world kin. But to see a host of pictures with FREDERICK for the principal figure is not cheering to foreigners who have admired German art.

THE "lift" is supposed to be an invention that arose from the necessity of reaching the upper storeys of buildings without any loss of time, and therefore is manifestly modern. If considered in connection with motive power and the mechanism by which journeys are made easy, there can be no doubt that the perfected lift is a creation of the nineteenth century. But the appliance could not escape the law of evolution. It has been discovered that a "chaise volante" was constructed in the Palace of Schœnbrünn, near Vienna, for the use of the Empress MARIA THERESA about the middle of the eighteenth century. It was a small square room hung with red silk, and was suspended by strong ropes with counterweights. It was moved up and down a shaft with ease. The heroic empress was periodically in delicate condition, and was unable to ascend stairs without enduring pain. NAPOLEON when at Schœnbrünn used the "chaise volante," and was apparently amused by its simplicity. Another lift consisting only of a chair on a platform was constructed about the same time for the DUC DE LORRAINE.

FOR a great many visitors to Copenhagen the most interesting building in the city is the Thorwaldsen Museum. The great sculptor was born in Copenhagen in 1770, but his father was a poor ship carpenter from Iceland. In the museum are several of his works in marble, and there are plaster casts of the remainder. The sculptor's grave is in the central court. The halls and compartments are decorated in colour in order to make the sculpture stand out with more effect. On the exterior of the building, which is almost Egyptian in its severity, is a fresco frieze representing the triumphal reception of THORWALDSEN when he returned from his long residence in Rome. As it was painted soon after the sculptor's death (which occurred suddenly in 1844), the frieze is manifesting the difference of the atmosphere in Italy and Denmark. Hitherto the authorities were afraid to meddle with it; but OSCAR MATHIESEN, the painter, has perfected a method which gives hopes of success, and an attempt will shortly be made to restore the fresco. The authorities have another anxiety. The museum contains a large collection of private papers which belonged to THORWALDSEN. They have been kept concealed. But the interest which is now taken in the lives of artists has inspired many efforts to investigate the documents, and unveil the mysteries of the sculptor's life in Rome. Much indignation is expressed against the apparent resolve of the directors of the museum to keep all the papers entombed.

IN spite of all their faults the Municipal Council of Paris have displayed a willingness to aid the arts of painting and sculpture. Every year a liberal sum is expended on the purchase of works from the exhibitions in Paris. It is not so easy to aid the arts of engraving, etching and lithography, for a difference is made between the purchasing and commissioning of works. Where there is an earnest desire obstacles are usually surmounted. The Council have therefore resolved to expend 40,000 francs on the reproduction of eight pictures in the Hôtel de Ville by means of etching or lithography. The artists whose works will be made the subjects of the plates are MM. JEAN PAUL LAURENS, H. GERVEX, G. CLAIRIN, and GEORGES PICARD. A picture by FRANK HALS will also be reproduced. The French works form part of the decoration of the Hôtel de Ville, and are therefore worthy of an engraver's translation into black and white. The plates will help to increase the interest in the Hôtel de Ville, which, regardless of prejudices, is becoming the centre of Paris life. It would be well if many other municipalities outside France would imitate the Parisian example.

THE executors of the late PUVIS DE CHAVANNES are able to offer 163 drawings by him to the city of Paris. It is stipulated that they are to be hung in the new museum of the city at a height corresponding with that of an average man. The artist, like the majority of his brethren, had always a repugnance to "skying," and naturally he desired that his bequest should be in a position where all the drawings could be closely scrutinised. The museum will hereafter be installed in the small palace of the arts which is in course of erection in the Champs-Elysées under the direction of M. CHARLES GIRAULT. But it will not be available until the International Exhibition of 1900 is closed. Meanwhile the drawings will be framed and exhibited in the Musée Galliera.

ON the passing of the Church Act (Ireland), 137 of the Ancient Monuments of Ireland were vested in the Irish Board of Works. Under the Ancient Monuments Acts of 1882 and 1892, some forty eight more became vested in the Board. Many matters of difficulty in connection with the preservation of these Monuments were constantly arising, some of them entailed subjects about which there was a great deal of controversy, and there was a very general notion abroad that it was desirable that some of the Irish antiquaries should be consulted before repairs or restorations were undertaken by the Commissioners of the Board of Works to Irish Monuments. In 1892 the chairman of the Board of Works proposed to the Royal Society of Antiquaries of Ireland and to the Royal Irish Academy that each body should appoint two representatives who, with a Commissioner of the Board of Works, should be a committee to meet monthly and consult with the superintendent of Ancient Monuments before any more monuments were scheduled or repairs or restoration effected on those at present scheduled. The suggestion was adopted, and it has been found that the committee fulfils a very useful part. A list of the Monuments scheduled under the advice of this committee is in preparation.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: FROM BELOW THE WEIR.—GALILEE NORTH ENTRANCE (DETAILS).—GALILEE, SHOWING JUNCTION OF GALILEE WITH WALL OF CHURCH.

HAYDEN HALL LODGE, PINNER.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE, GROSVENOR ROAD, S.W.

OFFICES FOR MESSRS. ISMAY, IMRIE & CO., LIVERPOOL.

HÔTEL DE VILLE, PARIS.

WE have already published reproductions of some of the geometrical drawings of the Paris Municipal Buildings, but the architectural effect can be judged more easily from photographic illustrations. The three views will suggest the treatment which has been followed in some parts of the interior. The architects, who were the late THÉODORE BALLU and M. DEPERTHES, were to some extent bound by the character of the old Hôtel de Ville, which was designed by DOMINIQUE BOCCARDO in the sixteenth century, and greatly altered in 1837 by MM. GODDE and LESUEUR. It is worth mentioning that the central portion of the existing Hôtel de Ville closely corresponds with a similar part of BOCCARDO's building.



STAIRCASE, HÔTEL DE VILLE, PARIS.

The former plan is also followed to some extent, for the central part contains the council chamber and salles for grand receptions, towards the quai are the salons for ordinary receptions, and the administrative offices adjoin the Rue de Rivoli. In the foundations of he building stones were used which survived he flames to which the greater part of the old Hôtel de Ville succumbed. As the Seine runs along one side of the building, care had to be exercised to keep the lower parts watertight. A stratum of hydraulic béton faced with cement was laid down, and for the masonry stone from Villebois and St. Ybe was selected.

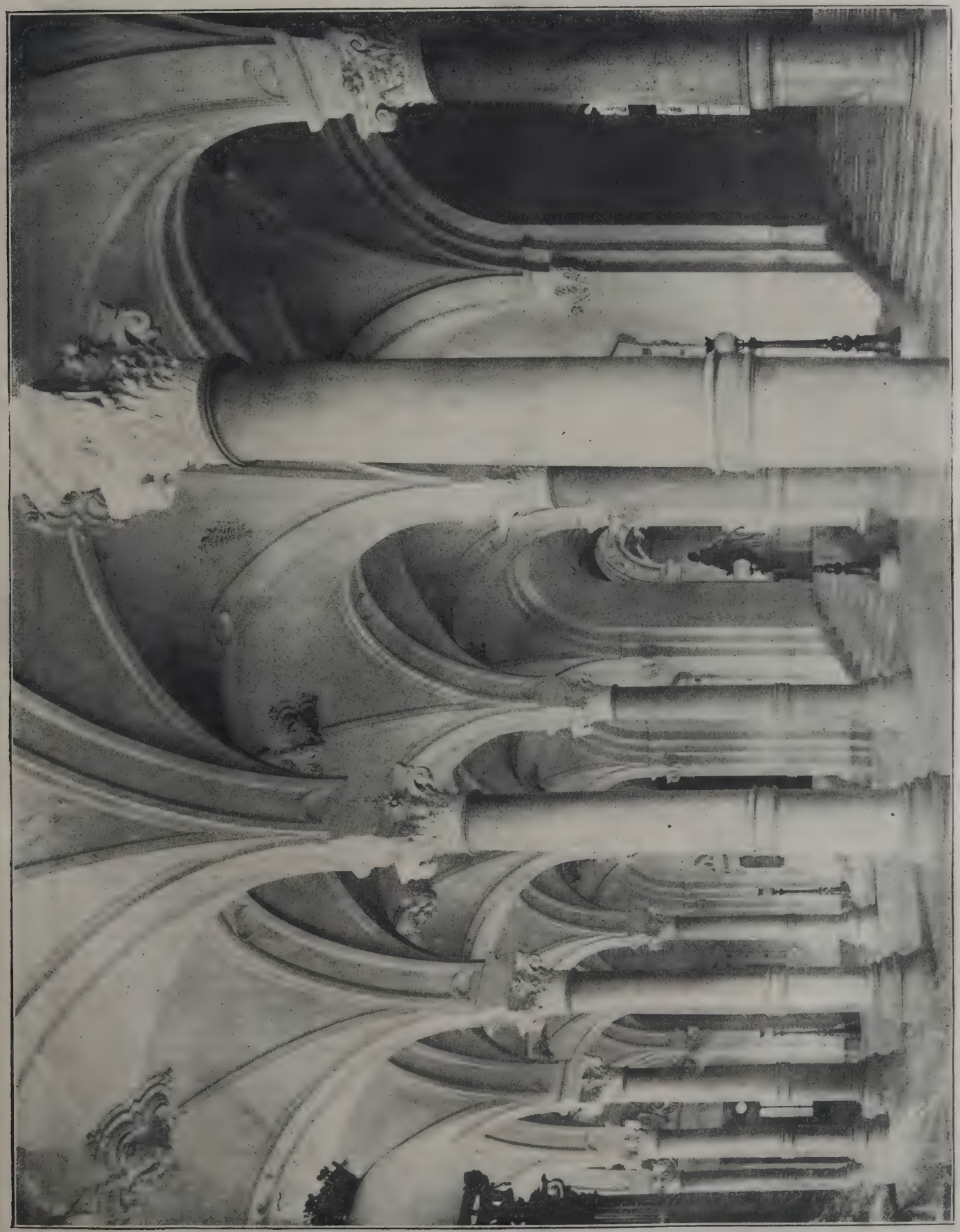
Prior to the fourteenth century the council used to meet in a house near the Grand Châtelet. In 1357 a house which belonged to the Dauphin was, on the sugges-



Hall in Hôtel de Ville, Paris.

tion of ETIENNE MARCEL, purchased as the rendezvous of the members. Additions were made to it, for at the time the Hôtel de Ville had to comprise a chapel, a court of justice and an arsenal as well as council chambers and offices.

In those halls and the staircase which are represented, it will be observed that the architects availed themselves of the liberty which was always considered to be allowable with French Renaissance. The Tuscan, Ionic and Corinthian columns are not those of Rome. The desire was to have a marked contrast of curved and right lines, and to gain that effect much of what used to be called purity is sacrificed. All visitors will, however, acknowledge that the chilling influence which so often is exercised by Classic details is absent from the Hôtel de Ville.



HALL IN HÔTEL DE VILLE, PARIS.

JOTTINGS AMONG SOME CHURCHES OF THE LOWER RHINE.

WE have had "a calm sea and a prosperous voyage;" we have witnessed that most impressive spectacle, a sunrise at sea; and at five o'clock are undergoing the ordeal by search in the custom house at the Hook of Holland. The bustle and official asperity attendant upon the ceremony is to our fancy softened down by the awful stillness pervading everything at this early hour, and we presently emerge with light hearts and all the continent of Europe where to choose, to find places in the corridor express for Cologne. A few moments elapse and we are being luxuriously wafted across the placid Dutch landscape. Pleasant it is to be told, after a brief interval, that this *mélange* of red-brick houses, gables, ships, and canals dominated by a stately, but coarse, cruciform church is Rotterdam. Now we stop for a few moments at a collection of sheds so insignificant that we can hardly suppose them to represent the station of a city of such dignity and importance; then we glide onwards, and as the church towers, houses, ships and canals recede further and further from the gaze, a look of blank dismay crosses the face of each of the party, only to be followed by a hearty laugh at our own obtuseness. We have missed Rotterdam. Never mind—we will console ourselves at Dordrecht, whose stately red-brick tower comes into view sooner than we have recovered our equanimity. Determined not to be done this time, impedimenta are hastily collected, and the moment the train slackens speed we prepare to alight, and are soon established on the platform to discover that we are the only débarqueurs.

Telegrams despatched to anxious relatives at home, and baggage left at the station, we wander, with minds and bodies alike unencumbered, into Dordrecht, to find its typical Dutch streets, even at this early hour of the morning, swarming with life and bustle—the bourgeoises arrayed in their smartest coiffures, the cafés rapidly filling with market folks, and the whole place presenting a scene of great animation in the brilliant sunshine of an August day. Breakfast having appeared, and in due course disappeared—by the way, the removal of some artificial plants from the table is imperative before ample justice can be done to the meal, so unpleasant an odour do they diffuse—we start out with no particular object in view beyond that of thorough relaxation, bodily and mental.

Presently we arrive at the great church of St. Mary, whose stately western tower entirely of brick is admirably represented in the drawing which "embellishes" this article, as the old *Gentleman's Magazine* would say. Although it has a certain air of rugged grandeur about it, this great church at Dordrecht cannot be regarded as worthy of study or admiration. Built, as the majority of the Dutch churches are, of brick, it presents many features in common with those of Belgium. The western tower, the short nave, the deeply projecting transept, the long choir with its processional aisle and corona of chapels, the cylindrical column and the general air of flimsy coarseness pervading its decorative features—all are here. Imposing as these churches of the Netherlands are from their spaciousness, we desiderate in them not only that artistic design, but that beauty of well considered and appropriate detail so satisfying to the mind in those of France. The deep choir of this church at Dordrecht, with its noble arcade of Mechlin-like piers and arches, is destitute of furniture save a double row of Early Renaissance stalls and subsellæ. The Dutch Calvinist's sacraments being preaching and hymn-singing, he provides his nave with a pulpit upon which he lavishes his thousands, and an organ-loft still more sumptuous. Singularly enough this long empty choir at Dordrecht is separated from the transepts by one of those rood-screens which forms often the only item of interest in a Dutch ecclesiastical interior. In Holland the choir has generally been kept up, with the exception of the destruction of the altar, as it was. Frequently very much elevated above the aisles and presbytery, furnished with stalls and subsellæ, and defended by a noble rood-screen, it presents an imposing appearance, especially if it should so happen that a canopied high tomb takes the place of, and may to the fancy at a distance represent, the altar. Such a passion have the Dutch for the screen that in cases where the rood-loft has been destroyed they will, as here at Dordrecht, erect a modern one at great expense, and in cases where the choir lies absolutely open without parcloses this western screen will be kept locked.*

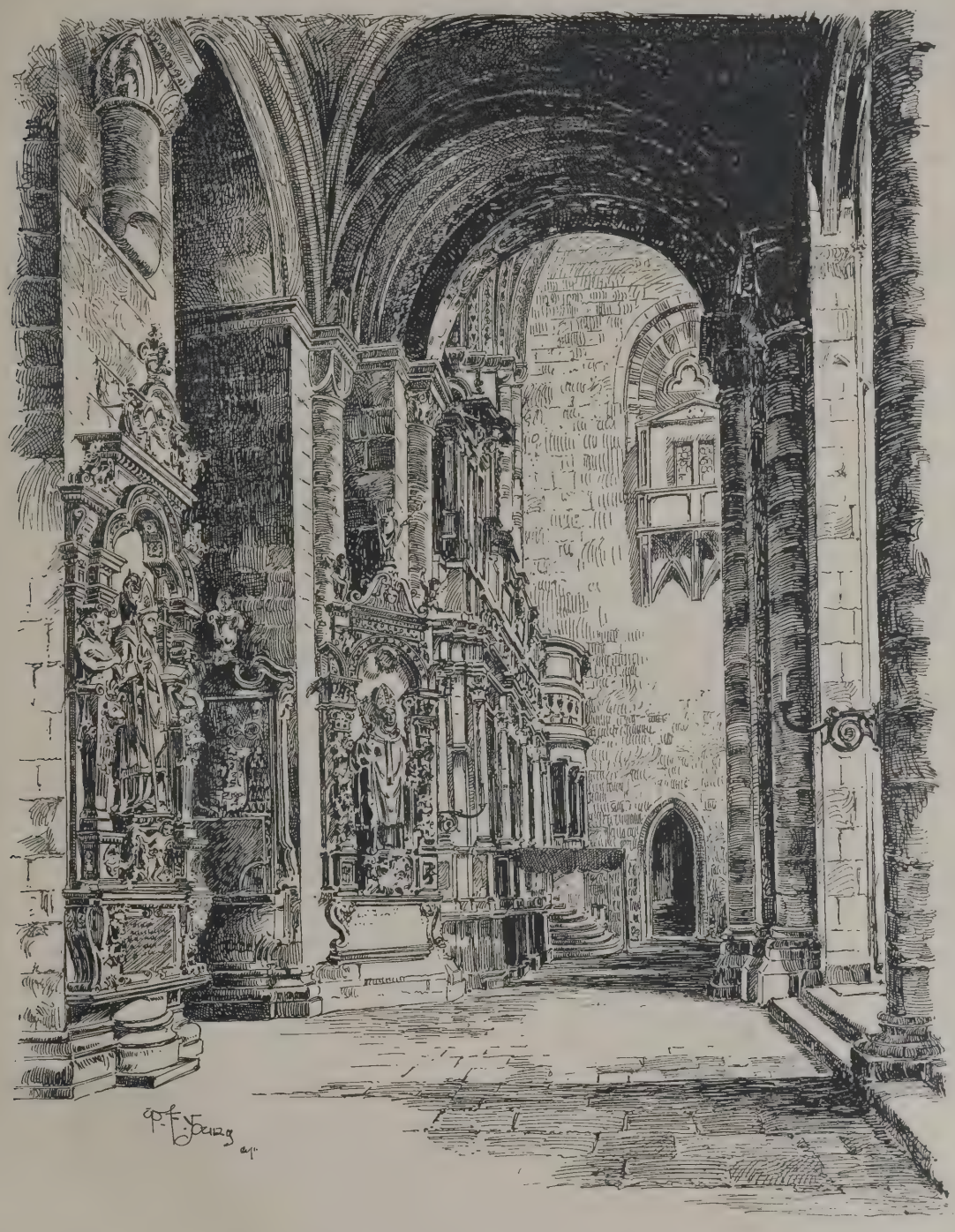


DORDRECHT.

* The following churches in Holland contain the finest examples of this instrumentum ecclesiasticum:—St. Bavon, Haarlem; SS. Mary and Catherine, Amsterdam; St. Laurence, Alkmaar; St. Peter, Leyden; and St. Adalbert, Egmont. The erection during the last century of this screen at Dordrecht reminds one of a person raising a triumphal arch before the entrance to his coal cellar. "Thank God," was the mental ejaculation of one of the party, "one is not doomed to 'worship' here every Sunday." To an English Churchman with the well-ordered cathedrals and parish churches of his own country a Dutch church is a sorry spectacle.

Pleasantly the remainder of the day passes at Dordrecht, particularly the afternoon, when we sally down to the port, which reminds of St. Ogg's in "The Mill on the Floss," and where we sit alternately sipping coffee and looking at the traffic on the Waal until it is more than fully time to think of repairing to the station for the resumption of our journey. This is performed in the cool of the evening, and beautiful is the effect of the landscape, with every now and then a tall red-brick tower rising up from the plain against an opal-tinted sky as the train bears us on to Nimwegen, which with its numerous steeples wears an air of great importance and interest viewed for the first time from the opposite side of the Waal. The ancient ecclesiology of Nimwegen is not particularly interesting, the great parish church, built in the form of a Greek cross with a western steeple, being a horribly whitewashed preaching-house, with all the windows gutted of tracery. The pulpit and organ-loft are of course sumptuous, and the presence of a number of brass chandeliers imparts some relief to the surrounding wretchedness. The western steeple, a nobly-proportioned erection in brick, groups well with that of the modern Roman Catholic church* built during the sixties in an Early Pointed French style from the designs of M. Cuypers, and consisting of a short nave with a grand "tribune" above the arcades, a central lantern, transepts, and gracefully-groined apsidal sanctuary.

The colouring—vitreous and mural of this church, as well as that of a partially old one built on the model of one of the German hall churches, with very tall arcades—was, if not of the highest order, solemn and devotional, so that one could not forbear exclaiming on entering, in the words of the introit, "Quam terribilis est locus iste; hic domus Dei est, et porta cœli; et vocabitur aula Dei." From Nimwegen we go to Cleves, where the great red-brick Stifts-Kirche, with its twin western spires and its clerestoried nave and choir under one long line of roof, with a tiny flèche only to



MAYENCE CATHEDRAL: VIEW IN NAVE AISLE LOOKING TOWARDS WESTERN TRANSEPT.

* One of a series as striking as that built by Mr. J. Brooks in the north-eastern districts of London about the same period. Among these churches of M. Cuypers may be mentioned St. Barbara, at Breda; St. Catherine, Eindhoven; St. Peter, Sittard; and others in Amsterdam, Alkmaar, Eilendorf and Vechel.

mark the separation, recalls the Marien Kirche at Lübeck. Tautological as this type of church may appear, it is admirably adapted for immense congregations, as is patent on the Sunday of our visit, when every inch of its spacious floor is crowded at the Sing Amt or People's Mass, numbers overflowing into the porches, and content to listen to the service and join in the hymn-singing from outside.

The afternoon of this intensely hot Sunday is spent at Xanten, easily reached from Cleves *viâ* Goch, little of remark being passed upon the journey beyond several laughable specimens of modern ecclesiology. As we saunter up the long shady road leading from the station to the town, the tones of a deep bell from one of the steeples of St. Victor's collegiate church announcing the postprandial Offices smite upon the ear.



TRÈVES: THE CATHEDRAL AND CHURCH OF OUR LADY, FROM THE N.W.

We enter the little town, emerge upon the broad market-place, turn to the left and pass beneath a sumptuous southern portal into the most picturesque ecclesiastical interior of North Germany, whose effect is considerably enhanced by the kneeling congregation in the open benches ranged in nave and aisles, and by the tones of the organ, which, placed Strasburg-wise in the triforium, is accompanying the voices in a solemn Litany. This collegiate church of St. Victor at Xanten is a five-aisled structure of the best Decorated period, the western steeples alone remaining of the old Romanesque building. There are no transepts; the choir ends in an aisleless five-sided apse with two tiers of windows, each of the side aisles being quasi-hexagonally terminated. Very beautiful are the slender clustered shafts dividing the double aisles, adown which tryptich-surmounted altars are ranged. There is some glorious old painted glass, chiefly in the windows of the north aisle, and a screen with doors placed eccentrically, with an altar between them according to German usage, separates the nave from the choir, which, with its stalls and subsellæ, its tapestry, standard lights, parcloses, lecterns, and above all, its marvellous triple brass arch of lights stretching across the chord of the apse is a perfect revelation. Charming, too, is the cloister, from whose north-east corner the church, with its imposing clerestory of flowing Decorated windows, flying buttresses, pinnacles and pair of massive Romanesque towers, each surmounted by an octagonal slate spire, forms an architectural group of no common grandeur. Returning to Cleves the same evening, somewhat fatigued but highly delighted with our day, we quit it on Monday for Cologne, little of ecclesiological interest occurring to claim the attention until Neuss is reached. But of this old walled town, with its solemn transverse triapsal church of St. Quirinus, the first of that grand series of Rhenish examples, I have spoken at some length in the "Ecclesiologia Germanica," so further allusion need not be made either to it or to Cologne, which it is pleasant to revisit, firstly for the introduction to its manifold treasures of my *compagnons de voyage*, and secondly for the visiting on my own part of such objects as contrived to elude observation, and for the further study of those whose acquaintance had been but imperfectly made on former visits.

At Bonn the interior of the minster has lately undergone lavish decoration in fresco and stained-glass; consequently the

change that has been wrought in it since I last saw it nine years ago, when the only colour was afforded by some commonplace stained-glass in the apse of the upper choir—whose Romanesque windows, by the way, have, Peterborough fashion, been filled with Late Pointed tracery—is very striking. Whether the mural colouration is in harmony with the architecture it enriches, and which, truth compels me to add, it in places obscures, may be questioned, for with respect to this mode of decoration differences of opinion exist which it is impossible to reconcile; but one cannot blame the authorities at Bonn for wishing to impart to the interior of their minster an air of greater religiosity and impressiveness. It must, however, be conceded that the painted glass which has been placed in the windows of the apsidal transepts and in the large foliated half-circles which light the aisles is among the best modern work that has come under my notice in Germany.

The interior of the nave at Bonn is more like our Anglo-Romanesque, as exemplified at Chichester, than German work—a resemblance which must be attributed to the employment of one arch between each vaulting bay, instead of the two so universal in such contemporary German Romanesque churches as Bamberg, Naumburg and Osnabrück. The floor-space at Bonn being ample, the Männerchor does not appear; in its place, therefore, we have an arcade of five small arches opening into a narrow triforium passage, while the clerestory space is relieved by a quintuplet of graceful arcades, so that the blank spaces which occur when the ordinary German mode of fenestration by one or two small roundheaded windows is employed, are satisfactorily got rid of.

Portions of the cloister on the south side of the nave exhibit fine Romanesque work, but at the time of our visit the walks were cumbered with the pseudo-classical instrumenta removed from the choir and other parts during the late restorations.

Andernach, Sinzig, Coblentz, Boppart, Oberwesel and Bacharach, with their severally peculiar ecclesiological treasures, having come and gone, a most enjoyable trip is made by steamboat to Mayence, where we arrive in the evening, to find its streets gaily decorated in honour of the Kaiser's visit, and the red sandstone steeples of the Dom glowing in the last rays of sunset. Much as I should like to do so it is impossible, in the limits imposed upon me in this paper, to dilate upon this most solemn and awful of Rhenish Romanesque basilicas.

There is an apse at either extremity, but singularly enough the later and richer apse, a truly noble and typical example of the Rhenish style, faces west.

Here the basilican arrangement of the altar is found, and ranged behind it in the apse, where elongated Romanesque lancets have tolerable modern stained-glass, are the stalls of the chapter, exhibiting all the voluptuousness characteristic of eighteenth-century work. The nave, of unusual width, is separated from the aisles by square pillars supporting arches without archivolts. In lieu of triforium there is a wall, relieved by two lofty blind arcades decorated with modern frescoes of very jejune character, and surmounted by a clerestory of simple roundheaded windows.

Opening from the nave aisles are good Decorated chapels, whose tall windows have been filled with excellent stained-glass, the subjects being single effigies of saints placed low down in the lights, and with the superimposed space of white glass. Against the solid nave piers are arranged the monumental slabs of the archbishop electors of Mayence, whose effigies form an historical epitome of ecclesiastical costume highly valuable to the student. Several of these slabs are shown in the very charming drawing by Mr. Young, and the presence of those ranged down the great central nave serve in no small degree to impart an additional solemnity to the eight o'clock People's Mass, which we make a point of attending on the Sunday morning of our visit. The congregation, however, although it is sufficient to fill the benches, does not attain those vast dimensions which one may see any Sunday in the year at Cologne, Münster or Soëst. Travelling arrangements preclude our attendance at the later Mass, when unaccompanied music of the Palestrina school may be heard, but we visit two other churches in the city, St. Stephen's and St. Quentin's, both Middle Pointed and fine examples of the "hall" church, the latter, wonderfully set upon the site intended for it, being capable of accommodating a vast congregation in a space comparatively limited.

Returning to Coblentz we quit that admirable point de départ in the evening of an intensely hot Sunday for Trèves, and truly delightful in the afterglow is the apparently unending chain of mountains as the train pursues its course along the valley of the Moselle, whose stream in many places is shrunk to a mere riband, or so shallow that it might be crossed on foot. Excellent accommodation is found at the Hotel Stadt Venedig—a capital place for greedy little boys to go to, as they give you two helpings of each dish at table d'hôte—and we devote the whole of Monday to the exploration of Trèves and its ecclesiastical and civil antiquities. The exterior of the cathedral has been much impaired during the seventeenth century, particularly as regards its fenestration; but the whole mass, especially the western façade, with its simple apse and the adjacent Liebfrau Kirche, forms an ensemble which equals, if it does not surpass, our expectations.

Passing into the great cool Dom, the arrangement of whose Pointed nave arcades, alternately narrow and wide, and surmounted by a clerestory of rich Romanesque triplets, recalls Münster, we are agreeably surprised to find that it has up to the present escaped the fresco painter, walls, piers and vaults being perfectly bare, but none the less religious and solemn on that account.

The western apse is unfortunately choked by an immense organ-loft of frigid Ionic character, and the eastern apse would, I opine, have had a far more pleasing effect had its architect omitted the range of clerestory windows; and the vaulting is very weak and unsatisfactory. The parclose screens, which whilom doubtless extended the whole width o the transepts, as at Münster, resemble those in the choir of St. George, at Limburg on the Lahn; the grand elevation of the choir, which at the time of our visit is in a state of bouleversement, its floor being "up," thus allowing of a view of the vaults below; the extensive cloisters, and the contiguous Liebfrau Kirche all in their turn command our admiration. This last, noteworthy as among the few churches built in the complete Gothic style in Germany during the first half of the thirteenth century, perfectly free from Romanesque influence, although apparently of complex arrangement, is in reality exceedingly simple. Looked at for the first time the ground-plan may be described as dodecagonally apsidal, but closer inspection will reveal the fact that the church is built in the form of a Greek cross, the angles between the arms being on every side occupied by chapels. It originally communicated with the Dom by a vaulted passage called the Paradise, but which now forms the sacristy. The great piers at the crux, above which rises a low tower with hipped gabled roof, are composed of a core with four slender shafts disposed around it, the column separating the two arches opening into the aisle of each of the four limbs being a simple cylindrical one, with a delicately foliaged cap. All the windows are of two uncusped lights, with a sexfoiled circle like those in the chapels of Westminster and Beauvais, and one equipped with modern painted glass of Belgian manufacture, which forms the only blemish in an otherwise tastefully restored interior. Nothing can exceed in gracefulness the play of lines afforded by these columns and arches in the Liebfrau Kirche at Trèves. Like accomplished dancers at a ball, each seems to fall into its proper position as the visitor moves about the building. Upon the western side of each column is the frescoed effigy of an apostle, with beneath him, according to Mediæval custom, a sentence from the Creed. Standing just within the west door the whole of these paintings are visible at a *coup d'œil*.

From Trèves we go to Metz, and thence through Namur and Brussels to Antwerp, whence, after a day spent amid its manifold delights, we return with minds and portfolios stored with memories of a tour whose enjoyment would have been enhanced had the heat been less oppressive.

T. F. BUMPUS.

Lord Pirbright has decided to erect at Pirbright, adjoining the fountain which he presented to the village in commemoration of Her Majesty's Jubilee, a spacious hall for the use and recreation of the inhabitants.

THE STONES OF ENGLAND.

SIXTY years have elapsed since the report to the Commissioners of Works on the stone which it was proposed to employ in the Houses of Parliament was sent in. Copies are now almost unobtainable unless at a high price. It may therefore be interesting to reprint a document of which the conclusions are still true. The inquiry was carried out and undertaken under the authority of the Lords Commissioners of Her Majesty's Treasury by Mr. Charles Barry, Mr. H. T. de la Beche, F.R.S., F.G.S., Mr. William Smith, D.C.L., F.G.S., and Mr. Charles H. Smith:—

My Lord and Gentlemen,—In conformity with your instructions we have the honour to report that in the months of August, September and October last we made a tour of inspection to various stone quarries in the kingdom, and visited numerous public buildings, with a view to the selection of a proper stone to be employed in the erection of the new Houses of Parliament. We have also, in further compliance with your instructions, procured a fair average specimen of the workable stone from each of the quarries which we have visited, and have deposited cubes prepared from such specimens, as well as from others which have been forwarded to us, in the Museum of Economic Geology.

From the number of quarries which we have visited, we consider that we have been enabled to obtain a competent knowledge of the varied character of each of the several classes of building stone in the kingdom which are likely to be suited to the object in view, although we are well aware that there are many other freestone quarries in various parts of the country which we have not examined, where stone of different varieties, in some cases, perhaps, not inferior to those which have been brought under our immediate inspection, may be obtained. From many of such last-mentioned quarries we have received specimen blocks, and the requisite information concerning them, since the completion of our tour. We have not considered it necessary to extend our inquiry to granites, porphyries and other stone of similar character, on account of the enormous expense of converting it to building purposes in decorative edifices, and from a conviction that an equally durable and more eligible material could be obtained for the object in view from among the limestones or sandstones of the kingdom. We have, nevertheless, to acknowledge the receipt of several specimens of granite, among which are some from the estates of the Marquis of Breadalbane, near Oban, in the west of Scotland, accompanied by a munificent offer on the part of his lordship that, should the granite from that locality be considered fit and available for the proposed new Houses of Parliament, he would be willing to make a free gift to the nation of his interest in any quantity that might be required for the purpose.

In order to render more complete the inquiry upon which we have been engaged, we have availed ourselves of the valuable assistance of Professors Daniell and Wheatstone, of King's College, London, in determining the physical properties of a large proportion of the specimens which we have obtained.

In proof of the necessity and importance of the inquiry upon which we have been engaged, the lamentable effects of decomposition observable in the greater part of the limestone employed at Oxford, in the magnesian limestone of the minster, churches and other public buildings at York, and in the sandstones of which the churches and other public buildings in Derby and Newcastle are constructed, afford, among numerous other examples, incontestable and striking evidence. The unequal state of preservation of many buildings, often produced by the varied quality of the stone from the same quarry employed in their construction, shows the propriety of a minute examination of the quarries themselves, in order to acquire a proper knowledge of the particular beds from whence the different varieties have been obtained. An inspection of quarries is also desirable for the purpose of ascertaining their power of supply, the probable extent of any given bed, and many other matters of practical importance.

It frequently happens that the best stone in quarries is often neglected, or only in part worked, from the cost of bareing and removing those beds with which it may be associated; and, in consequence, the inferior material is in such cases supplied, especially when a great order is required to be fulfilled in a short space of time and at an insufficient price, which is often the case with respect to works undertaken by contract.

As the supply of stone in particular localities would often appear to be due to accidental circumstances, such as the cost of quarrying, the degree of facility in transport, and the prejudice that generally exists in favour of a material which has been long in use; and as the means of transport have of late years been greatly increased, it becomes essential to ascertain whether better materials than those which have been employed in any given place may not be obtained from other although more distant localities, upon equally advantageous terms. The decomposition of stones employed for building purposes appears to be effected by chemical and mechanical causes, according to the conditions under which such stones were placed. With reference to sandstones, such as are usually employed for building purposes, and which are generally composed of either quartz or silicious grains cemented by silicious, argillaceous, calcareous or other matter, their decomposition is effected according to the nature of the cemented substance, the grains being comparatively indestructible. With respect to limestones composed of carbonate of lime, or the carbonates of lime and magnesia, either nearly pure or mixed with variable proportions of foreign matter, their decomposition depends, other things being equal, upon the mode in which their component parts are aggregated, those which are most crystalline being found to be the most durable, while those which partake least of that character suffer most from exposure to atmospheric influences.

The varieties of limestones termed oolites, being composed of oviform bodies cemented by calcareous matter of a varied character, will of necessity suffer unequal decomposition unless such oviform bodies and the cement be equally coherent. Those limestones which are usually termed "shelly," from being chiefly formed of either broken or perfect fossil shells cemented by calcareous matter, suffer decomposition in an unequal manner in consequence of the shells, which, being for the most part crystalline, offer the greatest amount of resistance to the decomposing effects of the atmosphere.

Sandstones, from the mode of their formation, are very frequently laminated, more especially when micaceous, the plates of mica being generally deposited in planes parallel to their beds. Hence, if such stone be placed in buildings at a right angle to its natural bed, it will decompose in flakes according to the thickness of the laminæ; whereas, if it be placed upon its natural bed, the amount of decomposition will be comparatively immaterial.

Limestones, from the general mode of their formation, are not liable to the kind of lamination observable in sandstones; nevertheless, varieties exist, especially those usually termed shelly, which have a coarse laminated structure, generally parallel to the planes of their beds, and therefore the same precaution in placing such stone in buildings upon its natural bed is as necessary as with the sandstones above noticed.

The effects of the chemical and mechanical causes of the decomposition of stone in buildings are greatly modified according as such buildings may be situated in town or country. The state of the atmosphere in populous smoky towns produces a greater amount of decomposition in buildings so situated, all other conditions being equal, than in those placed in an open country, where many of the aeriform products which arise from such towns, and are injurious to buildings, are not to be found.

The chemical action of the atmosphere produces a change in the entire matter of the limestones, and in the cementing substance of the sandstones, according to the amount of surface exposed to it. The mechanical action due to atmospheric causes occasions either a removal or a disruption of the exposed particles; the former by means of powerful winds and driving rains, and the latter by the congelation of water forced into or absorbed by the external portions of the stone. These effects are reciprocal, chemical action rendering the stone liable to be more easily affected by mechanical action, which latter, by constantly presenting new surfaces, accelerates the disintegrating effects of the former.

Buildings in this climate are generally found to suffer the greatest amount of decomposition on their southern, south-western and western fronts, arising, doubtless, from the prevalence of winds and rains from those quarters; hence it is desirable that stones of great durability should at least be employed in fronts with such aspects.

Buildings situated in the country appear to possess a great advantage over those in populous and smoky towns, owing to lichens, with which they almost invariably become covered in such situations, and which, when firmly established over their entire surface, seem to exercise a protective influence against the ordinary causes of the decomposition of the stone upon which they grow.

As an instance of the difference in degree of durability in the same material, subject to the effects of the atmosphere in town or country, we may notice the several frustra of columns and other blocks of stone which were quarried at the time of the erection of St. Paul's Cathedral in London, and are now lying in the island of Portland, near the quarries from whence they were obtained. These blocks are invariably found to be covered with lichens, and although they have been exposed to all the vicissitudes of a marine atmosphere for more than 150 years, they still exhibit beneath the lichens their original form, even to the marks of the chisel employed upon them, whilst the stone which was taken from the same quarries (selected, no doubt, with equal if not greater care than the blocks alluded to) and placed in the cathedral itself, is, in those parts which are exposed to the south and south-west winds, found in many instances to be fast mouldering away.

Colour is of more importance to the selection of a stone for a building to be situated in a populous and smoky town than

for one to be placed in an open country, where all edifices usually become covered, as above stated, with lichens; for although in such towns those fronts which are not exposed to the prevailing winds and rains will soon become blackened, the remainder of the building will constantly exhibit a tint depending upon the natural colour of the material employed.

Before we proceed to adduce a few examples of the present condition of the various buildings that we have examined, we would wish to observe that those which are highly decorated, such as the churches of the Norman and Pointed styles of architecture, afford a more severe test of the durability of any given stone, all other circumstances being equal, than the more simple and less decorated buildings, such as the castles of the fourteenth and fifteenth centuries, inasmuch as the material employed in the former class of buildings is worked into more disadvantageous forms than in the latter as regards exposure to the effects of the weather; and we would further observe that buildings in a state of ruin, from being deprived of their ordinary protection of roofing, glazing of windows, &c., constitute an equally severe test of the durability of the stone employed in them.

As examples of the degree of durability of various building stones in particular localities, the following may be enumerated. Of the sandstone buildings which we examined we may notice the remains of Ecclestone Abbey, of the thirteenth century, near Barnard Castle, constructed of a stone closely resembling that of the Stenton Quarry, in the vicinity, as exhibiting the mouldings and other decorations, even to the dog's tooth ornament, in excellent condition. The circular keep of Barnard Castle, apparently also built of the same material, is in fine preservation. Tintern Abbey may also be noticed as a sandstone edifice that has to a considerable extent resisted decomposition; for although it is decayed in some parts, it is nearly perfect in others. Some portions of Whitby Abbey are likewise in a perfect state, whilst others are fast yielding to the effects of the atmosphere. The older portions of Ripon Cathedral, constructed of sandstone, are in a fair state of preservation. Rivaulx Abbey is another good example of an ancient sandstone building in a fair condition. The Norman keep of Richmond Castle, in Yorkshire, affords an instance of a moderately hard sandstone, which has well resisted decomposition.

As examples of sandstone buildings of more recent date, in a good state of preservation, we may mention Hardwicke Hall, Haddon Hall, and all the buildings of Cragleith stone in Edinburgh and its vicinity. Of sandstone edifices in an advanced state of decomposition we may enumerate Durham Cathedral, the churches at Newcastle-upon-Tyne, Carlisle Cathedral, Kirkstall Abbey and Fountains Abbey. The sandstone churches of Derby are also extremely decomposed, and the church of St. Peter's at Shaftesbury is in such a state of decay that some portions of the building are only prevented from falling by means of iron ties.

As an example of an edifice constructed of a calciferous variety of sandstone we may notice Tisbury Church, which is in unequal condition, the mouldings and other enrichments being in a perfect state, whilst the ashlar, apparently selected with less care, is fast mouldering away.

The choir of Southwell Church, of the twelfth century, may be mentioned as affording an instance of a magnesio-calciferous sandstone, resembling that of Mansfield, generally in good condition after long exposure to the influences of the atmosphere.

Of buildings constructed of magnesian limestone we may mention the Norman portions of Southwell Church, built of stone similar to that of Bolsover, and which are throughout in a perfect state, the mouldings and carved enrichments being as sharp as when first executed. The keep of Conisburgh Castle, built of a magnesian limestone from the vicinity, is also in a perfect state, though the joints of the masonry are open in consequence of the decomposition and disappearance of the mortar formerly within them. The church at Hemmingborough, of the fifteenth century, constructed of a material resembling the stone from Huddlestone, does not exhibit any appearance of decay. Tickhill Church, of the fifteenth century, built of a similar material, is in a fair state of preservation. Huddlestone Hall, of the sixteenth century, constructed of the stone of the immediate vicinity, is also in good condition. Roche Abbey, of the thirteenth century, in which stone from the immediate neighbourhood has been employed, exhibits generally a fair state of preservation, although some portions have yielded to the effects of the atmosphere.

As examples of magnesian limestone buildings in a more advanced state of decay, we may notice the churches at York and a large portion of the minster, Howden Church, Doncaster old church and others in that part of the country, many of which are so much decomposed that the mouldings, carvings and other architectural decorations are often entirely effaced.

We may here remark that, as far as our observations extend, in proportion as the stone employed in magnesian limestone buildings is crystalline, so does it appear to have resisted the decomposing effects of the atmosphere; a conclusion in accordance with the opinion of Professor Daniell, who has stated to us that from the results of experiments he is of opinion that "the nearer the magnesian limestones approach to equivalent proportions of carbonate of lime and carbonate of magnesia, the more crystalline and better they are in every respect."

Of buildings constructed of oolitic and other limestones we may notice the church of Byland Abbey, of the twelfth century, especially the west front, built of stone from the immediate vicinity, as being in an almost perfect state of preservation. Sandysfoot Castle, near Weymouth, constructed of Portland oolite in the time of Henry VIII., is an example of that material in excellent condition; a few decomposed stones used in the interior, and which are exceptions to this fact, being from another oolite in the immediate vicinity of the castle. Bow and Arrow Castle and the neighbouring ruins of a church of the fourteenth century, in the island of Portland, also afford instances of the Portland oolite in perfect condition. The new church in the island, built in 1766 of a variety of the Portland stone termed roach, is in an excellent state throughout, even to the preservation of the marks of the chisel.

Many buildings constructed of a material similar to the oolite of Ancaster, such as Newark and Grantham churches and other edifices in various parts of Lincolnshire, have scarcely yielded to the effects of atmospheric influences. Windrush Church, built of an oolite from the neighbouring quarry, is in excellent condition; whilst the Abbey Church of Bath, constructed of the oolite in the vicinity of that city, has suffered much from decomposition; as is also the case with the cathedral, St. Nicholas and St. Michael's churches, in Gloucester, erected of a stone from the oolitic rocks of the neighbourhood.

The churches of Stamford, Ketton, Colley Weston, Kettering and other places in that part of the country, attest the durability of the shelly oolite termed Barnack Rag, with the exception of those portions of some of them for which the stone has been ill-selected. The excellent condition of those parts which remain of Glastonbury Abbey show the value of a shelly limestone similar to that of Doulting; whilst the stone employed in Wells Cathedral, apparently of the same kind, and not selected with equal care, is in parts decomposed. The mansion, the church and the remains of the abbey at Montacute, as also many other buildings in that vicinity, constructed of the limestone of Ham Hill, are in excellent condition. In Salisbury Cathedral, built of stone from Chilmark, we have evidence of the general durability of siliciferous limestone, for although the west front has somewhat yielded to the effects of the atmosphere, the excellent condition of the building generally is most striking.

In the public buildings of Oxford we have a marked instance both of decomposition and durability in the materials employed, for whilst a shelly oolite similar to that of Taynton, which is employed in the more ancient parts of the cathedral, in Merton College, chapel, &c., and commonly for the plinths, string-courses and exposed portions of the other edifices in that city, is generally in a good state of preservation, a calcareous stone from Heddington, employed in nearly the whole of the colleges, churches and other public buildings, is in such a deplorable state of decay that in many instances all traces of architectural decoration have disappeared, and the ashlar itself is in many places deeply disintegrated.

In Spofforth Castle we have a striking example of the unequal decomposition of two materials—a magnesian limestone and a sandstone, the former employed in the decorative parts and the latter for the ashlar or plain facing of the walls. Although the magnesian limestone has been equally exposed with the sandstone to the decomposing effects of the atmosphere, it has remained as perfect in form as when first employed, while the sandstone has suffered considerably from the effects of decomposition.

In Chepstow Castle may be observed a magnesian limestone in fine preservation, and a red sandstone in an advanced state of decomposition, both having been exposed to the same conditions as parts of the same archways; and in Bristol Cathedral we have a curious instance of the effects arising from the intermixture of very different materials, a yellow limestone and a red sandstone, which have been indiscriminately employed both for the plain and decorative parts of the building. Not only is the appearance in this case unsightly, but the architectural effect of the edifice is also much impaired by the unequal decomposition of the two materials, the limestone having suffered much less from decay than the sandstones.

Judging, therefore, from the evidence afforded by buildings of various dates, there are many varieties of sandstone and limestone employed for building purposes which successfully resist the destructive effects of atmospheric influences; among these, the sandstones of Stenton, Whitby, Tintern, Rivaulx and Craigleith, the magnesio-calciferous sandstones of Mansfield, the calciferous sandstone of Tisbury, the crystalline magnesian limestones, or dolomites, of Bolsover, Huddlestone and Roche Abbey, the oolites of Byland, Portland and

Ancaster, the shelly oolites and limestone of Barnack and Ham Hill, and siliciferous limestone of Chilmark, appear to be amongst the most durable. To these, which may be all considered as desirable building materials, we are inclined to add, though they may not always have the evidence of ancient buildings in their favour, the sandstones of Darley Dale, Humbie, Longannet and Crowbank, the magnesian limestones of Robin Hood's Well and the oolite of Ketton.

If, however, we were called upon to select a class of stone for the more immediate object of our inquiry, we should give the preference to the limestones, on account of their more general uniformity of tint, their comparatively homogeneous structure, and the facility and economy of their conversion to building purposes; and of this class we should prefer those which are most crystalline.

In conclusion, having weighed to the best of our judgment the evidence in favour of the various building stones which have been brought under our consideration, and freely admitting that many sandstones as well as limestones possess very great advantages as building materials, we feel bound to state that for durability, as instanced in Southwell Church, &c., and the results of experiments; for crystalline character, combined with a close approach to the equivalent proportions of carbonate of lime and carbonate of magnesia, for uniformity in structure, facility and economy in conversion, and for advantage of colour, the magnesian limestone or dolomite of Bolsover Moor and its neighbourhood is, in our opinion, the most fit and proper material to be employed in the proposed new Houses of Parliament.

We have the honour to be, my Lord and Gentlemen,
Your very humble and obedient servants,
(Signed) CHARLES BARRY.
H. T. DE LA BECHE.
WILLIAM SMITH.
CHARLES H. SMITH.

London: March 16, 1839.

TESSERÆ.

Mediæval Adaptation of Buildings to Sites.

WITHOUT speaking of the very lively appreciation of nature to be found in the numerous romances of the Middle Ages, we see the castles, the manors, the abbeys are always so situated as to give their inhabitants views of the surrounding country. Their construction harmonises with these localities: wild and imposing in abrupt places, fine and elegant at the foot of laughing slopes, on the banks of tranquil rivers, in the midst of verdant plains. In these houses the views of the most picturesque points are always arranged with skill and in such fashion as to present unexpected and varied aspects. In studying the civil constructions of Mediæval times it is therefore necessary to take into consideration the locality, the nature of the climate, the site, for all these things exercise an influence on the builder. A building which is suitably arranged and constructed on a level site in a country of gentle and tranquil aspect would be ridiculous on the top of a savage cliff surrounded by precipices. Another one by its severe and even harsh character seems to grow out of the desolate soil where it rises, but would appear deformed and coarse surrounded by fields and meadows. Those barbarous men, as they are considered by most people, were then sensible to natural beauties, and their dwellings reflected, so to speak, these different sorts of beauty, harmonised with them. We, who are civilised and pretend to have invented the picturesque, build elegant pavilions on some rustic site which seems to have been intended to carry a fortress, and we build massive structures on the bank of a streamlet running through a meadow. This would lead us to believe that these Mediæval barbarians loved and understood nature without making much ado over it, and that we, who boast of it on every occasion in prose and verse, look at it with a careless eye, without being sensible to its beauties. Centuries are like individuals, they wish always to be considered gifted with the qualities which are wanting in them, and care very little for those which they do possess. Everybody fought for religion in the sixteenth century, and nine-tenths of the combatants on both sides were unbelievers. They prided themselves on chivalry and on refined manners in the sixteenth century, and their minds turned very strongly, even at that epoch, towards positive ideas and the satisfaction of material wants. In the eighteenth century they conversed only about virtue, nature, gentle philosophy, when virtue was scarcely in vogue, when nature was looked at through the glazed window of one's chamber, and in lieu of gentle philosophy the only sort which was practised was founded on the assured well-being of one's self and one's friends.

The Parthenon.

The Parthenon has gathered into itself all the best points of Greek architecture; it has studied harmony of proportions, delicacy of feeling in optical corrections, exquisite taste in selection of mouldings, coloured ornaments and unrivalled sculpture. Take away the sculpture and some accidental grace were gone; but the building in all its transcendent beauty would remain as single and specious as a statue. Take away the sculpture and its air of sublimity would remain in the sheer weight and vigour of its masses and in the colossal scale of its architectural forms; its air of grace would remain in the modulated harmony and exquisite perfectness of its related parts; its air of intellectuality would remain in the austere majesty of its conception, its air of religious awe would remain in the mystery and poetry that its author communicated to his work by means that he knew so well how to wield. Think of the expressiveness of the structure as the broad rays of rising or setting sun beat aslant the clerestory in the roof upon massive columns or undivided weight of solid wall, and threw the unlit parts into gloomy shade. Think of the small scale of the sculptures—the noble frieze, for instance, is but 3 feet 4 inches deep—and compare this with the impressiveness of mighty mouldings and of columns whose abacus is 6 feet 5 inches square and diameter 5 feet at the top. It is the glory of a great building that it is one grand indivisible whole; take away the sculpture and some accidental grace is gone, some emphasis of parts is lost; but the primary quality, the central sweetness of the thing, remains. On the other hand, if a structure retains its expression, even though you remove its accessory of figure sculpture, it is different with the sculpture that is removed. The figures formed part of the very masonry of the structure. They emphasised its parts. The glory that they had was a communicated glory. The music that they made was only a part of a grand chorus, a share in the pervading harmony of the fabric that the master musician had blended with the melody and rhythm of the rest of the related parts. The music was not theirs, for it would go on still in the fabric, and with little perceptible difference, when the figures were gone. But removal makes all the difference to the figures; their inherent loveliness remains, but they become in a manner dumb, and remove them from the pediment or pedestal or niche to which they are allied and they wear an orphaned appearance like poor casuals without a home.

Variations in Greek Vegetation.

The following species from the flora known to Theophrastus have either entirely disappeared from Greece, or have emigrated from the habitations which he assigns to them, and withdrawn into the moister climate of more northerly regions—the varieties commonly known to the ancients of the lindens; the yew, that child of damp and shady hillsides, of which rare and dwarfed specimens only are now to be found on the highest mountains; the hornbeam, the beech and alder of Homer; and, with scanty exceptions, the "spear-furnishing" cornel and the tall ash. Instead of these another class of plants has conquered for itself greater space in the vegetable realm—thick-leaved, hard-leaved, down-covered, thorny and prickly bushes, evergreen for the most part, and adding, by their rich flowers, great beauty to the spring. This vegetation, analogous to that of the American savannas and Asiatic steppes, has now replaced the ancient flowery meadows, resembling those of middle Europe, with wastes of heath and pines, carob trees and grey oleasters. Together with these we have the various kinds of arbutus, myrtle, oleander, philyreæ, pistachios, kermes oaks, rosemary, thyme and the flora of dry mountain regions in general.

Sketching Landscapes.

In sketching from nature, think it not enough that your eyes see what is before them. The mind's eye must also look out from that watch-tower, the sensorium, to command the wanderings of the other two, and to select and reject; hence may taste be termed the new eye, new sense, new perception. Poetry of nature, what is it? All nature is poetry, is full of it, yet may you not have the power to extract an atom. Question yourself well on this point, and if it be so, you are not of the art divine. When you sketch from nature, if you find, on examining your portfolio, you have brought back nothing but unmeaning views, and that it is a remembrancer of localities, as your almanack is of dates, there is so little dignity in your employment, it will not be amiss if you quit it. So, if you paint and do no more than work after such sketches, you are only fit to ornament snuff-boxes and to beautify an album. If you can see no poetry in nature beyond what is on the retina of your eye, you want the mind's eye to constitute the painter; you must be a poet, or discard the idea of the pursuit; you must have a convertible power and have enjoyed visions of fairyland; and you must people your pastoral, or your romantic, or your poetical, with beings that are not on the poor's books; you must remove, as it were, the curse from the earth and from man, for whose sake it was under it, separate the free bounties from slavish toil and labour, and from all idea of the dire punishment and necessity of "eating our bread by the sweat of our brows." Give your senses the charm of the *dolce far niente*; let the verdure be fit for the gentle feet of Astræa, still

blessing humanity with her intercourse. Always remember that repose is the beauty of landscape. The scene should be a poetical shelter from the world, and if in anything partaking of it, it should be only so much so as would show it to be a part and parcel of the "debatable land" that lies between fairyland and the cold waking world. As it is to be a shelter, remember rest, and let not the glorious sun himself act the impertinent intruder and stare you ever in the face like a Polyphemus, stationed in mid-heaven, hid with a cerulean curtain, all but his eye.

Illustrated Books.

The fashion of illustrating books is nearly coeval with the art of printing—indeed, so far as we know, with the art of writing. The love of representation is instinctive in our nature. What stirs our own souls we would fain body forth to others. We all acknowledge the force of the Horatian maxim, that we are more easily moved through the eye than through the ear. Men, women and children have always delighted in illustrated books, and will do so to the end of time. There is but one condition necessary, that the illustration represents something genuine, speaks of some effort of a living soul, and is not the product of mere handicraft dexterity. It is this which gives the charm to the illuminations of the old missals and chronicles, and which makes us never weary of looking at the rough woodcuts of the early masters of the art. They have something to tell us. They make us feel the presence of an active intelligence struggling, it may be, through great inexpertness of manipulation. There is life and symbolism in them; true thought or true feeling, or both; and consequently they will have a value as long as the paper and ink of which they are compounded hold together. Without such qualities no illustration deserves the name. It must harmonise with and throw light upon the book or it becomes an impertinence. There are cases, no doubt, where the very badness of the illustration makes us tolerant of it; but then they are such as Charles Lamb speaks of:—"The common editions of Shakespeare, by Rowe and Tonson, without notes, and with plates which, being so execrably bad, serve as maps or modest remembrancers to the text, and without pretending to any supposable emulation with it are so much better than the Shakespeare Gallery of Engravings, which did."

Coryot in Venice.

The travels of Thomas Coryot, which commenced in 1608, extended over France, Savoy, Italy, Switzerland, Germany and Holland. Through all these countries the genial old fellow trots along in a jovial, purposeless sort of way, seeking enjoyment, and taking care to find or make it for himself, and then passing it on to his readers seasoned with sound observations and a gravity which is often delightfully absurd. The description he gives of Venice is one continued note of admiration. He exhausts a good-sized vocabulary to find epithets to express his feelings about the city in general. He calls it a paradise, a Tempe, a most beautiful queene, and says:—"It yieldeth the most glorious and heavenly show upon the water that ever any mortal eye beheld; such a show as did ever ravish me with delight and admiration." So great and sincere was this admiration, he assures us that if there had been made to him "an offer of three or four of the richest manors in Somersetshire if he never should see Venice, or neyther if he saw it," the manors would have been rejected on such a condition. He falls in love with that essentially Venetian institution the balcony, or, as he calls it, the "very pleasant little tarrasse that jutteth or butteth out from the maine building, with many prety little turned pillars of marble to leane over." The bronze work round the wells receives his special commendation for the clusters of grapes and ivy berries, so "very artificially carved," and the fruit markets for the display of "plummes, figges, musk melons and apricockes." Even the eatables and drinkables come in for their share of praise. The oysters are "the best that ever I did eate in all my life, as greene as a leek and *gratissimi saporis et succi*," and the "Lagrime di Christo toothsome and delectable to the taste," so much so that he is inclined to echo the exclamation of the stranger who, on tasting it, cried, "Domine, cur non lachrymâsti in regionibus nostris?" He "thought there had not beene so rich a staires in Christendome" as the Giant's Stairs in the Ducal Palace, and ascending them he passes into the vast hall of the Palace, where he sees a picture of "Paradise with Christ and the Virgin Mary at the top thereof, and the soules of the believers on both sides, painted by a rare painter called Tintorettus, which is most curious and very delectable to behold." Whether you think this criticism correct or not, you will surely join with him in admiring the noble room, one end of which the painting occupies. Bare and deserted as it looks now, nothing in Venice is so strong a reminder of the past glories of the Republic as this hall. All round its walls her naval victories are painted, and from above her dukes look down on you, and follow you with grave eyes until perforce you become reverential, and try to prevent your boots creaking as you cross the venerable floor and feel a half suspicion that the snuffy custodian at the door is a retired doge.

The Abbey of Holyrood.

The history of this abbey is lost in that of the adjoining palace, although itself one of the most important of all the monastic institutions. Founded as a priory at an early age, it was restored from the neglect into which it had fallen by that "sair sanct for the croon," David I., whose unchecked enthusiasm for the ecclesiastics beggared the succeeding kings. Lying on the high road from England, it was at intervals demolished amid the ravages of war; rebuilt, and often and again destroyed, until at last it accompanied the other monasteries in their ruin at the Reformation. The walls of the chapel, propped up by modern repairs, are the sole remnant of the monastic pile that had been the scene of such eventful things. What crowding memories that old palace and that ruined chapel evoke! Could these walls speak, what a mingled story would they tell of the fate of monarchs! Plots, assassinations, high hopes destined to be withered, the despair of broken hearts, the wild extravagance of unbridled passions, the infatuation of a bigotry which taught religion by tyranny, and hoped to regenerate the land by proscribing the genius which immortalised it. It was in the old hall of that deserted palace that the heart of Mary, in the enthusiasm and buoyancy of her young days, leapt with gladness at the bright hopes of happiness in a marriage brought about by the passion of an hour. The small chamber is still there where she heard the wild yell of agony of her murdered secretary; and that marriage hall, so late the scene of festive gaiety, rang in a little time with the tumults of a populace, moved with the spectacle of a husband murdered at her palace gates, the victim of her fleeting and unstable passions. Hurried on by the wayward impulses of a mind ill-regulated; vain, capricious, and yet not destitute of an amiability and generosity of character that in more peaceful times might have wrought out her own and her country's happiness; that old hall again saw her give caresses as the price of blood, and, in utter mockery of the decencies of life, become the bride of one who had dug her husband's grave. That ruined chapel, too, is not without its history. There the chief stand was made by the most infatuated of her doomed race for the principles of Laud. It was here the struggle in Scotland first began. "In our chapel royal at Holyrood House," Charles wrote to the Lords of Session that they must participate in the communion after the order of the English Liturgy, "for we will not suffer you, who should precede others by your good example, to be leaders of our other subjects to contemn and disobey the orders of the Church." All is changed. The chapel is a ruin, and the green sward around it covers alike the graves of the oppressor and the oppressed, who found there a common resting-place. If in life there was no community in the opposing principles they professed, the bland amalgamation of the grave commingles into one heap their dust. The pomp of regal sovereignty is gone, and the deserted chambers only echo to the tread of the curious traveller, who comes to read the moral of their history.

The Colosseum.

Of all the ruins in Rome, none is at once so beautiful, so imposing and so characteristic as the Colosseum. Here throbbed the Roman heart in its fullest pulses. Over its benches swarmed the mighty population of the centre city of the world. In its arena, gazed at by a hundred thousand eager eyes, the gladiator fell, while the vast velarium trembled as the air was shaken by savage shouts of "Habet," and myriads of cruel hands, with upturned thumbs, sealed his unhappy fate. The sand of the arena drank the blood of African elephants, lions and tigers—of Mirmillones, Laqueatores, Retiarii and Andabatæ—and of Christian martyrs and virgins. Here emperor, senators, knights and soldiers, the lowest populace and the proudest citizens, gazed together on the bloody games, shouted together as the favourite won, groaned together fiercely as he fell, and startled the eagles sailing over the blue vault above with their wild cries of triumph. Here might be heard the trumpeting of the enraged elephant, the savage roar of the tiger, the peevish shriek of the grave-rifling hyæna; while the human beasts above, looking on the slaughter of the lower beasts beneath, uttered a wilder and more awful yell. Rome—brutal, powerful, bloodthirsty, imperial Rome—built in its days of pride this mighty amphitheatre, and, outlasting all its works, it still stands, the best type of its grandeur and brutality. What St. Peter's is to the Rome of to-day is the Colosseum to the Rome of the Cæsars. The Baths of Caracalla, grand though they be, sink into insignificance beside it. The Cæsars' palaces are almost level with the earth. Over the pavement where once swept the imperial robes now slips the gleaming lizard, and in the indiscriminate ruins of those splendid halls the contadino plants his potatoes, and sells for a "paul" the oxidised coin which once may have paid the entrance fee to the great amphitheatre. The golden house of Nero is gone. The very Forum where

Cicero delivered his immortal orations is all but obliterated, and antiquarians quarrel over the few columns that remain. But the Colosseum still stands; despite the assault of time and the work of barbarians it still stands, noble and beautiful in its decay—yes, more beautiful than ever.

Moulded Bricks in Italian Buildings.

Nothing more clearly marks the line which separates the good from the vulgar artist than the power which the former always retains to use and not abuse his material, or his opportunities for its free use. The good artist in brick values properly the use of moulded brick and terra-cotta, and uses them wherever he can do so safely and artistically. The bad artist seems, on the other hand, to rejoice in the endless profusion of ornament with which the cheap reproduction of moulded forms supplies him. And the consequence is, that in some of the fronts of the later Italian churches, we are annoyed and disgusted by the endless repetitions of features which would never otherwise have been marked at all. Such are the rich string-courses, and eaves and gable mouldings, which are everywhere to be seen, and which ought never to be imitated. They generally consist of several courses of moulded bricks, and frequently of continuous arcades of intersecting arches. In some districts, as for instance at Pisa and in Bologna, round discs of glass or earthenware are introduced in combination with these, and by the introduction of bright greens and blues among the sombre bricks, much richness is given to the work. In San Francesco, Bologna, these discs are inserted at intervals in the wall, under the gable cornices of the west front, whilst in the north steeple of San Francesco, at Pisa, they are inserted above the horizontal cornices or strings which divide its various stages. Many of the Italian cornices are so deep and complicated in their design as to astonish extremely those accustomed to the entire absence of so marked a horizontal line in our own English buildings. And their general effect seems to be not only un-English, but at the same time unpleasantly exaggerated; still the beauty of the detail is often very great, and they afford ample evidence of the kind of perfection attainable by means of the repetition of the same moulded forms.

The Pursuit of the Ideal.

The student mind first experiences certain inborn longings for a manifestation of the perfect, and casting a casual glance over nature, turns away unsatisfied. Again he looks deeper, and at length discovers the scattered indications of what he needs. Carefully bringing together the dismembered fragments, he gradually builds up the idol of his worship, and forms to himself the outward type and symbol of his ideal desires. But by the law of all noble minds, he aspires still higher; taking this mature form unto himself, he dwells with it, realises it, possesses it; at length he begins to feel within himself capacities for something still more perfect, and in midnight visions and noontide dreams the shadow of a better reality passes before his gaze. He awakens from his waking dreams, walks again the beauteous earth, finds that his eyes are opened afresh to perfections he had never seen before, and eagerly gathers new flowers and forms of beauty to adorn more richly the altar of his worship. Speedily he grows like unto that which he adores, but his insatiable desires still demand a higher perfection. Thus he presses onward, each realised type forming the basis of further spiritual growth, and leading to types still more matured. Thus, were it possible, man, through an infinite series, would reach an infinite perfection. In this race between the nature of man and the nature which lies around him, neither has ever exhausted the possibility of its resources, nor reached the ultimate goal which lies in the distance of infinity. Still hidden in the depths of nature, a deeper, nobler truth is slumbering than the artist has yet grasped, and in human nature lies a deeper, holier want than art has satisfied. The student who uses painting or sculpture as an instrument of mental advancement will thankfully rest for a season with forms of high and holy beauty; yet he turns at length away, asking for something still more excellent, and peoples the heaven of his imagination with a more beauteous perfection.

Continental Travel.

Once on the Continent the English traveller may combine the sense of security with pleasurable excitement. The more rapidly he moves, the more attractive will appear the passing pageant which unrolls itself before him. He sees it only in imposing masses; he has no time to dissect, to criticise, to get weary of details. The stately "star-y-pointing" cathedrals of France or Belgium first captivate his imagination, and lead back his thoughts into the sphere of devotional awe by their notions of vastness, their intermixture of gloom and splendour, and that harmonious unity of proportion which suggests the idea of a spontaneous growth rather than of slow architectural combination. The fenced cities and burghal halls of the Low Countries, uniting all the fretwork of ornament with the strength of fortresses, vividly recall the stirring times and civic contests out of which the frame of modern society has grown into form. The "chiefless castles breathing stern farewells" from every eminence bordering the majestic Rhine, which is bearing him onward to his destination, awaken a thousand legendary memories "of ladye-love and war, romance and knightly worth." As these recede, he finds himself, almost by dream-like transition, among the rocks and green valleys of Switzerland; he sees the shadows of the far-distant Alps reflected in the blue lake at his feet; he climbs that giant's staircase by which this mountain barrier is scaled. From the region of ice and snow he passes, as if by magic, into a clime of the sun. Milan receives him with all her historical memories, her libraries, her galleries of art, her unique and dazzling cathedral. He next sails between ranks of palaces along the watery streets of the Silent City, imbibing in kindred silence the peculiar charm of its quaint and waning magnificence. Florence spreads before him her uncounted treasures of art; Naples courts him with her joyous and luxuriant beauty, till the long-continued and delightful strain of emotion attains its climax as he treads, almost doubtful whether he can believe his vision realised, the streets of Rome.

Effect of Magnitude.

The æsthetic impression of magnitude depends upon the fact that the imagination attempts the total representation of the given object in vain, and this can only occur when the highest measure of magnitude which it can actually embrace at once, added to itself as many times as the intellect can actually comprehend in a conception, is too small for the object. But the result seems to be that objects of equal magnitude must also make an equally sublime impression, and that an object of less magnitude has the power to lessen this impression—which is contrary to experience. For, according to this, the part frequently appears sublimer than the whole, the mountain or the tower sublimer than the sky in which it rears itself, the cliff sublimer than the ocean whose waves foam around it. But we must here recollect the conditions, by virtue of which the æsthetic impression only ensues when the totality of the object employs the imagination. If the latter omits this with respect to the far greater object, and, on the contrary, observes it with the smaller, it may be æsthetically affected by the latter, and yet be insensible to the former. But if it conceives of the larger as a magnitude, it at the same time conceives of it as an unity, and then it must necessarily make an impression stronger in proportion as it exceeds the other in magnitude.

GENERAL.

Lord Iveagh has offered to place 1,000*l.* at the disposal of the authorities of St. Patrick's Cathedral, Dublin, to defray the expenses of the preliminary investigation, with the necessary scaffolding and shoring of the buttresses and flying arches, the cost of which Messrs. Thompson, of Peterborough, stated must be considerable, though they were unable to give a definite estimate of it. Mr. T. Drew, R.H.A, will have charge of the work.

The Annual Convention of the Ontario Association of Architects will take place on January 17 and 18.

The Montreal Real Estate Owners' Association at a recent meeting resolved to petition the City Council to pass a by-law compelling the uniform height of buildings to be erected in new streets. The object is to prevent depreciation in the value of buildings of moderate height by reason of the placing of tall buildings alongside them.

Mr. G. H. Andrews, who at one time gained some repute as a water-colour artist, died at Hammersmith on Saturday last in his eighty-second year. He served as treasurer of the Water-Colour Society during several years.

The Birmingham City Council on Tuesday approved the proposal to lease 9,890 square yards of land belonging to the Colmore Trustees for 999 years, as a site for the extension of the Municipal Buildings and especially the Art Gallery.

Lady Burne-Jones has informed the Birmingham City Council that she has bequeathed to the Municipal Art Gallery at her death the portrait of her deceased husband by Mr. G. F. Watts, R.A., on condition that it shall be placed among the late Sir Edward's own pictures.

We are Requested to state that Major Hector Tulloch, C.B. (retired), Royal Engineers, and lately chief engineering inspector of the Local Government Board, is not the person who was a director of the West Australian Trading Syndicate.

Hamblet's Blue Brick Company, Limited, announce that the warrants for the interest on the 4½ per cent. Mortgage Debentures to December 31, 1898, have been posted.

Mr. Perry F. Nursey, consulting engineer and technical expert, has removed his offices from 161 Fleet Street, London, to 17 Victoria Street, Westminster, S.W.

THE
Architect and Contract Reporter.

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," 175 Strand, London, W.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, 175 Strand, London, W.C., not later than 2 P.M. on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, 175 Strand, W.C.

For Advertisement Scale, see page xxi.

COMPETITIONS OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

BURNLEY.—Jan. 14.—The Burnley School Board invite designs for a new higher-grade school and pupil-teachers' centre, to be erected in Ormerod Road, Burnley. Competition is limited to architects having offices within 60 miles of Burnley. Mr. E. Jones, clerk, Town Hall, Burnley.

CONTRACTS OPEN.

BARNES.—Jan. 10.—For erection of a fire-station in the High Street, Mortlake. Mr. G. Bruce Tomes, surveyor, Council Offices, High Street, Mortlake.

BERWICK-UPON-TWEED.—Jan. 31.—For erection of lock-up and police-station in Church Street. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-upon-Tyne.

BIDEFORD.—Jan. 9.—For erection of seven houses in North Down Road. Messrs. R. T. Hookway & Son, architects, 12 Bridgeland Street, Bideford.

BRADFORD. — For erecting four houses at Bankfoot. Messrs. Brayshaw & Dixon, architects, Bowling Old Lane, Bradford.

BRADFORD.—Jan. 10.—For erection of new Inland Revenue offices at Bradford, for the Commissioners of H.M. Works and Public Buildings. Mr. Flew, 11 Popplewell Chambers, Bradford.

BURNLEY.—Jan. 16.—For rebuilding the Yorkshire Hotel, Gunsmith Lane. Mr. Robert Neill, architect, 9 Grimshaw Street, Burnley.

BURNLEY.—For erection of five bay-windowed houses in Arkwright Street. Mr. A. Robinson, architect, &c., 321 Padiham Road, Burnley.

BURTON-UPON-TRENT.—Feb. 1.—For widening the bridge crossing the Midland Railway, Horninglow Street, and alterations to existing buildings adjoining thereto. Mr. George T. Lynam, borough engineer.

BURY.—For erection of new club premises at Fishpool. Mr. C. H. Openshaw, architect, Fleet Street, Bury.

CHELTENHAM.—Jan. 23.—For reconstruction of retaining wall at No. 3 reservoir at Hewletts. Mr. E. T. Brydges, town clerk, Municipal Offices, Cheltenham.

EASTBOURNE.—Jan. 9.—For alterations and additions to a cottage at Roselands. Mr. Wm. Chapman Field, architect, Town Hall, Eastbourne.

EDGWARE.—Jan. 9.—For erection of two houses on the estate at Edgware, for the Canons Park Estate Company, Limited. Mr. J. H. May, architect, College Chambers, 249½ High Holborn, W.C.

EXMOUTH.—Jan. 10.—For erection of a two-storeyed paint shop, &c. Mr. Ernest E. Ellis, architect, Market Street, Exmouth.

EXMOUTH.—Jan. 10.—For erection of a villa residence in the Exeter Road. Mr. Ernest E. Ellis, architect, Market Street, Exmouth.

FAREHAM.—Jan. 16.—For construction of concrete foundations, erection of brick, steel and concrete superstructure of new infirmary wards, sanitary blocks, boiler-house, tall chimney shaft, &c., at County Lunatic Asylum, Knowle. Mr. W. J. Taylor, county surveyor, the Castle, Winchester.

GLASGOW.—Jan. 12.—For erection of underground conveniences at junction of New City Road and Carscube Road and Kirk Street, Calton. Mr. John Lindsay, interim clerk, City Chambers, Glasgow.

HALIFAX.—Jan. 11.—For erection of an infants' school and manual instruction centre at Mile Thorn, and alterations to

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Queen's Road Board school. Mr. Joseph F. Walsh, architect, Lancashire and Yorkshire Bank Chambers. Halifax.

HANDSWORTH.—Jan. 17.—For enclosing and laying-out the new burial-ground, including making roads, &c., and erecting a chapel and boundary walls, &c. Mr. Edmund Winder, jun., surveyor, Corn Exchange Chambers, Wharf Street, Sheffield.

HANWELL.—Jan. 13.—For erection of a block of school buildings and appurtances for infants on the site adjoining existing schools, Cuckoo Lane Messrs. T. J. Newman & Jacques, architects, 2 Fen Court, London, E.C.

HORSHAM.—Jan. 9.—For erection of infirmary and administrative block to workhouse. Mr. C. H. Burstow, architect, 6 West Street, Horsham.

HULL.—Jan. 13.—For erection of two car-sheds and other buildings, area about 4,000 square yards, and supply of steel roof trusses, steel columns, &c, for the same. Mr. A. E. White, city engineer, Town Hall, Hull.

KEIGHLEY.—Jan. 9.—For erection of five dwelling-houses and four houses and shops in Oakworth Road. Messrs. W. H. & A. Sugden, architects, Keighlev.

KIDDERMINSTER.—Jan. 11.—For erection of fire-engine station. Mr. Arthur Comber, borough surveyor.

LICHFIELD.—For erection of a lodge and four cottages near to Shenstone Station. Mr. William Perry, architect, Lichfield.

LIVERPOOL.—Jan. 17.—For erection of a police-station, dwelling-houses, &c., at Huyton. Mr. Henry Littler, architect, County Offices, Preston.

LEEDS.—For excavating for the basements of about seventy-five shops about to be erected in Wood Street, Briggate. Mr. Swann, clerk of works, Wood Street.

LEEDS.—For erection of a sub-post-office and houses at Bramley, near Leeds. Messrs. J. M. Fawcett & Son, architects, 26 Albion Street, Leeds.

LEEDS.—Jan. 17.—For alterations and additions to the poor-law offices, East Parade. Mr. T. Butler Wilson, architect, 12 East Parade, Leeds.

LIMERICK.—Jan. 14.—For erection of a training college for National school teachers. Mr. William H. Byrne, architect, 20 Suffolk Street, Dublin.

LITTLE ILFORD.—Jan. 25.—For erection of school buildings, out-buildings, caretaker's cottage, &c., in Bessborough Road. Mr. S. Jackson, architect, 65 Fenchurch Street, E.C.

LONDON.—Jan. 12.—For construction of sewer, subway, vaults, &c., in the new line of thoroughfare known as Lloyd's Avenue, Fenchurch Street. Town Clerk, Public Health Department, Guildhall.

LONDON.—Jan. 11.—For construction of greenhouses at the Islington Cemetery, East Finchley. Mr. W. F. Dewey, vestry clerk, Vestry Hall, Upper Street, Islington, N.

LONDON.—Jan. 11.—For pulling-down and removal of buildings abutting on the site of the electric-lighting station. Mr. Wm. F. Dewey, vestry clerk, Vestry Hall, Upper Street, N.

LONDONDERRY.—Jan. 10.—For additions and alterations to premises of Messrs. Austin & Co., drapers, Ferryquay Street, and The Diamond, Londonderry. Messrs. Forman & Aston, architects, Queen's Buildings, Royal Avenue, Belfast.

MICKLEOVER.—Jan. 9.—For erection of two new wards and sundry other works at the Derby County Asylum at Mickleover, near Derby. Mr. J. Somes Story, county surveyor, County Offices, Derby.

NEW BARNET.—Jan. 12.—For erection of a school to accommodate about 860 children at Victoria Road. Mr. W. Pywell, architect, 40 Great James Street, Bedford Row, W.C

NORMANTON.—Jan. 12.—For erection of implement sheds in the High Street. Mr. C. B. L. Fernandes, clerk to the Council.

NOTTINGHAM.—For erection of working dairy premises in Park Street. Messrs. Evans & Son's Offices, Wheeler Gate, Nottingham.

OLDHAM.—Jan. 12.—For erection of infants' school and enlargement of existing school, Hathershaw. Messrs. Winder & Taylor, architects, Oldham.

PRESTON.—Jan. 13.—For shedding, &c., at West Cliff and Avenham Park Lodges. Borough Surveyor, Town Hall, Preston.

PRESTON.—Jan. 17.—For erection of a police-station, dwelling-houses, &c., at Huyton. Mr. Henry Littler, architect, County Offices, Preston.

RISHTON.—Jan. 16.—For work to be executed at the Conservative Club Messrs. J. C. Howard Sandback & J. Parker, architects, 15 Richmond Terrace, Blackburn.

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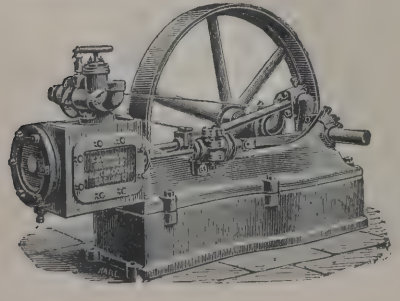
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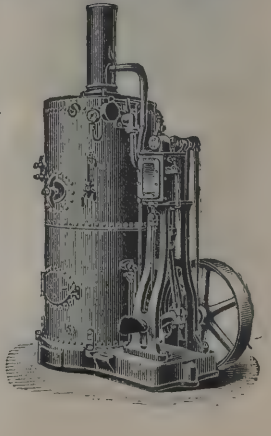
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[*Mention this Journal.*]

ROCHDALE.—Jan. 17.—For erection of buildings for electricity works. Mr. J. Leach, town clerk, Town Hall, Rochdale.

RUSHOLME.—For erection of a brewery in Dickenson Road. Messrs. Harrap & Duffield, architects, 34 Queen Street, London, E.C.

SALTBURN-BY-SEA.—Jan. 12.—For erection of five houses in Diamond Street, Saltburn-by-Sea. Mr. Ed. A. Whipham, architect, 59 High Street, Stockton-on-Tees.

SCOTLAND.—Jan. 14.—For erection of two semi-detached villas in Sanquhar Road, Forres, and for supply of railing, grates, &c., required in connection therewith. Mr. John Forrest, architect, High Street, Forres.

SCOTLAND.—Jan. 21.—For erection of court-house and police-station at Dunoon. Mr. Wm. Fraser, architect, Burgh Buildings, Dunoon.

SELBY.—Jan. 11.—For erection of public baths. Messrs. W. Hanstock & Son, architects, Branch Road, Batley.

SHEFFIELD.—Jan. 9.—For alterations to the Bull's Head Inn, Dun Street. Messrs. Hall & Fenton, architects, 14 St. James's Row, Sheffield.

SOUTHEND-ON-SEA.—Jan. 10.—For reconstruction of the recently-damaged portion of Southend Pier. Mr. Alfred Fidler, borough engineer, Southend-on-Sea.

SOUTHMINSTER.—Jan. 17.—For erection of Railway Hotel at Southminster, Essex. Mr. P. M. Beaumont, architect, Maldon.

WAKEFIELD.—Jan. 9.—For alterations, additions, new stabling, &c., at the Cock and Crown hotel, Crofton, near Wakefield. Mr. B. Wood Higgins, architect, Oulton, near Leeds.

WARWICK.—Jan. 19.—For erection of bathroom and lavatories at the workhouse. Mr. Francis P. Trepess, architect, 3 Jury Street, Warwick.

WELLINGTON.—Jan. 10.—For erection of a church and school, Waterloo Road. Mr. F. W. Roberts, architect, 2 Hammet Street, Taunton.

WOMBOURN.—Jan. 17.—For erection of a superintendent engineer's house at the Bratch waterworks. Mr. John D. Wassell, clerk, District Council Offices, Town Hall, Bilston.

WINGATE.—Jan. 28.—For erection of a shop near Trimdon Station. Apply to the Secretary.

CALENDARS FOR 1899.

WE have received quite a batch of calendars for the new year, most of which are of the "tear-off" description, and this is perhaps the most convenient form in which these "mural decorations" can be presented. The monumental specimen sent in by the Rugby Portland Cement Company is a handsomely designed and well executed example of lithographic art, measuring some 24 by 30 inches, with brass-bound corners, and bearing picturesque views of the Company's quarries and factory, and others illustrating the different processes of manufacture. Very tasteful, if less conspicuous, is that sent in by Mr. Gooding, of North Road Works, Holloway, which is designed as a reminder of his interchangeable rubber stair-treads. The Sun Fire Office have a design of the great luminary rising over the Tower of London for their hanging calendar; and they also send a useful blotting-case and an elegant little pocket calendar. From the Accident Insurance Company, Limited, of 10 St. Swithin's Lane, London, E.C., we have received a wall calendar, in which the tear-off date indicator is a prominent and useful feature. The company was founded in 1849, and insures against accidents and disease, in addition to granting indemnities to employers under the Workmen's Compensation Act, &c. The Patent Victoria Stone Company have got up a really elaborate piece of desk furniture which comprises a calendar, a diary containing some well executed illustrations of the many uses to which the Company's stone can be applied, a well supplied blotting-pad and a scribbling-pad, the whole contained in a richly gilded cloth cover. Among the less ornate specimens may be mentioned those of the National Provident Institution, Messrs. Croggon & Co. and Messrs. Douglas Young & Co., all of which, if they make no particular claim to beauty, respond at least to every call on the score of utility.

THE work of the extension of Rothesay Pier, commenced in October last, has so far progressed that the first section providing a full berth at the east end was brought into use on the 31st ult. The royal mail steamer *Grenadier* had the honour of being the first mail steamer to come alongside the berth. She arrived about eleven o'clock, half an hour late, and though the weather was wet and stormy there was quite a crowd assembled to witness the inauguration. As the *Grenadier* cast her hawsers salutes were fired from on board and flags run up, while those assembled on the pier gave hearty cheers.

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TENDERS.

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For erection of an additional classroom at the Crockwell infants' school.

Grimsley & Son	£203 10 0
J. W. Smith	200 0 0
T. GRIMSLEY, Sheep Street (*accepted*)	150 0 0

BIRKENHEAD.

For construction of the North End baths.

J. Merritt, Birkenhead *	£11,000 0 0

* Recommended for acceptance.

BLACKPOOL.

For construction of the platform, roof, cab approach, &c., at Blackpool Central Station, for the Lancashire and Yorkshire Railway.

T. WRIGLEY, Middleton Junction, Manchester (*accepted*).

BRIDLINGTON QUAY.

For altering 34 Queen Street. Messrs. BRODRICK, LOWTHER & WALKER, architects, Central Chambers, Bridlington Quay.

J. H. Hudson	£572 0 0
W. Moody	446 10 0

BRIXHAM.

For erection of a villa residence at Heath Common, for Mr. C. Hellyer. Messrs. NORMAN G. BRIDGMAN & WALTER H. BRIDGMAN, architects, Torquay and Paignton. Quantities by Mr. VINCENT CATTERMOLE BROWN, Paignton.

W. A. Goss	£2,000 0 0
R. Yeo	1,850 0 0
J. C. & W. Watson	1,787 0 0
T. Silley	1,741 0 0
Hazlewood Bros.	1,498 10 0
HAYMAN & WILLS, Brixham (*accepted*)	1,390 0 0

For erection of four cottages, for Mr. John Martin. Messrs. NORMAN G. BRIDGMAN & WALTER H. BRIDGMAN, architects, Torquay and Paignton.

W. Wyatt	£750 0 0
G. WOTTON, Brixham (*accepted*)	695 10 0
R. Yeo	690 0 0
G. Cooksley	688 0 0

BROMLEY.

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(1) *Widening Homesdale Road.*

C. Ford & Co.	£1,167 2 6
R. Stockwell	985 10 6
Mowlem & Co.	873 0 0
Peill & Sons	865 16 10
T. LANSBURY (*accepted*)	832 4 10

(2) *Diversion of Culvert in Homesdale Road.*

Mowlem & Co.	925 0 0
T. Lansbury	904 4 1
Peill & Sons	879 16 6
C. Ford & Co.	777 16 4

Note.—Tenders for culvert referred to committee.

BUCKFASTLEIGH.

For erection of business premises at Buckfastleigh, for the Buckfastleigh Co-operative Society, Limited. Messrs. NORMAN G. BRIDGMAN & WALTER H. BRIDGMAN, architects, Torquay and Paignton. Quantities by Mr. VINCENT CATTERMOLE BROWN, Paignton.

H. J. Almond	£2,035 0 0
W. A. Goss	1,850 0 0
J. Weeks	1,717 0 0
G. Arscott	1,650 0 0
S. FURNEAUX, Buckfastleigh (*accepted*)	1,634 7 0
Hosking Bros.	1,621 12 6
J. C. & W. Watson	1,616 0 0
Jackson & Son	1,562 10 0
J. Selwood	1,540 0 0
J. Milman	1,525 18 0

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Shillitoe	22,500 0 0
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Parnell	21,074 0 0
W. J. Aldcock	20,621 0 0
J. J. Wise	19,284 0 0
BARKER & SONS, London (*accepted*)	18,967 0 0

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W. H. BURY, Oswaldtwistle (*accepted*)	183 16 5

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Wharton Bros., slater	24 0 0

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S. Ryder	51 0 0
H. Anderson	49 17 6
Wallace Matthews	48 7 6
ROBERT WATTS, Dartmouth (*accepted*)	46 7 0
Surveyor's estimate	45 0 0

For erection of stone boundary walls and public latrines on the reclaimed land, North Parade and Mayor's Avenue. Mr. T. ORLANDO VEALE, architect. Quantities by Mr. E. H. BACK, M.S.A.

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Richard C. Pillar	405 0 0
Robert Watts	402 10 0
ROBERT PILLAR, Dartmouth (*accepted*)	363 0 0
Surveyor's estimate	400 0 0

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J. H. Hudson	£4,550 0 0
A. Lyons	4,020 0 0
M. Gage	3,657 17 3
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Full tenders.

J. G. Bradley	£790 0 0
J. Westgarth	661 0 0
J. Allison	650 0 0
T. Gullacher	625 0 0

Mason.

J. Maddison	526 9 3
W. J. Gulley	405 0 0
M. Brown	404 0 0
T. GULLACHER, Consett (*accepted*)	365 15 0

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R. Oliver	750 0 0
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FOSTER & DICKSEE, Rugby (*accepted*) . £16,444 0 0

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For erection of two shops and dwelling-houses in Fartown Green Road. Mr. J. BERRY, architect, 9 Queen Street, Huddersfield.

Accepted tenders.

Law, Stead & Son, mason.
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For alterations and additions to Bryndart, for Mrs. Walker. Messrs. NORMAN G. BRIDGMAN & WALTER H. BRIDGMAN, architects, Torquay and Paignton.

W. A. Goss	£410 0 0
J. C. & W. WATSON, Torquay (*accepted*)	400 0 0

LEYTONSTONE.

For erection of new infirmary, Whipp's Cross Road, for the Guardians of the West Ham Union. Quantities prepared by Mr. J. MOORE SMITH, Union Court, Old Broad Street.

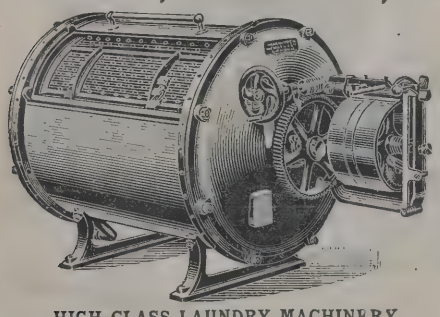
W. SHURMUR (*accepted*) £158,994 0 0

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For erection of an assembly hall and additions and alterations to Howell's Glamorgan County Schools for Girls. Mr. G. E. HALLIDAY, architect, Cardiff. Quantities by Mr. J. W. RODGER, quantity surveyor, 14 High Street, Cardiff.

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LONDON.

For erection of the Holborn frontage of the Birkbeck Bank. Mr. T. E. KNIGHTLEY, architect.

Holland & Hannen	£147,800 0 0
Dove Bros.	146,630 0 0
Rider & Sons	145,360 0 0
Foster & Dicksee	144,860 0 0
Patman & Fotheringham	144,200 0 0
W. Downs	142,800 0 0
Patrick & Sons	142,000 0 0
H. J. Williams	141,750 0 0
Lawrance & Sons	140,400 0 0
C. Wall	139,200 0 0

For rebuilding the north-west side of Webber Row and 72 Webber Street, for the trustees of the late John Marshall (Marshall's Charity). Messrs. F. S. BRERETON & SON, architects, 292 High Holborn. Quantities by Mr. E. G. HARDCASTLE, 61 Chancery Lane.

W. H. Wagstaff & Sons	£25,197 0 0
W. Downs	24,992 0 0
Lathey Bros.	24,989 0 0
W. H. Lascelles & Co.	24,197 0 0
E. Triggs	23,500 0 0
Battley, Son & Holness	23,169 0 0
Ashby Bros.	22,870 0 0
J. Grover & Son	22,734 0 0
J. Carmichael *	22,247 0 0

* Accepted subject to the approval of the Charity Commissioners.

For erection of shop on site of Nos. 251-3 Old Street, E.C., for Messrs. Kruzin Bros., under the superintendence of Messrs. W. EVE & SONS, 10 Union Court, E.C.

Perry Bros.	£857 0 0
Salt	820 0 0
Kilby & Gayford	792 0 0
J. Carmichael	756 0 0
Harris & Wardrop	756 0 0
J. H. Johnson	747 0 0
J. Chessum & Son	729 0 0
E. HOUGHTON & SON, Stroud Green (*accepted*)	624 0 0

LONDON—*continued.*

For rebuilding the Old Axe public-house. Mr. T. W. ALDWINCKLE, architect.

Shillitoe & Sons	£10,400 0 0
H. Wall & Co.	9,453 0 0
Johnson & Co., Limited	9,285 0 0
W. Shurmur	8,973 0 0
Todd & Co.	8,747 0 0
Edwards & Medway	8,581 0 0
Hopkins	8,569 0 0
Sheffield Bros.	8,437 0 0

For alterations, additions and fittings at the Earl Derby public-house, London Road, Plaistow, E., for Messrs. Holt & Co. Mr. FRED. A. ASHTON, architect, 177 Romford Road, Stratford, E.

	Alterations, &c.	Fittings.	Total.
W. Shurmur	£2,023 0 0	£896 0 0	£2,919 0 0
W. G. Maddison	2,084 0 0	821 0 0	2,905 0 0
A. E. Symes	2,050 0 0	850 0 0	2,900 0 0
J. & H. Cocks	1,954 0 0	844 0 0	2,798 0 0

For erection of fireproof staircase at Messrs. Kearley & Tonge's, Limited, warehouse, Mitre Square, under the superintendence of Messrs. W. EVE & SONS, 10 Union Court, Old Broad Street, E.C.

Gregory & Co.	£1,235 0 0
A. Monk	1,067 0 0
Lawrance	1,049 0 0
J. Chessum & Sons	1,020 0 0
H. Brown	991 0 0
Harris & Wardrop	986 0 0
PATMAN & FOTHERINGHAM, Islington (*revised and accepted*)	926 0 0

For enlargement to Homerton Row school. Mr. J. T. BAILEY, architect.

J. Grover & Son	£9,070 0 0
Perry & Co.	9,064 0 0
W. M. Dabbs	8,989 0 0
E. Lawrance & Sons	8,814 0 0
C. Cox	8,582 0 0
J. & C. Bowyer	8,551 0 0
W. Shurmur	8,235 0 0

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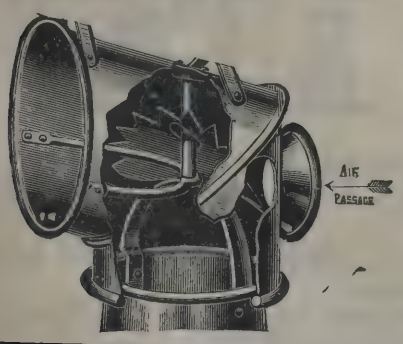
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LOUGHBOROUGH.

For erection of Constitutional Club premises in Baxter Gate. Mr. W. T. HAMPTON, architect, Swan Street, Loughborough. Quantities by architect.

J. Gorvett	£3,169	0	0
E. Orton	3,073	0	0
W. T. Harding	2,975	0	0
W. Tailby	2,960	0	0
Moss & Son	2,940	0	0
C. Dobson	2,870	0	0
W. Corah	2,850	0	0
Kirk & Fletcher	2,860	0	0
Watson & Lovett	2,825	0	0
Main, Kendall & Main	2,795	0	0
T. BARKER & SON, Loughborough (*accepted*)	2,775	0	0

LOWER EDMONTON.

For erection of infants' school at Eldon Road. Mr. HENRY W. DOBB, architect, 110 London Wall. Quantities by Messrs. YOUNG & BROWN, 7 Southampton Street, Bloomsbury.

Knight & Son	£10,067	0	0
Snewin Bros. & Co.	9,063	0	0
A. Porter	8,935	0	0
A. Monk	8,800	0	0
Chessum & Son	8,634	0	0
Edwards & Medway	8,383	0	0
T. G. Sharpington	8,370	0	0
P. Hart	8,160	0	0
W. LAWRENCE, Waltham Abbey (*accepted*)	8,149	0	0

OLD FORD.

For erection of three-floor factory and offices, for the Britannia Folding Box Company, Limited, under the superintendence of Messrs. W. EVE & SONS, 10 Union Court, E.C.

Parker	£13,500	0	0
Kirk & Randall	13,142	0	0
Perry Bros.	12,777	0	0
Harris & Wardrop	12,574	0	0
Holliday & Greenwood	12,221	0	0
J. H. Johnson	12,180	0	0
Perry & Co.	12,145	0	0
Patman & Fotheringham	12,049	0	0
J. Godfrey & Son, Lower Clapton *	11,990	0	0

* Accepted subject to modification.

OLDHAM.

For enlargement of the Oldham Post Office.

R. Neill & Sons	£5,831	0	0
T. Byrom	5,325	0	0
D. DIGGLE, Heywood (*accepted*)	4,850	0	0

SHADWELL.

For erection of artisans' dwellings. Mr. W. G. DREW, architect.

Holloway Bros.	£5,745	0	0
Clarke & Bracey	5,286	0	0
B. E. Nightingale	4,693	0	0
H. L. Holloway	4,600	0	0
W. Shurmur	4,595	0	0
S. J. Scott	4,579	0	0

ST. PANCRAS.

For erection of two chapels at the Workhouse, King's Road. Messrs. A. & C. HARSTON, architects. Quantities by Messrs. CORDEROY, SELBY & CORDEROY, in conjunction with Mr. W. T. FARTHING.

Shillitoe & Sons	£6,137	0	0
Miskin & Son	5,678	0	0
Lawrance & Sons	5,446	0	0
H. Wall & Co.	5,135	0	0
Bendon	5,063	0	0
W. Johnson & Co., Limited	4,998	0	0
SPENCER, SANTO & CO., LIMITED, London (*accepted*)	4,816	0	0
Architects' estimate	4,500	0	0

STIRLING.

For erection of the Corporation electric lighting station.

Accepted tenders.

Hamilton, mason and brickwork.
Short & Fairful, joiner.
R. Frater, plumber.
J. Davie & Sons, ironwork.
R. Foster, plasterer.
Blair, slater.
J. Dowell, painter.

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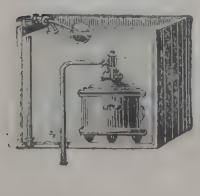
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Also, Testimonials from Dr. Hassall, September 23, 1863; the late Dr. Letheby, February 15, 1865, and December 1872.

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WATFORD.

For erection of two houses for Mr. R. Oxenham, under the superintendence of Messrs. W. EVE & SONS, 10 Union Court, E.C.

Wood Bros.	£5,986 0 0
C. Brightman	5,420 0 0
G. & J. Waterman	5,267 0 0
GEORGE WIGGS, Watford (*accepted*)	4,930 0 0

WHITEHAVEN.

For rebuilding 8 King Street, Whitehaven. Mr. J. S. MOFFAT architect, 53 Church Street, Whitehaven.

J. YOUNG, Whitehaven (*accepted*).

RAMSAY BROS, Whitehaven, for steel girders and joists, cast and wrought-iron work, electric-lighting and electric bells (*accepted*).

WINCHESTER.

For sewerage, storm-water draining and roadmaking works at Abbot's Barton building estate. Mr. H. J. WESTON, surveyor, 24 Portland Street, Southampton.

Grounds & Newton	£871 0 0
F. OSMAN, Southampton (*accepted*)	693 0 0

Received too late for Classification.

BURGHILL.

For alterations to the County and City Lunatic Asylum, Burghill, near Hereford. Messrs. GILES, GOUGH & TROLLOPE, architects, 28 Craven Street, Charing Cross, W.C.

Treasure	£35,986 0 0
James	35,851 0 0
Stephens & Bastow	30,147 0 0
Smith	25,587 0 0
Rowbotham	25,360 0 0
Willcock	24,203 0 0
Williams.	23,490 0 0
Lewis	22,967 0 0
BOWERS, Hereford (*accepted*)	22,525 0 0

THE large hall erected at a cost of 3,000*l.* by the Peckham Liberal Club at the rear of their commodious new premises in Elm Grove was formally opened on Monday evening.

TRADE NOTES.

MR. JOHN GRUNDY'S system of heating, which has acquired such an excellent reputation in connection with the warming of churches, schools, &c., is now being applied with the happiest results to the theatre, ballroom, and, in fact, the whole of the extensive range of buildings erected in connection with the New Brighton Tower at New Brighton, near Liverpool, by the Tower and Recreation Company, Limited.

MESSRS. JOHN BOLDING & SONS, LIMITED, of Grosvenor Works, Davies Street, W., inform us that in addition to having purchased the stock, plant and goodwill of the late Mr. F. G. Underhay, which they will continue to carry on at the old address, Crawford Passage, Clerkenwell, they have also opened a new branch and extensive showrooms at 63 Witham Street, Dublin.

MESSRS. G. B. KENT & SONS, of Farringdon Road, are issuing a very useful little illustrated handbook or catalogue of the various brushes, tools and appliances manufactured by them for the use of painters, decorators and others.

MESSRS. T. W. F. NEWTON & CHEATLE, architects and surveyors, notify us that they have removed to their new offices, No. 39 Newhall Street, Birmingham.

THOSE of our readers who are in any way interested in the uses of asphalte would do well to get from the Limmer Asphalte Paving Company, 2 Moorgate Street, their "Practical Notes on the Manufacture and Uses of Limmer and Montrotier Seyssel Mastic Asphaltes," which will be found to be a neat and handy booklet, replete with useful information on the subject dealt with.

THE new temporary fever hospital, Knutsford, is being warmed and ventilated by means of Shorland's patent Manchester stoves.

THE pier committee of Dunoon recently met to consider what steps should be taken to repair the damage done to the southern entrance to Dunoon pier by the severe storm, and how best to safeguard this portion of the pier from further damage. After a free expression of opinion from the members present as to the course of action to be taken, the committee unanimously agreed to ask Mr. Copeland, C.E., Glasgow, the engineer for the pier, to report on the damage done and to suggest the best means of remedying the present defective corner of the concrete abutment on which the pay-box stands.

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Union S.S. Co.'s Offices, Cape Town.
Royalty Theatre, London.
Terry's Theatre, London.
Hotel Cecil, London.
Vice-Regal Lodge, Dublin.
Post Offices, Cape Town.
Wesleyan Schools, Reading.

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TENDERS FOR THE YEAR 1898.

THE following are a few of the more important works that were estimated for during 1898, the tenders for which appeared in our columns in the course of the year:—

ABERTILLERY.

For constructing a new road from Abertillery to Aberbeeg, a distance of about two miles; and for widening an existing highway between Aberbeeg and Crumlin, a distance of about 2½ miles. Mr. JAMES MCBEAN, surveyor.

Price	£18,349	0	0
W. Brown	17,467	0	0
Meredith	16,158	0	0
Mainwairing	15,687	0	0
Wills	15,438	0	0
Bayley	14,347	0	0
Howells	14,275	0	0
Lewis	13,713	0	0
MONKS & PARFIT, Newport (*accepted*)	12,313	0	0

BIRMINGHAM.

For erection of cottage homes at Erdington. Messrs. FRANKLIN, CROSS & NICHOLS, architects, Union Chambers, Temple Row, Birmingham.

J. Parnell & Son	£46,729	0	0
J. Bowen	45,779	0	0
J. Barnsley & Sons	45,668	0	0
H. Willcock & Co.	45,300	0	0
Smith & Pitts	45,175	0	0
W. Robinson	44,950	0	0
J. Moffatt & Sons	44,900	0	0
H. R. Merton	44,451	0	0
C. G. Hill	44,450	0	0
W. Sapcote & Sons	43,958	0	0
T. Johnson	43,670	0	0
T. Rowbotham	42,777	0	0
W. LEE & SON, Avenue Road, Aston (*accepted*)	42,721	0	0
B. Whitehouse & Sons	41,983	0	0
J. Lowe & Sons	40,795	0	0
Gowing & Ingram (*withdrawn*)	38,293	0	0

BARKING.

For erection of eighty-three cottages for the working classes in Creeksmouth Lane. Mr. C. J. DAWSON, surveyor, East Street, Barking.

J. J. Reeve	£20,600	0	0
E. Hughes	20,543	0	0
J. C. Garbett	16,300	0	0
H. Lane, East Ham*	12,750	0	0

* Accepted subject to sanction of the Local Government Board.

BROMPTON.

For erection of a nurses' home for the Royal Hospital for Consumption. Mr. EDWIN T. HALL, architect, 57 Moorgate Street, E.C.

Cubitt & Co.	£39,806	0	0
Leslie & Co.	39,651	0	0
H. Lovatt	34,176	0	0
Woodward & Co.	33,890	0	0
Killby & Gayford	33,774	0	0
G. & H. Bywaters	33,680	0	0
Higgs & Hill	33,244	0	0
Lawrance & Son	32,954	0	0
Foster & Dicksee	32,476	0	0

CHADWELL HEATH.

For erection of superstructure of lunatic asylum. Mr. LEWIS ANGELL, architect.

Gregar & Son	£247,700	0	0
Patman & Fotheringham	235,000	0	0
Shillitoe & Sons	226,964	0	0
Chessum & Son	224,482	0	0
Leslie & Co.	209,531	0	0
PATTINSON & SONS, Ruskington (*accepted*)	198,211	0	0

CHARTHAM.

For carrying-out redrainage and other works at Chartham Asylum, Kent. Mr. W. J. JENNINGS, architect, Canterbury.

Martin	£22,189	0	0
Paramor & Sons	21,500	0	0
Pryor & Sons	21,000	0	0
Keeler	19,434	0	0
Hill	18,656	0	0
Wise	18,392	0	0
SAUNDERS & CO., Southampton (*accepted*)	17,300	0	0

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Vol. LIX. of THE ARCHITECT. Handsomely Bound in Cloth, Gilt Lettered, Price 12s. 6d. Office: 175 Strand, London, W.C.

CHATHAM.

For erection of Theatre Royal, High Street. Mr. G. E. BOND, surveyor, Rochester.

L. Seager	£18,498 0 0
Multon & Wallis	17,969 0 0
West Bros.	17,487 0 0
C. E. SKINNER, Chatham (*accepted*)	16,000 0 0

EALING.

For erection of a theatre and restaurant. Mr. G. PARGETER, architect. Quantities by Mr. GEORGE HACKFORD, Westminster.

Kirk & Randall	£40,400 0 0
F. G. Minter	40,304 0 0
T. Nye	37,630 0 0
Beer & Gash	37,200 0 0
Patman & Fotheringham	35,651 0 0

EAST RETFORD.

For erection of sewage-disposal works. Mr. J. C. MELLISS, engineer, 264 Gresham House, Old Broad Street, London, E.C.

A. Brunton & Sons	£52,916 18 9
J. W. Pattinson & Co.	51,951 0 0
J. H. Vicars, Limited	49,895 5 2
J. D. Nowell & Co.	49,500 0 0
G. Osenton	44,765 0 0
B. Cooke & Co.	43,946 0 0
G. Bell	42,887 0 0
J. Jackson	40,100 0 0
J. Bentley	39,353 0 0
E. Tempest	35,171 10 8
H. ARNOLD & SON, Doncaster (*accepted*)	34,249 0 0

EDMONTON.

For erection of a new infirmary.

Chessum	£23,416 0 0
Fairhead	22,895 0 0
Hill	22,535 0 0
Wall	22,356 0 0
Knight & Son	21,995 0 0
Banyard	20,750 0 0
PORTER, Tottenham (*accepted*)	18,922 0 0

GREENWICH.

For new workhouse at Grove Park.

Leslie & Co.	£204,640 0 0
Foster & Dicksee	203,503 0 0
Killby & Gayford	201,410 0 0
B. E. Nightingale	199,853 0 0
W. Shepherd	199,320 0 0
Cubitt & Co.	198,520 0 0
J. J. Wise	194,000 0 0
C. Gray Hill	193,200 0 0
C. Wall	192,788 0 0
H. L. Holloway	192,000 0 9
Kirk & Randall	189,137 0 0
Wallis & Sons	187,800 0 0
Pattinson & Son	184,282 0 0
T. Rowbotham	175,020 0 0

HAMPSTEAD.

For erection of a block of residential flats to be called Priory Court, Mazenod Avenue, N.W. Messrs. PALGRAVE & CO., architects, 28 Victoria Street, S.W. Quantities by Mr. GEORGE STEPHENSON.

Stephens, Bastow & Co.	£23,339 0 0
Allen & Sons	22,500 0 0
F. Gough & Co.	21,534 0 0
J. Bennett	19,945 0 0
F. T. Chinchen	19,590 0 0
SMITH & SONS, Norwood (*accepted*)	19,516 0 0

LADYWELL.

For erection of a workhouse at Slagrave Farm, Ladywell, for the guardians of the poor of the St. Olave's Union. Messrs. NEWMAN & NEWMAN, architects and surveyors, 31 Tooley Street, London Bridge, S.E.

Foster & Dicksee	£183,700 0 0
Balaam Bros.	180,999 0 0
William Downs	176,000 0 0
Walter Wallis	175,957 0 0
Rudd & Son	171,592 8 7
Leslie & Co., Limited	171,300 0 0
Goddard & Sons	168,400 0 0
Kirk & Randall	168,168 0 0
Charles Wall	164,850 0 0
SHILLITOE & Co., Bury St. Edmunds (*accepted*)	158,785 0 0

TO ARCHITECTS, SURVEYORS, &c.

The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent"), having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

Beg to call the attention of the Profession to the following fact:—

The only Perfect Ventilators have the Patentees' MONOGRAM CAST IN the front, and the only GUARANTEED NOISELESS is Ching's NEW PATENT SILENT Chimney Breast Ventilator with the NAME and MONOGRAM CAST IN.

TRADE MARK.

Any Infringement of the above Patent or Trade Mark Monogram will be subject to an action at law.

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CHING'S Patent Mica Valve Chimney Breast Ventilator, or CHING'S New Patent Silent Chimney Breast Ventilator.

TO BE HAD OF ALL IRONMONGERS AND VENTILATING ENGINEERS IN THE UNITED KINGDOM.

LONDON—*continued.*

For new theatre, Kennington Park Road and South Place, S.E., for Mr. Robert Arthur. Mr. W. G. R. SPRAGUE, architect, Fitzalan House, Arundel Street, Strand. Mr. A. R. HENDERSON (late Brunsden & Henderson), surveyor, 47 Pall Mall, S.W.

	A.	B.
Martin, Wells & Co.	£38,810 0 0	£39,887 0 0
J. Shillitoe & Sons	37,250 0 0	39,950 0 0
G. Longden & Sons	36,400 0 0	38,455 0 0
S. R. Lamble	36,325 0 0	37,330 0 0
C. Grayhill	36,270 0 0	37,240 0 0
H. & E. Lea	35,756 0 0	36,704 0 0
Patman & Fotheringham	35,691 0 0	36,717 0 0
W. Downs	35,365 0 0	36,400 0 0
McCormick & Sons	35,338 0 0	36,360 0 0
Beer & Gash	35,275 0 0	36,285 0 0
H. Burman & Sons	35,245 0 0	36,260 0 0
J. Grover & Sons	35,196 0 0	36,236 0 0
F. & H. F. Higgs	35,160 0 0	36,180 0 0
Harris & Wardrop	34,954 0 0	35,874 0 0
H. L. Holloway	34,770 0 0	35,730 0 0
Kirk & Randall	34,358 0 0	35,330 0 0
Foster & Dicksee	34,332 0 0	36,491 0 0
Tyrie & Sons	33,247 0 0	34,327 0 0
Stimpson & Co.	32,595 0 0	34,835 0 0
Wilkinson Bros.	31,340 0 0	33,553 0 0
W. WALLIS (*accepted*)	29,841 0 0	31,955 0 0

A. Bath stone. B. Portland stone.

For reconstruction of the Metropolitan Tabernacle, Newington. Messrs. SEARLE & HAYES, architects, 66 Ludgate Circus, E.C.

Dove Bros.	£36,399 0 0
G. H. & A. Bywaters	36,190 0 0
Ashby & Horner	35,886 0 0
Hall, Beddall & Co. (*received too late*)	35,333 0 0
Foster & Dicksee	35,000 0 0
Colls & Sons	34,490 0 0
Higgs & Hill, Limited	33,240 0 0

The above estimates are for the reconstruction of the Tabernacle above the basement (that having been carried out). Quantities were supplied by the architects.

LONDON—*continued.*

For erection of a new theatre in St. Martin's Court, Charing Cross Road, London, W.C., for Mr. Charles Wyndham. Mr. G. R. SPRAGUE, architect, Fitzalan House, Arundel Street, Strand, W.C. Quantities by Mr. A. R. HENDERSON, surveyor, 47 Pall Mall, S.W.

	Bath Stone.	Extra for Stage-Cellar.
Foster & Dicksee	£28,036 0 0	£1,268 0 0
C. Gray Hill	25,805 0 0	975 0 0
Wilkinson Bros.	24,830 0 0	1,290 0 0
Stimpson & Co.	24,800 0 0	1,285 0 0
Courtney & Fairbairn	24,800 0 0	1,280 0 0
Walter Wallis	24,391 0 0	1,273 0 0
Joseph Howe & Co.	24,280 0 0	1,060 0 0
W. H. Lorden & Sons	24,268 0 0	1,056 0 0
Kirk & Randall	23,731 0 0	1,208 0 0
H. & E. Lea	23,237 0 0	1,091 0 0
H. L. Holloway	23,120 0 0	1,170 0 0
H. Burman & Sons	23,032 0 0	1,134 0 0
Harris & Wardrop	22,675 0 0	1,157 0 0
Wm. Downs	22,650 0 0	1,186 0 0
Patman & Fotheringham	22,515 0 0	1,163 0 0
F. & H. F. Higgs	22,360 0 0	1,132 0 0
C. F. KEARLEY *	21,956 0 0	1,093 19 0

* Amended and reduced tender accepted at £2,4000.

For erection and completion of an infirmary for 800 beds, with the necessary alterations and additions to form the present buildings into a nurses' block, &c., on the site of the late smallpox hospital, Highgate Hill, N. Mr. WILLIAM SMITH, architect, 65 Chancery Lane, W.C. Mr. H. DOW WHITE, surveyor, 52 Finsbury Pavement.

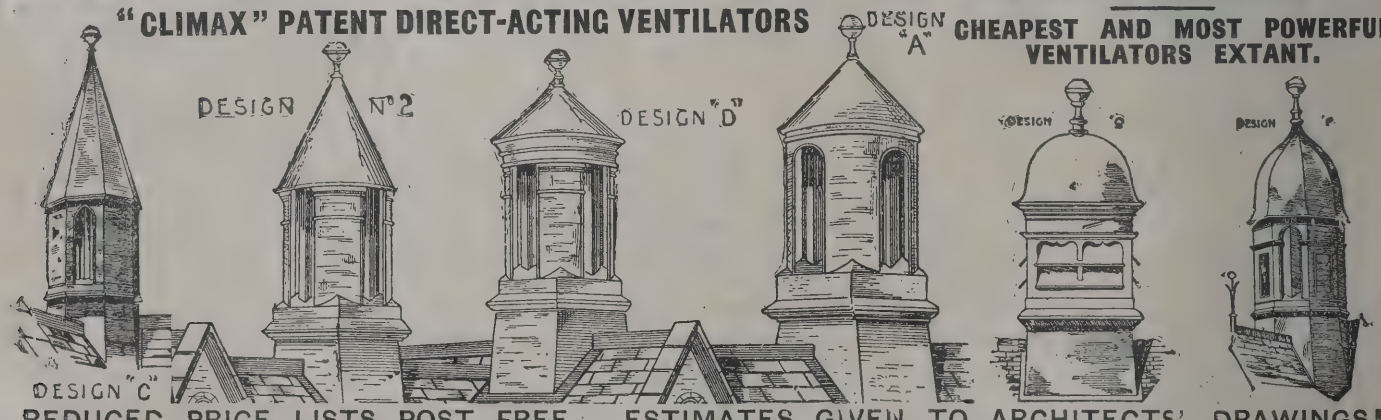
		A.
F. Gough & Co.	£203,045	£4,640
Patman & Fotheringham	201,474	4,937
Leslie & Co.	199,707	4,486
Chessum & Sons	198,450	4,500
H. Martin, Northampton	197,462	4,760
F. & M. Patrick	195,547	6,315
Charles Wall	195,000	4,300
C Gray Hill	186,500	5,063
KIRK & RANDALL, Woolwich (*accepted*)	181,523	4,529

A. Extra if walls of wards above dado faced with glazed bricks.

COUSLAND & MACKAY, VENTILATING ENGINEERS,
150 HOPE STREET, GLASGOW.

"CLIMAX" PATENT DIRECT-ACTING VENTILATORS

CHEAPEST AND MOST POWERFUL VENTILATORS EXTANT.



REDUCED PRICE LISTS POST FREE. ESTIMATES GIVEN TO ARCHITECTS' DRAWINGS.

OETZMANN & CO.,
62, 64, 67, 69, 71, 73, 75, 77 & 79
HAMPSTEAD ROAD, W.

(Continuation north of Tottenham Court Road, & near Euston & Gower Street Stations),

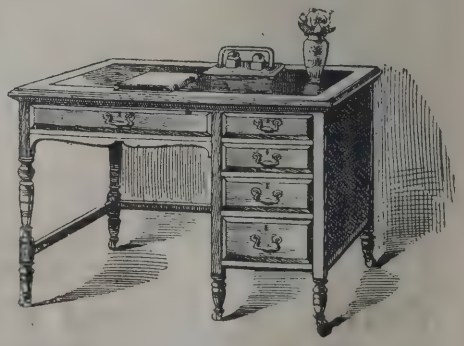
61 Grafton Street, DUBLIN; 75 Union Street, RYDE;
202 Rue Royale, and 12 Rue de la Pompe, BRUSSELS.

FACTORIES: Eagle Works, Hampstead Road; Albion Works, Drummond Street; Stanhope Works, William Street; Camden Works, High Street, Camden Town, N.W.

HOTEL AND CLUB FURNISHING.

Special Terms of payment may be arranged with the Manager of the Hotel Contract Department.

ESTIMATES GIVEN to ARCHITECTS' DESIGNS AND SPECIFICATIONS.



WALNUT, OAK, or MAHOGANY SINGLE PEDESTAL WRITING TABLE, top lined with leather and drawers fitted with locks and keys, 3 ft. wide, **£3 15 0.** 3 ft. 6 in., **£5 4 0.**

LONDON—*continued.*

For erection of the superstructure of Block 3 of the Parcel Dépôt, Mount Pleasant, E.C.

Foster & Dicksee	£95,222 0 0
Kirk & Randall	92,858 0 0
Spencer, Santo & Co., Limited	89,200 0 0
J. Chessum & Sons	89,100 0 0
W. H. LORDEN & SON (*accepted*)	84,444 0 0
General Builders, Limited	79,571 2 0
Less for old materials.	
General Builders, Limited	131 2 0
Spencer, Santo & Co., Limited	85 0 0
Alternative tender.	
Foster & Dicksee	92,222 0 0
B. E. Nightingale	92,000 0 0
Kirk & Randall	89,395 0 0
J. Chessum & Sons	87,900 0 0
Spencer, Santo & Co., Limited	86,549 0 0
W. H. Lorden & Son	81,111 0 0

For erection of new bakery for Messrs. Spratt's Patent.

Whitehead & Co.	£17,820 0 0
H. J. Williams	17,725 0 0
Kerridge & Shaw	17,248 0 0
Beer & Gash	17,223 0 0
Patman & Fotheringham	16,999 0 0
W. Shurmur	16,900 0 0
S. J. Jerrard & Sons	16,721 0 0
F. & H. F. Higgs	16,713 0 0

For erecting the first portion of a building in Throgmorton Street and Throgmorton Avenue, City, to be used as a restaurant, shops and offices, for Messrs. J. Lyons & Co., Limited. Mr. CHAS. REILLY, architect, 23 St. Swithin's Lane, E.C. Quantities by Messrs. GARDINER & THEOBALD, 110 Great Russell Street, W.C.

Hall, Beddall & Co.	£42,265 0 0
Ashby & Horner	41,920 0 0
G. Trollope & Sons	41,310 0 0
J. Mowlem & Co.	40,946 0 0
Holland & Hannen	39,360 0 0
Foster & Dicksee	39,220 0 0
Barnsley & Son	38,980 0 0
Colls & Sons	38,696 0 0

LONDON—*continued.*

For partial reconstruction of the North-Eastern Hospital.

Martin, Wells & Co.	£139,725 0 0
Leslie & Co., Limited	121,145 0 0
W. Johnson & Co., Limited	118,340 0 0
Spencer, Santo & Co., Limited	114,975 0 0
MCCORMICK & SONS, Northampton Street, N. (*accepted*)	113,642 0 0
Architect's revised estimate	115,000 0 0

For erection of infirmary, Mile End.

Holland & Hannen	£88,902 0 0
Howe & Co.	87,150 0 0
Miskin & Sons	86,209 0 0
Patman & Fotheringham	84,500 0 0
Gregar & Sons	82,799 0 0
H. Sherwin	82,083 0 0
Perry & Co.	78,971 0 0
Turtle & Appleton	78,390 0 0
Lole & Lightfoot	76,954 0 0
F. & F. J. Wood	76,452 0 0
McCormick & Sons	72,695 0 0

For erection of head office buildings, for the Metropolitan Asylums Board.

B. E. Nightingale	£54,827 0 0
E. Lawrance & Sons	54,127 0 0
Leslie & Co., Limited	54,043 0 0
W. Pattinson & Sons	51,243 0 0
Foster & Dicksee	48,980 0 0
J. SHILLITOE & SON, Bury St. Edmunds (*accepted*)	47,532 0 0
Architect's estimate	46,328 0 0

For remodelling 53 Dover Street, W., for the Empress Club. Messrs. WIMPERIS & ARBER, architects.

Waring & Gillow	£50,123 0 0
T. L. Green	41,142 0 0
Kilby & Gayford	39,692 0 0
Carmichael	39,592 0 0
Dearing & Son	39,318 0 0
Johnson & Co.	39,167 0 0
H. & E. Lea	38,052 0 0
Allen & Son	36,044 0 0
Patman & Fotheringham	35,389 0 0
Lovatt	34,172 0 0
Barker & Co.	33,766 0 0

MELBOURNE INTERNATIONAL EXHIBITION, 1880-81, THE ONLY GOLD MEDAL, IN ADDITION TO FIRST-CLASS HONOURS
ADELAIDE INTERNATIONAL EXHIBITION, 1887, THE FIRST ORDER OF MERIT;
SOUTH AFRICAN INTERNATIONAL EXHIBITION, KIMBERLEY, 1892, GOLD MEDAL
WERE AWARDED TO

JAMES CARTLAND & SON,

MANUFACTURERS OF EVERY DESCRIPTION OF

Cabinet, Builders', Furnishing, & Naval Brass Foundry,

BIRMINGHAM.

LONDON SHOWROOMS, 57 HOLBORN VIADUCT, E.C.

SPECIALTIES:

Patent Window Openers, for Opening, Closing & Securely Fastening Fanlights, Casements, Skylights, &c.

CARTLAND'S PATENT WINDOW OPENER.

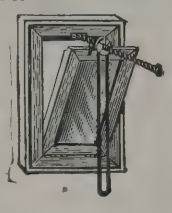


A2740 A2741

Brass.	Iron.
5/6 12in.	3/6
6/- 14in.	4/-
6/9 16in.	4/6
7/6 18in.	5/-
10/- 24in.	6/-

each.

PRESTON'S PATENT SCREW ADJUSTMENT.



A553 All Brass.
⅜ × 15, 8/6
½ × 18, 11/6

A553 Iron Screw.
⅜ × 15, 7/6
½ × 18, 10/-
each.

LILLY'S PATENT FANLIGHT OPENER.



A2623 Brass. 3/9

A2624 Iron. 2/6 each.

BEANLAND'S QUADRANTS.



9052

Iron.	Brass.
1/2½ 12in.	4/8
1/11 16in.	6/8
2/2 18in.	8/-

each.

Original Patentees and Manufacturers of Cartland's Patent Helical, Climax, Adjustable, and Reliable Door Springs.



5753 Iron.
3 inch, 4/-
4 ,, 6/-
5 ,, 8/-

5754 Brass.
3 inch, 6/6
4 ,, 10/-
5 ,, 13/-
per pair.



2401
With 2in. Shoe, 16/6 each.

5355 Iron.
4 5 6in.
21/- 28/- 36/- doz



5356 Brass.
4 5 6in.
35/- 45/- 55/- doz

MACKIE'S PATENT "DEFIANCE" HYDRAULIC WATERTIGHT FLOOR SPRING AND CHECK.

Size of Plate, 12 × 8 in.

Size of Box, 10¾ × 6 × 3¾ in.



906 80/-

With top centre and brass shoe any size.

This Floor Spring is suitable for any sized door, and can be regulated to suit any force required.

The box is watertight and weatherproof, a distinct advantage when fixed in Banks, Board Schools, Libraries, and similar places, where the floors are frequently washed down.

It is also sent complete with an outer box to fix into floor, to facilitate the spring being taken out when necessary.

Working Models of these and other Specialties may be seen at our newly-fitted London Showrooms, 57 HOLBORN VIADUCT E.C. Architects and Buyers are respectfully invited to inspect same.

LONDON SCHOOL BOARD.

For erection of new school—boys, 240; girls, 240; infants, 276; total, 756. Manual training centre and divisional offices, Peckham Road.

Leslie & Co., Limited	£26,887 13 2
Clarke & Bracey	25,706 0 0
E. Lawrance & Sons	25,247 0 0
W. Pattinson & Sons	25,293 0 0
Treasure & Son	24,795 0 0
Holloway Bros.	24,868 0 0
G. E. Wallis & Sons	24,430 0 0
W. Downs	24,118 0 0
EDWARDS & MEDWAY (*accepted*)	22,577 0 0

For new school, Essendine Road site, Shirland Road, Paddington.

F. Gough & Co.	£25,096 0 0
T. L. Green	24,669 0 0
F. & H. F. Higgs	24,508 0 0
J. & M. Patrick	24,017 0 0
R. A. Yerbury & Sons	23,608 0 0
Kirk & Randall	23,549 0 0
Lathey Bros.	23,394 0 0
J. Carmichael	23,360 0 0
L. H. & R. Roberts	23,335 0 0
W. Downs	23,285 0 0
W. Johnson & Co., Limited	23,120 0 0
E. Lawrance & Sons	22,938 0 0
C. COX (*accepted*)	22,249 0 0

For new school—boys, 308; girls, 308; infants, 349; total, 965—with schoolkeeper's house, Invicta Road.

Edwards & Medway	£24,696 0 0
J. & M. Patrick	24,624 0 0
Holliday & Greenwood	24,528 0 0
W. Downs	24,449 0 0
J. Carmichael	24,180 0 0
G. E. Wallis & Sons	23,797 0 0
Kirk & Randall	23,442 0 0
E. Lawrance & Sons	23,045 0 0
E. Parsons & Co.	23,013 0 0
W. Johnson & Co., Limited	22,740 0 0
F. & H. F. Higgs	22,641 0 0
J. Marsland	22,365 0 0
TREASURE & SON (*accepted*)	22,113 0 0

LONDON SCHOOL BOARD—*continued.*

For new school, Grove Vale, East Dulwich.

Leslie & Co., Limited	£25,198 7 9
W. Downs	24,808 0 0
S. Hart	24,345 0 0
Edwards & Medway	24,244 0 0
J. Carmichael	24,116 0 0
B. E. Nightingale	23,997 0 0
F. & H. F. Higgs	23,912 0 0
J. & M. Patrick	23,237 0 0
E. Lawrance & Sons	23,078 0 0
L. H. & R. Roberts	22,741 0 0
G. E. WALLIS & SONS (*accepted*)	21,879 0 0

For enlargement—boys, 104; girls, 111; infants, 133; total, 348. Providing halls for all departments; removing existing and providing new staircases and cloakrooms for boys and girls; teachers' rooms and lavatories for all departments; reseating, stepping and improving lighting of existing classrooms; providing playground on roof of new enlargement for girls; providing new water-closets for all departments; removing present schoolkeeper's house and leaving one existing house on site for use of schoolkeeper; providing new drainage scheme and enclosing and tar-paving the additional land, White Lion Street.

G. Munday & Sons	£16,852 0 0
F. & F. J. Wood	16,495 0 0
G. S. S. Williams & Son	16,480 0 0
J. Chessum & Sons	16,382 0 0
J. Grover & Son	16,286 0 0
E. Triggs	16,135 0 0
T. L. Green	16,025 0 0
L. H. & R. Roberts	15,529 0 0
E. LAWRANCE & SONS (*accepted*)	15,312 0 0

For erecting school—boys, 292; girls, 292; infants, 338: total, 922—with schoolkeeper's house and manual training centre, Oakfield Road.

Unsigned	£19,308 0 0
J. Carmichael	19,238 0 0
Kirk & Randall	19,072 0 0
Stimpson & Co.	19,000 0 0
F. & H. F. Higgs	18,850 0 0
Treasure & Son	18,608 0 0
E. Lawrance & Sons	18,170 0 0
S. HART (*accepted*)	18,029 0 0

ELECTRIC LIGHT WIRING.

THE
NATIONAL SYSTEM
IS THE
Safest, Cheapest & Most Durable.

NO WOOD CASING OR OTHER PERISHABLE MATERIALS USED.

The System possesses all the advantages of Concentric, Iron Barrel, or Conduit, at half the price, without their disadvantages.

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WALLASEY PUBLIC BUILDINGS and FERRIES,
METROPOLITAN FIRE BRIGADE HEADQUARTERS,
Numerous Churches, Hospitals, and Mansions.

INSTALLATION WORK CARRIED OUT FOR THE TRADE.

ESTIMATES AND PARTICULARS FROM
THE NATIONAL ELECTRIC FREE WIRING CO., LTD.,
FARADAY HOUSE, CHARING CROSS ROAD, W.C.

Clarendon Road, South Shore, Blackpool.
45 Copenhagen Street, Worcester.
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82 King Street, Egremont (Liverpool).
38 High Street, Peckham.
Corporation Electricity Works, Taunton.
1 Commercial Street, Forster Square, Bradford.

LONDON SCHOOL BOARD—*continued.*

For erecting school—boys, 240; girls, 240; infants, 276; total, 756—also schoolkeeper's house, with cookery centre and science room under, Blythe Road.

J. Allen & Sons	£22,107 0 0
J. Carmichael	21,511 0 0
J. & M. Patrick	21,499 0 0
J. Grover & Son	21,186 0 0
Leslie & Co., Limited	21,186 0 0
F. & H. F. Higgs	21,071 0 0
Lathey Bros.	20,533 0 0
E. Lawrance & Sons	20,237 0 0
W. King & Son	20,016 0 0
B. E. Nightingale	19,876 0 0
W. JOHNSON & CO., LIMITED (*accepted*)	19,850 0 0

For improvements. Revised accommodation on seat basis. Boys, 382; girls, 382; infants, 445, Medburn Street, Marylebone.

E. Triggs	£17,961 0 0
F. Gough & Co.	17,815 0 0
Leslie & Co., Limited	17,637 0 0
W. Scrivener & Co.	17,623 0 0
F. & H. F. Higgs	17,523 0 0
Holliday & Greenwood	17,250 0 0
E. Lawrance & Sons	17,161 0 0
Lathey Bros.	16,168 0 0
B. E. Nightingale	15,980 0 0
C. Cox (*accepted*)	15,636 0 0
L. H. & R. Roberts	15,080 0 0

For erection of new school—boys, 358; girls, 358; infants, 422; total, 1,138. The plans also include a manual training centre, cookery and laundry centres and schoolkeeper's house, Daniel Street.

Leslie & Co., Limited	£24,601 0 0
R. A. Yerbury & Sons	23,384 0 0
C. Miskin & Sons	23,099 0 0
Killby & Gayford	23,011 0 0
Stimpson & Co.	22,892 0 0
Clarke & Bracey	22,869 0 0
W. Gregar & Son	22,830 0 0
J. Grover & Son	22,762 0 0
Kirk & Randall	22,597 0 0
E. LAWRANCE & SONS (*accepted*)	22,272 0 0

LONDON SCHOOL BOARD—*continued.*

For erecting school—boys, 232; girls, 232; infants, 337; total, 801, Smith Street.

J. Grover & Sons	£17,451 0 0
F. & F. J. Wood	17,349 0 0
W. Gregar & Son	17,287 0 0
Treasure & Son	17,287 0 0
J. Carmichael	17,195 0 0
L. H. & R. Roberts	17,147 0 0
E. LAWRANCE & SONS (*accepted*)	16,619 0 0

For enlargement—boys, 82; girls, 82; infants, 76; total, 240. Providing halls for all departments, Snowsfields.

E. Triggs	£16,701 0 0
F. & H. F. Higgs	15,589 0 0
B. E. Nightingale	15,578 0 0
E. Lawrance & Sons	15,006 0 0
W. Downs	14,770 0 0
T. L. Green	14,395 0 0
Edwards & Medway	13,946 0 0
Lathey Bros.	13,937 0 0
W. JOHNSON & CO., LIMITED (*accepted*)	13,429 0 0

For new school, Rosendale Road—boys and girls, 476; infants (temporary), 276; total, 752; with schoolkeeper's house.

J. Carmichael	£16,938 0 0
W. M. Dabbs	16,778 0 0
W. Smith	16,615 0 0
F. & H. F. Higgs	16,488 0 0
Holloway Bros.	16,212 0 0
E. Lawrance & Sons	16,053 0 0
G. E. Wallis & Sons	15,982 0 0
Stimpson & Co.	15,616 0 0
TREASURE & SON (*accepted*)	15,395 0 0

For improvements and revised accommodation—boys, unaltered; girls, unaltered; infants, 572, Olga Street.

J. Longley & Co.	£20,986 0 0
Kirk & Randall	20,983 0 0
W. Shurmur	20,846 0 0
J. Chessum & Sons	20,374 0 0
E. Lawrance & Sons	20,155 0 0
G. S. S. Williams & Son	19,830 0 0
F. & F. J. Wood	19,666 0 0
C. Cox	18,977 0 0
J. & M. Patrick	18,957 0 0
C. MISKIN & SONS (*accepted*)	18,245 0 0

THE BATH STONE FIRMS. LTD.

TELEGRAMS. "OOLITE, LONDON." "OOLITE, BATH."

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LONDON DEPOTS— G.W.R. WESTBOURNE PARK, W. L. & S.W.R. NINE ELMS, S.W.

INCORPORATING PICTOR & SONS, RANDELL, SAUNDERS & CO., Ltd., I. SUMSION, CORSHAM BATH STONE CO., Ltd., R. J. MARSH & CO., Ltd., S. R. NOBLE, STONE BROS., Ltd.

BOX GROUND — ST. ALDHELM'S

Registered TRADE MARK

QUARRIES.
MONK'S PARK.
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Fluate, FOR HARDENING, WATERPROOFING & PRESERVING BUILDING MATERIALS.

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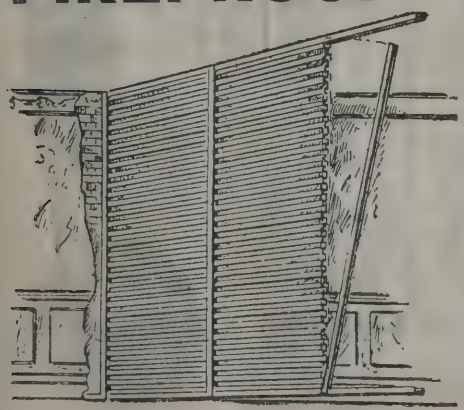
SUMMER DRIED SEASONED STONE FOR WINTER USE.

"CUNNAH-WRIGHT" SYSTEM OF

FIREPROOF WALLS & FLOORS.



FIRE, SOUND, DAMP, and VERMIN PROOF.



Used by H.M. Government, Admiralty, War Office, India Office, H.M. Office of Works, London County Council, &c., &c.

THE FIREPROOF PARTITION SYNDICATE, LIMITED, 25 Billiter Buildings, Billiter Street, London, E.C.

Specified for by the Leading Architects.

ECONOMY in SPACE, COST, TIME, &c.

Apply Catalogue and Quotations as above.



LOWER EDMONTON.

For erection of schools at Eldon Road. Mr. HENRY W. DOBB, architect, 110 London Wall, E.C.

C. G. Hill	£24,000 0 0
E. Lawrance & Son	22,860 0 0
J. MONK, Edmonton (*accepted*)	22,810 0 0

NEWPORT.

For construction of tramways, laying wood and granite paving &c. Mr. R. H. HAYNES, borough engineer.

Monks & Parfitt	£19,400 0 0
A. Krauss	15,299 0 0
W. Winnard	14,712 0 0
A. S. MORGAN & Co., Newport (*accepted*)	14,280 0 0
Engineer's estimate	15,686 0 0

NORWICH.

For general building contract of new Technical Institute, for the Norwich Corporation. Mr. ARTHUR E. COLLINS, city architect.

Searles Bros.	£19,463 0 0
J. Shillitoe & Sons	19,250 0 0
Downing & Sons	19,100 0 0
G. E. Hawes	19,020 0 0
J. S. Smith	18,187 0 0
T. H. Blyth	17,900 0 0
Youngs & Sons	17,777 0 0
Kerridge & Shaw	17,690 0 0
S. WARBURTON, Lord Street, Miles Platting, Manchester (*accepted*)	16,939 0 0

NOTTINGHAM.

For erection of new workhouse, for the Guardians of Nottingham Union.

J. Wright	£290,000 0 0
E. Hind	286,600 0 0
Walker & Slater	283,400 0 0
J. Hutchinson	281,500 0 0
F. Evans	279,950 0 0
H. Vickers	278,250 0 0
J. W. Woodsend	278,000 0 0
F. Messom	277,753 0 0
T. Fish & Sons	276,350 0 0
J. Hodson & Son	274,500 0 0

NOTTINGHAM—*continued.*

For formation of riverside road. Mr. A. BROWN, city engineer.

W. Wilson	£57,210 0 0
J. H. Vickers, Limited	39,270 0 0
Brunton & Son	38,884 0 0
G. R. Hall	34,263 0 0
H. Vickers	29,980 0 0
B. Cooke & Co.	27,900 0 0
J. Greenwood	26,500 0 0
G. Lawson	25,690 0 0
Parker & Sharp	25,207 0 0
H. H. Barry	25,000 0 0
R. M. Parkinson	24,850 0 0
A. Braithwaite & Co.	24,723 0 0
J. Tomlinson	24,450 0 0
Bower Bros.	24,278 0 0
J. D. Nowell & Sons	24,099 8 8
J. A. Ewart	23,618 17 0
A. KELLETT, Manchester (*accepted*)	20,750 0 0

PLYMOUTH.

For erection of blocks of dwelling-houses, Howe Street, Looe Street and Vauxhall Street. Mr. JAMES PATON, borough engineer and surveyor.

Shellabeer & Son	£19,820 0
H. E. Skinner	18,819 0
T. May	18,780 0
Pethick Bros.	18,482 0
Goad & Co.	18,472 0 0
A. N. Coles	17,716 0 0
W. E. Blake	16,737 0 0
W. Trevena	16,200 0 0
WAKEHAM BROS., Plymouth (*accepted*)	16,159 0 0

PONDER'S END.

For railway hotel and theatre, for Messrs. Reid & Co. Mr. H. M. WAKELEY, architect.

Holland & Co.	£23,396 0 0
Lascelles & Co.	22,397 0 0
F. & H. F. Higgs	21,148 0 0
W. Shurmur	20,744 0 0
Patman & Fotheringham	19,751 0 0
Dearing & Son	19,391 0 0

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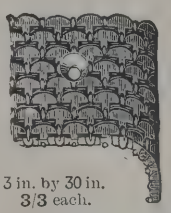
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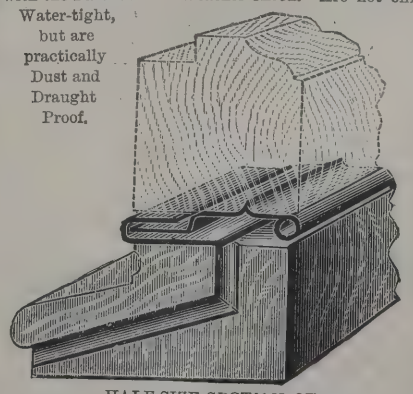
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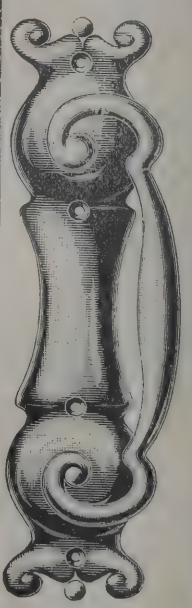
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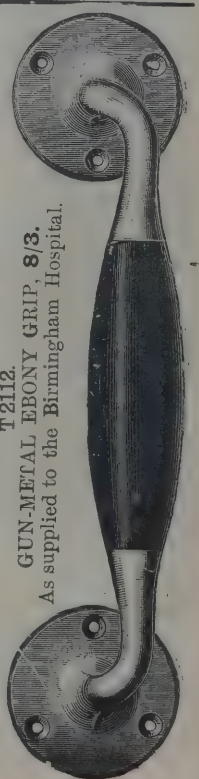


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ROTHERHITHE.

For erection of the Terriss Theatre, for Messrs. Marler & Saunders. Mr. W. G. R. SPRAGUE, architect, Fitzalan House, Arundel Street, Strand, W.C. Quantities by Mr. A. R. HENDERSON, surveyor, 47 Pall Mall, S.W.

Harris & Wardrop	£25,800 0 0
Patman & Fotheringham	25,551 0 0
W. H. Lorden and Sons	22,420 0 0
F. & H. F. Higgs	22,375 0 0
Kirk & Randall	22,340 0 0
H. L. Holloway	22,132 0 0
William Downs	21,550 0 0
C. F. Kearley	21,510 0 0
Stimpson & Co.	21,500 0 0
C. Gray Hill	21,500 0 0
Walter Wallis	21,022 0 0
Wilkinson Bros.	20,133 0 0
WALTER WALLIS (*amended and accepted*)	17,000 0 0

SCOTLAND.

For carrying-on and finishing works of improvement at Wick Harbour. Mr. JAMES BARRON, engineer, Aberdeen.

J. Watt	£19,119 16 9
J. Adam & Co.	17,718 0 0
Tait & Reid	16,177 11 9
G. Rhind	16,162 10 6
T. MUNRO, Wick, N.B. (*accepted*)	15,130 15 6

SWANSEA.

For erection of the Manselton school for the (U.D.) School Board. Mr. C. E. T. LAURENCE, architect, 181 Queen Victoria Street, London, E.C.

Stevens, Bastow & Co, Limited	£19,998 0 0
D. Jenkins	18,960 0 0
H. Billings	18,110 12 6
Lloyd Bros.	17,473 12 5
Bennett Bros.	17,530 15 0
E. Morgan	17,725 0 0
J. & F. WEAVER, Manselton, Swansea (*accepted*)	17,120 0 0

WOOD GREEN.

For erecting the higher-grade schools. Mr. A. M. BUTLER architect, 16 Finsbury Circus, E.C.

H. KNIGHT & SON, Tottenham (*accepted*) Revised estimate.	£16,972 0 0

ILLUSTRATIONS.

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For sewage works, &c., for the Urban District Council.

Pedrette & Co.	£49,850 0 0
F. G. Minter	46,964 0 0
H. Weldon	45,212 0 0
T. Adams	43,577 0 0
A. Braithwaite & Co.	43,570 0 0
S. Kavanagh	42,866 0 0
J. Jackson	39,950 0 0
B. Cooke & Co.	38,650 0 0
H. Martin	38,250 0 0
G. OSENTON (*accepted*)	36,008 0 0
H. Jackson	35,927 0 0
H. Saunders & Co.	35,716 0 0
Cast-iron pipes.	
Macfarlane, Strang & Co., Limited	14,045 0 0
J. Roberts	12,431 0 0
Cochrane & Co.	12,198 0 0
STANTON IRONWORKS, Nottingham (*strike clause*) (*accepted*)	11,799 0 0
R. D. Wood & Co. (*American pipes*)	11,515 0 0
Staveley Coal and Iron Co. (*part work only*)	6,390 0 0

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For erection of public baths.

J. H. Bywaters & Co.	£26,248 0 0
Balaam Bros.	23,875 0 0
C. Wall	23,587 0 0
Wall & Co.	22,906 0 0
G. Sharp	22,658 0 0
Spencer, Santo & Co.	22,308 0 0
J. Chessum & Sons	21,670 0 0

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WALTHAMSTOW.

For alterations and additions at Victoria Hall, Hoe Street, Walthamstow, and building new Empress Theatre adjoining, for Messrs. O'Malley & Buckland. Mr. BERTIE CREWE, architect, Savoy Mansions, Savoy. Quantities by Mr. HARRY E. POLLARD, 6 York Buildings, Adelphi.

Dearing & Son	£17,366	0	0
Patman & Fotheringham	17,085	0	0
Killby & Gayford	16,950	0	0
Knight & Son	16,813	0	0
Johnson & Co.	16,690	0	0
Bateman	15,997	0	0
Gray, Hill & Co.	15,990	0	0
W. Pattinson & Son	15,743	0	0

WINDSOR.

For alterations and additions to the White Hart hotel, for Mr. J. C. Lake. Messrs. TREADWELL & MARTIN, architects, 2 Waterloo Place, S.W. Quantities by Mr. H. WILLIAMS MELLOR, 19 Craven Street, Strand, W.C.

F. & H. F. Higgs	£16,500	0	0
Cooper & Sons	16,398	10	0
Simpson & Sons	16,300	0	0
Patman & Fotheringham	16,158	0	0
Hollis & Sons	16,000	0	0
Watson	15,190	0	0

THE St. Pancras Vestry has laid electric-lighting mains for both public and private supplies up the West Hill, Highgate, and to the summit of Highgate Hill, and, as soon as the necessary connections are made, the current will be switched on. The top of Highgate Hill is the highest spot in the North of London to which electric-lighting mains have yet been carried. The cables, which were wound on huge drums, weighed several tons, and eight horses were required to haul each of them to the top of the hill. It is the intention of the Vestry to carry the cables down Highgate Hill to the St. Pancras Workhouse Infirmary in Dartmouth Park, though in order to do this it will be necessary to obtain the consent of the Islington Vestry, as some portions of the roads to be opened are under the control of that authority.

ELECTRIC NOTES.

IT has been decided that the judges' lodgings at Leeds are to have an installation of electric light.

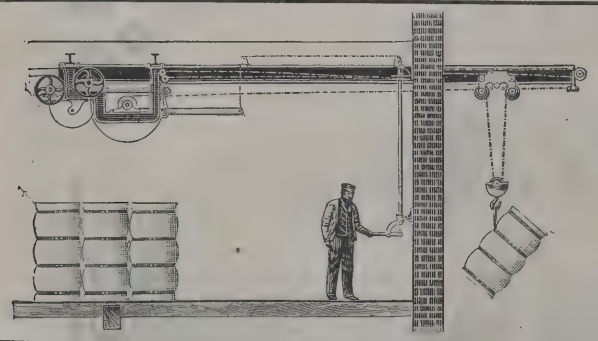
THE Islington Vestry have decided to instruct the electric-lighting committee to advertise for firms willing to undertake the work of extending the electric-light station at a cost of 22,000*l.* In reply to questions the treasurer stated that there were 216 arc lamps in the parish, costing 6,822*l.* per annum, or 40*l.* 17*s.* 1*d.* per lamp, and that these had displaced 440 gas lamps, costing 1,747*l.* per annum.

THE Llanrwst Urban District Council at a special meeting passed the following resolution:—"That this Council will not oppose Messrs. J. R. Peers & Co, electrical engineers, applying to the Board of Trade for a provisional electric-lighting order for the town of Llanrwst, provided such application be made before November 1899, and that the works be carried out within six months from the date of the order, and subject also to the approval by the Council of the terms and details of such order."

IT has not taken the Leeds lighting committee very long to come to the conclusion that an extension of the electric lighting undertaking is desirable. The premises and plant only came into possession of the Corporation a few weeks ago, and already the Council have been asked to sanction the expenditure of 14,296*l.* upon further mains and accessories. At present the mains only supply the centre of the city, Chapeltown and Headingley. The lighting committee are desirous of forthwith carrying the current to Hunslet, where it is anticipated it will be utilised for illuminating many of the big engineering works in that locality. Further extensions in other parts of the city are also in contemplation, though they have not yet been definitely decided upon.

ON Saturday the undertaking of the Sheffield Electric Light Company was formally transferred to the Corporation of Sheffield in compliance with the deed of purchase. The Corporation was represented by Mr. Robert Styring (chairman of the newly-elected electric-light committee), the town clerk and the city accountant. The company was represented by Alderman Franklin (chairman), Alderman Gamble (a director) and Mr. Johnson (manager of the company). A cheque for 260,000*l.* was handed to Alderman Franklin, and in return Mr. Styring received the conveyances of different properties of the company, and formally took possession of them on behalf of the Corporation. Alderman Franklin then accompanied the

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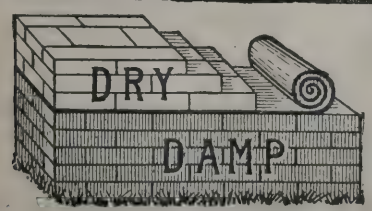
representatives of the Corporation to the Sheffield and Hallamshire Bank, when the current account of the company was transferred to the Corporation. During the week the shareholders will be paid out at the rate of 17*l.* 10*s.* for each 7*l.* share, with another instalment of about 10*s.* per share to follow. To meet these payments the Corporation has borrowed on easy terms 200,000*l.* from the Bank of England and the remainder from other sources. The tramways have done so well since they came under the Corporation, less than two years ago, that the committee hope to be able to hand over 12,000*l.* in relief of the district rate to be levied next March, and it is hoped that the electric light will prove an even more profitable source of revenue.

THE Glasgow University Engineering Society met in the engineering classroom to hear a lecture delivered by Mr. W. B. Sayers, on "The Economic Use of Electricity in Power Transmission and Distribution," Mr. Henry Mayor occupied the chair. Mr. Sayers discussed the question which is occupying the minds of many engineers, namely, under what conditions is it advantageous or economical to use electricity as a means of transmitting and distributing power? "This question," he said, "is a far more difficult one to answer than might appear at first sight, the reason being that the conditions upon which the answer depends vary between very wide limits, dependent chiefly upon the nature and amount of the work to be done and its location, the nature of the source of power and its cost, and, again, the distance of this source of power from the place where power is required. A further question is this, assuming that the conditions in a given case are favourable to the use of electricity, at what point shall the transformation into dynamical power be effected? The factors upon which our conclusion must be based are two—convenience and cost. Convenience expresses something which it is generally difficult or impossible to value in terms of pounds, shillings and pence; but, nevertheless, it would be difficult to exaggerate the importance of convenient arrangements in any manufacturing establishment. The difference between convenient and inconvenient arrangement is analogous to the difference between good and bad management. It is often the difference between success and failure, between profit and loss, for it must be borne in mind that the saving of time which is the inevitable result of improved convenience means not only reduced cost of production, but also increased capacity for output in a given time. The factor with which we have chiefly to do, however, is 'cost.' It has been indicated that improved convenience is worth paying for, but the question 'how much' can only be answered in any particular case by good judgment and intuitive insight into the issues involved, or often enough by expensive experience only. It stands to reason that if power is cheap and abundant we can afford to be less careful with it as regards waste than we can if it is dear or scarce; but at the same time it is a great mistake, yet one often made, to suppose that because the actual cost of the power is small, or even a negligible quantity, that therefore it does not matter how much of it is wasted. Thus the idea that coal and water can be used wastefully because they are cheap has led to the waste of the capital and revenue involved in providing, repairing and firing boilers which should not have been required at all. Cheap coal, as it often does, means dear power." A number of diagrams were shown showing the cost of energy derived from water, gas and electricity mains per horse-power hour in Glasgow and Edinburgh.

PATENT Victoria stone is now claimed as an invaluable building material, as it is made in most pleasing tints and is of great strength and durability—greater, in fact, than of much natural building stone; and to prove its popularity we give a few of the recent works being executed by the Company. For instance, there is the Yorkshire Grey, in that central and important thoroughfare Piccadilly, the whole front of which will consist of Victoria stone, now being made at their extensive London works at Stratford; then comes the immense depositories at Camden Street, for Messrs. Maple, for which they are executing thousands of cubic feet of cornices, strings, &c.; also a large mansion in Surrey, for which they are preparing the whole of the external architectural work, and many other similar buildings which space prevents our mentioning. We may, however, mention a few of the numerous works that have recently been carried out by them. For instance, on the south coast there is the Terriss Memorial Lifeboat House at Eastbourne, premises at Church Street, Brighton, and the Morley House Convalescent Home at St. Margaret's Bay, all of which have a really beautiful effect; in London there is the Thomas à Becket, in the Old Kent Road, the Latimer Arms at Notting Hill, 85 City Road, New Cottage Hospital at Woodford, 28 Great Marylebone Street; the Grand Hotel at Port Talbot, South Wales, &c., &c. In all above cases natural stone has been most beautifully matched, thus combining colour and durability.

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BUILDING AND BUILDERS.

A CHURCH (St. James) is about to be erected in Falkirk at the corner of Thornhill Road and the new street at Firs. The building, of which Mr. G. Deas Page, Falkirk, is architect, will cost 4,000*l.* In the Gothic style, it is to be constructed of red stone from Locharbriggs Quarry, Dumfries.

PLANS for the building of the proposed Ardrossan and Saltcoats Joint Hospital were sent in by three competitors, namely, Messrs. Fryer & Penman, Largs; Guest Luckett, Glasgow; and Thomson & Sandilands, Glasgow. The firm first named was successful. The hospital is to cost 4,000*l.* or 5,000*l.*

AT the meeting of the Hull public libraries committee Sir James Reckett, Bart., in the chair, a letter was read from the Local Government Board sanctioning the borrowing of 6,774*l.* for the purchase of land as a site for the Central Free Library.

AT the monthly meeting of the Wolverhampton School Board to be held to-day, the general purposes committee will recommend that the tender of Mr. James Herbert, amounting to 2,238*l.*, be accepted for making additions and alterations to Red Cross Street school.

THE ancient parish church at Navestock, Essex (St. Thomas the Apostle), is in urgent need of restoration, and the vicar and churchwardens are making strenuous efforts to raise a fund sufficient for the purpose. This church was in existence at the time of William the Conqueror, and is very interesting from an antiquarian point of view.

A TENDER of over 10,000*l.* has been accepted for the erection of new buildings for the London and County Banking Company at the corner of Windmill Street and King Street, Gravesend.

IT has been decided to erect a new church, to be dedicated as the church of St. Paul, in that portion of the Fairhaven estate which falls within the parish of Lytham, Manchester. Mr. Clifton, of Lytham Hall, has given a site, valued at 1,400*l.*, for church, school and parsonage, and he proposes to add an endowment of 100*l.* per annum for the new benefice.

IT is proposed to make considerable alterations and improvements at the premises of the Smethwick Conservative Club in High Street, at an estimated cost of 500*l.* The scheme includes the erection of additional buildings at the rear of the existing block, which will be used as an assembly and billiard-room.

AT an influential and largely-attended meeting held at the Town Hall, Malmesbury, with the Duke of Beaufort in the chair, Mr. A. St. John Hope, secretary to the Society of Antiquaries, reported on the present condition of Malmesbury Abbey and on the work necessary for its preservation and restoration. In accordance with this report the Rev. G. Windsor Tucker, vicar of Malmesbury, moved a resolution that the work be undertaken. The cost is estimated at about 20,000*l.* This resolution was seconded by Sir John Dickson-Poynder, M.P. for the division, and carried unanimously. A committee was then formed to carry out the work.

THE proposed agreements between the Forfar and Dundee districts of the County Council of Forfar in reference to the proposed erection of a fever hospital for the use of both districts were approved of at a meeting of the Dundee district committee. By the agreement it has been settled that both districts will bear the cost of erection (4,500*l.*) in proportion to their respective populations, and the same rule is to obtain in the matter of the treatment of patients. The managing committee is to consist of three members from each committee, and all disputes are to be referred to the county clerk as sole arbitrator.

A SPECIAL meeting of the Barton Urban District Council was held on the 29th ult. to consider what action should be taken with respect to Mr. J. Charles, a Grimsby builder, who recently was fined 5*l.* for erecting a row of houses not in accordance with approved plans, and who had not since fulfilled the required conditions. An offer had been made to alter the roofs to the satisfaction of the surveyor, but the Council thought further proceedings should be taken to compel Mr. Charles to adhere to the plans. It was stated that Mr. Charles was liable to a penalty of 2*l.* per day whilst the work was proceeding.

THE foundation-stones of a new Wesleyan chapel at Foulsyke, near Abbey Town, have been laid. The want of such a building has long been felt, there being a considerable population in the hamlets of High Laws, Aldoth, and Pelutho (of which the site of the proposed building is a good centre), some miles from any place of worship. Successful meetings were for some time held in an adjoining farm kitchen. This being no longer available the present scheme was proposed, and being favourably received by those interested, plans were prepared for a chapel to seat 120. Mr. F. Grainger, of Southerfield, has given the site and also a handsome subscription. The contract has been let to Mr. William Robinson, of Blennerhasset.

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THE Elder Brethren of Trinity House have completed the preliminaries for the erection of a lighthouse and fog-signal station at Pendeen, a particularly dangerous point on the north coast of Cornwall between the Land's End and St. Ives, which has been the scene of many a shipping disaster. The tender of Mr. Arthur Carkeek, of Redruth, has been accepted, and the work has already been commenced, although as yet it is principally confined to excavations. The plans have been prepared by Mr. Matthews, the engineer of the Trinity Board, himself a Penzance man, who is well acquainted with the whole coast around the Land's End district.

THE construction of a suitable harbour and quay at Mallaig formed a vital part of the Mallaig Railway scheme, and the cost of this auxiliary undertaking was estimated at close upon 30,000*l*. It now appears that there are certain formidable and unforeseen engineering difficulties in the way of these projects being carried into execution. Past surveys, of more or less cursory character, seemed to have proved that the layer of sand forming the bed of Mallaig Bay was underlaid by a muddy or clayey formation. It was therefore concluded that the necessary process of deepening the area to be embraced in the proposed harbour would be not only feasible, but comparatively inexpensive. A more careful and precise survey has recently been made, and the result is likely to upset all former calculations. It now appears to be established that the three-foot layer of sand rests not upon a substratum of clay, but upon the solid rock. This fact will render any deepening operation beyond the three feet of sand impracticable.

AT the meeting of the Wolverhampton Guardians on Friday, the members were engaged in committee for a considerable time in considering the plans for the new workhouse, which it is proposed to erect at Wednesfield. Mr. Marshall of Nottingham, the architect, was present. On the representatives of the press being admitted to the meeting, the Rev. G. W. Johnson moved that the report of the general purposes committee, recommending the adoption of the plans subject to certain alterations, be adopted. The rev. gentleman explained that the alterations related to a saving in the erection of the administrative block, and an increase in the efficiency of administration. He stated that Mr. Marshall had been in consultation with Mr. Gordon Smith at the Local Government Board Offices, and that gentleman, after going through the plans, had expressed his entire satisfaction with them, subject to one or two minor alterations which it was proposed to carry out. Mr. Sawyers seconded the motion, which was agreed to, and it was decided to employ Mr. Marshall to take out the quantities for the work in the erection of the workhouse at a fee of 1 per cent. on the outlay, such outlay.

A NOTTINGHAM bricklayer and builder, named William Tyson, claims kinship with James Tyson, the Australian millionaire, who died, it is supposed, intestate. The claimant is fifty-seven years of age, and was born in Lincolnshire, his mother Mary and grandmother Elizabeth being born in the same county. Mr. Tyson remembers well at the age of seventeen his great-uncle James leaving England for abroad. Years rolled by before his whereabouts was ascertained, and eventually a correspondence was entered into, accompanied with photographs. Acting on the advice of an Australian hotel-keeper who was visiting some friends in Nottingham a few months ago, Mr. Tyson sent further communications, which were, however, disregarded. According to a Nottingham tobacconist who while in Queensland made the acquaintance of the late millionaire, William Tyson is "the very image" of the deceased. Mr. Tyson is so confident that the deceased is his great-uncle that he has approached the Agent-General of New South Wales, and is consulting a lawyer in the matter.

MESSRS. TONKS, LIMITED, as befitting a house whose goods are so well known and universally esteemed, have been exceedingly busy the whole year, and have as usual well maintained their reputation for solid excellence in all branches—builder's, cabinet and general, naval and ecclesiastical brass-foundry—for in all they have an unrivalled selection of patterns (the result of more than a century's hard work) and catalogues innumerable. To meet the wants of numerous persons requiring sash-line for one window only, Messrs. Tonks are now offering short lengths of their widely popular lines—the steel ribbon in 20 feet and the metal-protected weatherproof (M.P.W.) in 18 feet lengths. Among their newer patterns is a sash-opener and automatic sash-fastener of great merit, a modification in a cheap form of their 9770. It lists at 9*s*, whilst of lock-plates and furniture, door-handles, &c., there is an endless variety. Of the merits of their Borola sash-fastener, Nicol's patent window fittings, improved helical hinges, metallic-woven stair-tread, solid drawn bolts, Vyvex hinges, &c., it is supererogatory to speak. Every one knows and acknowledges their value, and the patent bookshelf stripping and studs are the recognised desiderata for every library.

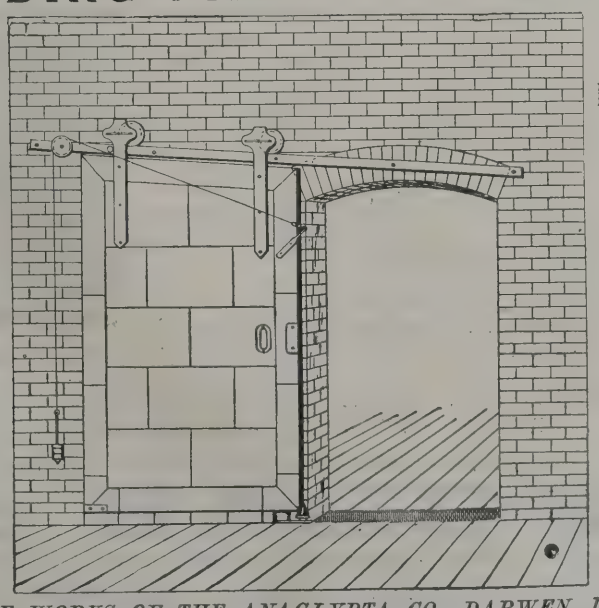
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VARIETIES.

THE annual meeting of the Royal Society of Antiquaries of Ireland will be held in Dublin on the 17th inst.

ROWNEY'S "Artists' Almanack" for 1899 has appeared. Although small in size, it contains much information about societies, exhibitions, &c., which will be found useful by artists.

MESSRS. TRIST & CO., auctioneers, of 62 Old Broad Street, inform us that they have removed to temporary offices, No. 3 Great St. Helens, during the extensive structural alterations to their premises.

THE fourth ordinary meeting of the Liverpool Architectural Society will be held at the Free Public Library, William Brown Street, on Monday, the 9th inst., at 6 P.M., when a discussion will take place upon the following subjects:—1. The Architects' Registration Bill; 2. The Liverpool Electric Tramway System.

THE Town Council of Tamworth have purchased Tamworth Castle from Marquess Townshend for 3,000*l.*, and will lay out and throw open the grounds to the public. The castle descended to its late owner from the Marmions, through the De Freville and Ferrers families.

IN consequence of the retirement of Mr. Fothergill from the management of the London and Lancashire Fire Insurance Company, the directors have appointed the present sub-manager, Mr. F. W. P. Rutter, to be the manager and secretary as from 1st inst.

THE spacious Market Hall at Ashton-under-Lyne was the scene of a fire on the night of the 28th ult., and narrowly escaped destruction. The fire originated on a smallware stall on the west side of a building immediately beneath the tower, and considerable damage was done to that part of the building.

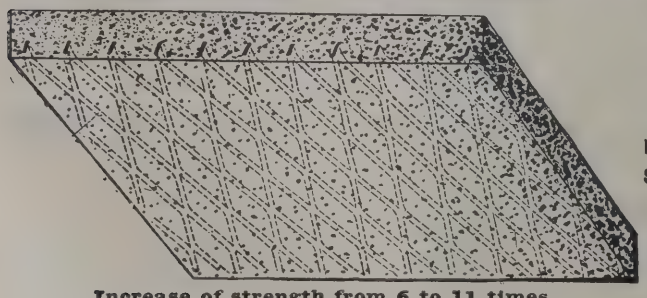
IN the Bill which the Leeds Corporation will promote in the ensuing session of Parliament they will seek powers to borrow 600,000*l.* for market extension, street improvement and other purposes.

THE new theatre at Kennington was successfully inaugurated on Boxing Night. It is to be known as the Prince of Wales's, and is advantageously situated in the main road and overlooking Kennington Park. It is built entirely of white stone with a wide portico, and free from the disfigurement of covering buildings, the theatre will do much to redeem the architectural credit of Kennington Road. The design, for which Mr. W. G. R. Sprague is responsible, is in the style of the Italian Renaissance. In the spacious crush-room and the grand staircases marble has been freely used. The decoration of the auditorium is in white and gold. The stage is very broad, its measurements being 80 feet by 50 feet. The electric-light installation is exceptionally complete, including ten arc lights of 2,500 candle-power each outside the building. The furnishing and subsidiary arrangements are very tasteful and complete. The builder is Mr. Walter Wallis.

DESIGNS for a winter garden or pavilion, proposed to be erected in the Duthie Park, Aberdeen, were recently submitted to the links and park committee of the Town Council by Mr. John Rust, city architect. The committee resolved to recommend the Council to proceed with the scheme. The cost is estimated at 1,550*l.* The winter garden will be placed in the centre of the grass plot between the railing and the main pleasure grounds on the north side of the park. According to the architect's designs the floor of the building will be raised above the ground 3 feet, and a terrace formed around the structure 10 feet wide, with a gravel walk on the top, and grass slopes. The building will measure 108 feet in length and 36 feet in width, with two side wings, each 30 feet long by 36 feet wide, with a circular dome in the centre 24 feet in diameter. The side walls will be 10 feet high from the floor, set on a dressed granite base, with sloping roofs resting on iron columns, and having a lantern roof along the centre 25 feet high from floor to apex—the dome being 46 feet high. There will be two main entrances—one from the north and one from the south end—with concrete passages 12 feet wide from end to end, with plots on either side 12 feet wide. A centre circular plot will also be formed under the dome, 20 feet in diameter, with a walk round it 10 feet wide. The two side wings will be divided from the centre building by means of a glass partition. The whole building will be of St. Petersburg redwood, all glazed with sheet glass, fitted with hot-water pipes and equipped with a heating-chamber under the north end. Arrangements will be made to allow of the different parts of the building being heated to different temperatures as desired.

AT the annual exhibition of the Hammersmith School of Art on the 31st ult., Sir William Richmond, R.A., K.C.B., said that he entertained great h pes of the study and practice of the decorative arts in England rising to even greater eminence than had been the case in the past. All, however, depended upon whether the general public wanted better work or not. Certainly there had been deterioration, but he believed that a reaction was now setting in, and this was probably because it

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was found absolutely necessary for English goods to be of the best possible quality. The tendency in recent years with regard to art seemed to have been too theoretical, but if art in its highest sense was to come back to England and shine as it once did, much more attention would have to be given to practical training. No doubt the general artistic taste of the people of this country was enormously improving, and we were now far in advance of France and Germany in this respect. Doubtless, however, it would be a long time before we reached the high ideal which many of them desired to see realised. Sir William concluded by urging those present to support the Vestry in the endeavour to establish a much larger art school and technical institute at Hammersmith.

THE congregation of the Metropolitan Tabernacle assembled on Sunday at their old meeting place for the first time since its destruction by fire. The disaster took place on April 21, and in the meantime the congregation have worshipped in two sections, one at Spurgeon's Orphanage and the other at the Pastor's College. Only the basement floor has been so far made fit for use, at a cost of 7,866*l.*; nothing, however, has been spent except on the severely useful. The new hall holds nearly 2,000 persons, and was full on Sunday morning. It is too low for a gallery, and from the same cause is not well lighted from without. This occasions no inconvenience, however, as the hall is well illuminated by electricity.

THE new mansion of Mr. William C. Whitney, New York, the well-known millionaire, recently erected in Fifth Avenue, is said to be a dream of luxury. No other residence in America—few, indeed, in the world—rival it in point of magnificence. Mr. Whitney ransacked Europe, securing valuable bronzes, paintings, miniatures and ceramics, while eminent artists and sculptors were engaged in the interior decorations, the painted ceilings alone costing 10,000*l.* The gorgeous drawing-room will contain famous antique tapestries formerly hung in the Louvre, for which Mr. Whitney paid 200,000*l.* The magnificent furniture is of teak wood, beautifully carved. The paintings, bronzes and china are of equal splendour. A regal suite of rooms has been arranged for Mrs. Whitney, who is an invalid. The walls of the boudoir are hung with a silk fabric costing seven guineas a yard. The furniture, made in France, has cost 10,000*l.* The bathroom is built of the finest Carrara marble, relieved by onyx and other rare stones. The bath is cut from a single block, and the floor is composed of rare mosaics. The bath taps and other metal-work are made of pure gold of unique design.

ONE result of the recent outcry as to the inadequacy of Ludgate Hill station, on the London, Chatham and Dover Railway, has been, says the *Daily Telegraph*, the determination of the joint committee of the South-Eastern and Chatham Railways to cancel the stoppages of all main-line trains at this station, that is to say, on January 1 passengers intending to travel by these trains must go either to Holborn or St. Paul's. A few Crystal Palace and Blackheath trains will still call at Ludgate Hill, and only for a short time longer, and the next revision of the time-tables will probably show that no trains whatever will pull up at the main line platform between Holborn and St. Paul's, and *vice versâ*. Altogether, sixty-seven trains daily will be affected. The joint committee has been impelled to make this alteration in order that the platform accommodation of Ludgate Hill may be rearranged. The plans provide for the total abolition of the existing main-line "island" platform, which will no longer be required, and the relaying of the several "roads" will permit of the much-needed widening of the narrow suburban platform, which is now at certain times of the day so greatly congested. It will be made, approximately, double its present width, and substantial approaches and exits will be built. Possibly, too, some improvement may be made to the pitch of the roof. Passengers by the Metropolitan Extension, Great Northern, Midland, South-Western and South-Eastern trains—none of which run through St. Paul's, for they cross the Thames by the old and not the new bridge—will be the gainers by this improvement, which is to be effected at the cost of some thousands of pounds.

WE cull the following rather flowery description of an up-to-date "saloon bar" from the columns of an esteemed provincial contemporary:—"A visit to the new smoke-room will irresistibly call to mind the scenes of Oriental splendour of which we read in the Arabian Nights. Led blindfold into this apartment, the stranger might well be excused if he imagined that he had been transported into a Moorish palace replete with all the lavish decorations which tradition and history assign to the state-rooms of Eastern potentates. This new room—it seems commonplace to call it a smoking-room, but such is its intended purpose—is a veritable dream of cosy comfort, pleasing to the eye and restful to the body. Its decorations are rich, as distinct from gaudy—luxurious is perhaps the only fitting descriptive word. There is a seductiveness about the apartment quite in accordance with our views of the Oriental love of bright colours and sumptuous ease. The ceiling and walls are treated with an



elaborate adaptation in the Hispano-Moresque style, the walls being relieved by engaged columns carrying stalactited brackets, which in their turn support a deep cornice, enriched by the small pendant niches peculiar to this style. This room is divided from the bar proper by an open arcade of three arches carried on enriched columns."

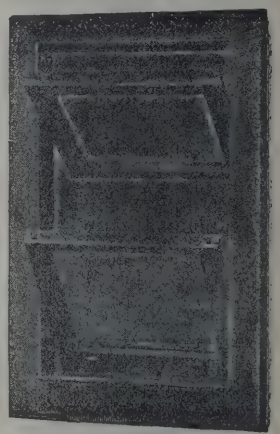
THE Byfleet Village Hall and Club, which has been erected at a cost of 2,200*l.*, was formally opened a few days since by Lady Louisa Egerton. The exterior walls are of red-brick and rough-cast, and with the exception of the hall itself, which is slated, tiles have been used for the roof. Both externally and internally it is a copy of seventeenth-century domestic English architecture adapted to modern requirements, and with its prettily-timbered front, its twin turrets mounting guard over the verandahed double entrance, its quaint lead-lights of partially tinted glass in the hall, and its surmounting flèche and weather-vane, it arrests the attention of the passer-by and compels favourable comment. On either side of the entrance lobby is cloak-room and lavatory accommodation for ladies and gentlemen respectively, and immediately overhead are the caretaker's quarters. The hall, spacious and lofty, extends towards the rear, with green-room and ladies and gentlemen's dressing-rooms opening on to its permanent stage. Fronting the road, on the right-hand side of the building, is a reading-room, behind which is a larger room, in which the parish council will meet and other parochial business be transacted. This will be known as the parish room. Over these two rooms is a billiard-room which, with the reading-room downstairs, will constitute the special domain of the village club. The large hall will be available for public meetings, entertainments, and all parochial gatherings too large and important to be accommodated in the smaller parish room. The floor, which is specially suited for dancing and badminton, for which, on occasion, it will be used, is protected to that end by a stout canvas covering. The warming is done by hot-water pipes, and the artificial lighting by means of oil lamps. Elsewhere on the ground floor the floors are of wood blocks. Inside, as outside, the building is quaintly decorative in character, notable instances being the high fluted wainscotting of American whitewood stained green in the concert hall, and the old-fashioned fireplaces throughout the remainder of the building. Between the two front entrances is a tablet bearing the following inscription:—"This Hall was presented to the Village of Byfleet by Fredk. C. Stoop in commemoration of the completion of the sixtieth year of Queen Victoria's reign." Messrs. Ashley & Armstrong, 50 Berners Street, Oxford Street, W., are the architects, Mr. R. J. Hunt, of Chertsey, the builder. The cost of the furniture and fittings was some 300*l.* over and above the 2,200*l.* already mentioned.

LONDON IMPROVEMENTS IN 1898.

MOST people will allow, says a correspondent of the *Globe*, that the improvement of the year has been the pulling down of the houses in Parliament Street, giving a noble view of the Abbey and forming a worthy approach to the Houses of Parliament. It has been talked of for the last forty years, and the roadway will be made up in about another month. A smaller improvement, but one which will be welcomed by carriage people, has been made by pulling down houses at the Oxford Street end of Davies Street, so that instead of ending almost in a cul de sac, it now enters Oxford Street the same width that it leaves Berkeley Square. At the corner of Davies Street and Brook Street is the new Claridge's, a huge red-brick hotel just opened; while there will be a Davies Street station on the new Central Electric Railway, which reminds one that the City and Waterloo line has been opened for traffic, the second electric one in London. The ugly gap which existed for a number of years at the bottom of the Haymarket has been filled up with one of the most handsome buildings in the metropolis, the combined theatre of Mr. Tree and the Carlton Hotel, both of white stone elaborately carved and with cupolas and loggias.

For the fifth year in succession a building devoted to art has been added to London attractions. This time it is the South London Art Gallery at Camberwell, erected chiefly by a well-known philanthropist in memory of the late Lord Leighton. It opened with a loan exhibition, which drew visitors from all parts of the metropolis, and there is now on view an equally good "black and white" show. The attractions of the ever-popular Kew Gardens are increased by the quaint old Palace of George III., which Her Majesty has graciously thrown open to the public. Two new panels have been fixed in the Royal Exchange, making five out of the twenty-four required; while Sir William Richmond has finished the first of the four quarter domes at St. Paul's Cathedral. The Government has completed the third block of the Record Office on the site of the old Rolls House and Chapel in Chancery Lane. The windows where the old Chapel stood are of an ecclesiastical pattern, and it is said that part of the building will be

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devoted to a collection of the principal treasures of the office, such as the Domesday Book and ancient charters. A large district post-office, faced with stone, has been built in Holborn. Other public buildings are the new offices of the health department of the Corporation in Basinghall Street. These are of the greystone peculiar to the Guildhall, and though the original design had to be modified in consequence of litigation as to "ancient lights," yet it harmonises with the rest of the irregular pile. It is not generally known that the back of the Guildhall in Basinghall Street is far more imposing and picturesque than the front part. A new police-court has been built at Highgate and a police-station at the corner of Gray's Inn, both of red brick. The large and handsome Institute of Mechanical Engineers at Storey's Gate has been completed, and a part of it is used as temporary Government offices. Near it, in Great George Street, is the new Institute of Chartered Accountants, and both these are of the now common red brick, with stone facings. Public baths of the usual type have been built at Deptford and Walworth, while Hoxton rejoices in a new Free Library, which it is hoped may tend to civilise the numerous disciples of "Bill Sikes" who flourish in that neighbourhood. Another Free Library has been given to the poor district of St. George's-in-the-East.

Education has been cared for by the opening of the Technical Institute and Central Library at Stratford, an unusually fine building, and by the West Ham School Board offices near it. The Polytechnic in the Borough Road has been largely extended, while a great hall has been added to the Battersea Institute. A smaller institute has been built for Southwark, near the Tower Bridge. The large Coborn Foundation School for Girls has been erected in the Bow Road and a training college for lay helpers in Stepney. Nearly a dozen large Board and Church schools have been built during the year.

Still more suburban theatres. The latest are the pretty Coronet at Notting Hill, the Princess of Wales's at Kennington, and the somewhat heavy-looking Crown Theatre at Peckham. Music halls, or theatres of variety, as their proprietors prefer to call them, have sprung up at Brixton, Hammersmith, Shoreditch and Spitalfields, most of them with façades that would not disgrace a first-class street.

Notable examples of street architecture are the large hotel next the Empire in Leicester Square, the huge Babel-like edifice on the site of the old Hanover Chapel in Regent Street, capped by a large dome, and the front decorated with mosaic, as becomes the headquarters of Salviati, of Venice. In Oxford Street are the Tudor Hotel in red stone, and the large white stone premises, surmounted by a dome, of Messrs. Lewis. Messrs. Grindlay's new premises in Parliament Street are original, the base being of black granite, which contrasts well with the white stone above.

This has been a year of large additions to our open spaces. The Queen's Wood at Highgate, over 70 acres of the wildest woodland, has been rescued from the builder. So has Golder's Hill, the beautifully-wooded seat of the late Sir Spencer Wells, rescued by patriotic dwellers at Hampstead, adding nearly 40 acres to their famous Heath. A generous landlord has given a wooded hill overlooking the Lea Valley to be added to Epping Forest; and Mr. Horniman has set apart his extensive and beautiful grounds at Forest Hill for the use of the public. Deptford Park, a fine open space, has just been secured for that densely-crowded locality. A number of smaller spaces, such as disused churchyards, &c, have been laid out by the excellent Metropolitan Gardens Association and parochial authorities. Taking all together it will be seen that a considerable number of additions and improvements have been made in 1898.

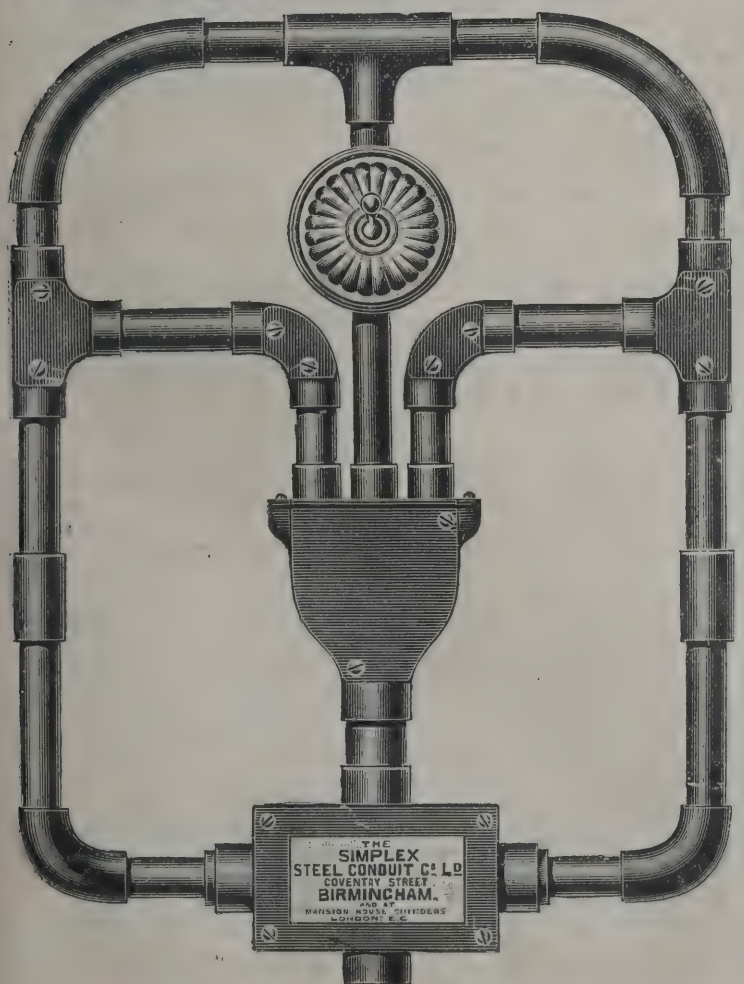
THE REGISTRATION OF PLUMBERS.

THE Registration Committee were entertained by the master, wardens and court of the Plumbers' Company to dinner on Thursday last week. Amongst those present were:—Dr. Allan, medical officer of health to the Strand Board of Works; Dr. Priestley, medical officer of health to the Lambeth Vestry; Mr. T. de Courcy Meade, city surveyor, Manchester; Dr. Mansel-Howe, and representatives of the London Society of Associated Master Plumbers, and the various London Lodges of the United Operative Plumbers' Association of Great Britain and Ireland.

Mr. de Courcy Meade, in proposing the toast of "The Registration Committee," said there was no doubt that the work of the Registration Committee in connection with the National Registration of Plumbers was being more and more felt throughout the Kingdom, and he particularly referred to this being the case in Lancashire, where in his capacity as city surveyor of Manchester it came repeatedly and forcibly under his notice.

Mr. J. W. Clarke spoke of the progress made in connection with the movement, reviewing it from its early stages, and

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referring to its commencement as the outcome of the International Health Exhibition held in 1884.

Mr. F. Randall, speaking on behalf of the operative plumbers, referred to their desire to secure the highest standard of plumbers' work, and their appreciation of the support rendered generally to the registration movement, particularly by prominent medical and architectural authorities. He expressed the hope that a scheme of apprenticeship for plumbers in London would be established as quickly as possible, and that the classes for plumbers should be open only to bona-fide apprentices. By these means he ventures to say that not only the plumbing trade but the public would be greatly benefited and safeguarded from the evils of bad plumbing work in future. With a satisfactory scheme of apprenticeship and registration at the termination of such apprenticeship, all desired ends would, he considered, be attained.

Mr. Thomerson, on behalf of the master plumbers, stated that the Associations were fully in sympathy with the registration of plumbers, inasmuch as the chief qualification required for a master plumber to be admitted into the Association of Master Plumbers was the possession of a certificate of registration. He fully endorsed Mr. Randall's words as to the desirability and necessity for a scheme of apprenticeship, and hoped that such a scheme would shortly be formulated to the satisfaction of the master plumbers and the operative plumbers.

Dr. Priestley expressed his belief that the support of the operative plumbers was necessary to the success of the registration movement, and urged the operative plumbers to band themselves together to push forward the movement in the interests, not only of themselves, but of the public health.

FROST AND BUILDING MATERIALS.

THE scientific studies of the American architects and engineers find a subject for exercise in considering the effect of frost on various building materials. According to the *American Architect*, some interesting experiments have been made by Mr. A. C. Hobart, Fellow in Civil Engineering of the University of Illinois, on the effect of freezing on cement-mortar. The phenomena incident to the freezing of freshly-mixed cement-mortar have already been investigated with tolerable thoroughness, and Mr. Hobart therefore devoted himself mainly to the study of such mortars, frozen only after setting had begun. In order to secure uniform conditions, he obtained the use of a room in a cold-storage warehouse, where a constant temperature was maintained of about 20 deg. Fahr., and the briquettes of cement, of various kinds, were removed to this room after a definite period had been allowed for setting in the rooms of the Engineering Laboratory. The cements experimented with were all of sorts not much used in the East, the natural brands being Clark's Utica, Louisville Black Diamond, Louisville Star, and Akron; while only two Portland cements were used, Saylor's and Dufossez's. With all these, freezing immediately after moulding caused loss of strength, and where frozen in contact with water, total disintegration; but where the briquettes were allowed to set before freezing the result was very different. In the case of the natural cements, where the briquettes were allowed to set for six hours, or in some cases less, and then frozen, it was found that the strength, instead of being diminished, was greatly increased, such briquettes, after careful thawing, resisting a greater tension than similar briquettes of the same age which had not been frozen. Mortars made with two parts sand to one of cement were more favourably affected than the one to one or the neat mortars, the Louisville black diamond briquettes, mixed two of sand to one of cement, allowed to set for two or three hours only, showing after freezing and subsequent thawing a resistance about three times as great as that of similar briquettes made at the same time and tested at the same time, but not frozen meanwhile. It is curious that the same mortar, if allowed to set for several days before freezing, gained much less by the process, but even after fourteen days' setting freezing added something to the strength. With Portland cements there was no gain by freezing in any case, and generally a considerable loss, but the loss in strength was less when frozen after twenty-four hours' setting than after six hours, and mortars made with a considerable portion of sand lost, proportionately, much less than neat cement. The conclusions which Mr Hobart draws from the experiments are, that cement mortars, made either with natural or Portland cement, if frozen in the presence of water, are likely to be disintegrated and destroyed; but that, if extraneous moisture is kept away from them, natural cement mortars, if allowed to set from three to six hours, are improved by subsequent freezing; while mortars of Portland cement under such circumstances lose strength, particularly when mixed with a large excess of sand. Moreover, while mortars of natural cement usually suffer a slight surface disintegration by freezing, although the total resistance of the briquette is

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greatly increased, briquettes of Portland cement mortar show no change on the surface, although their strength may be almost entirely destroyed.

Mr. F. Baumann has given the results of his experience in the *Inland Architect*:—

Natural cements, he says, should never be used in freezing weather. The cement once frozen has lost all of its binding property. Thawed out it crumbles like mere sand. Portland cement, however, behaves very much better, and it is contended that some brands are especially fit for use in frosty weather. No proper explanation can as yet be offered as to this particular difference in quality.

Common mortar, however, should be considered as being subject to no detrimental change in its properties through the action of frost. On the contrary, it is improved. This is especially evident in all cases in which the mortar steadily continues—for a time of three to four months—to remain in a frozen state, so as to allow all surplus moisture to vapourise. Plastering thus "frozen dry" turns out to be the toughest and in every respect best kind of such work. Where roofing-tile are jointed with mortar the best work is ever obtained in steadily frosty weather, lasting long enough to allow the mortar to set. But the difficulty in our climate is that such steady frost-weather can never be depended upon. We are bound to resort to artificial heat in processes of plastering, to say nothing of the advantage in saving time. A peculiar property of frozen mortar is, that when a sudden thaw sets in shortly after freezing, this mortar will become quite liquid. It will drop from the plastering lath, will also freely ooze out from the joints in a stone wall.

Stone walls should never be built in frosty weather, or at a time when frost may set in shortly thereafter. If the stones are laid in common cement mortar, they would be no better off than if laid in dry sand, if as well. If laid in lime mortar the case is even worse, because the mortar in heavy joints, where none or very little of its moisture is absorbed by the stone, becomes so liquid when thawing that it will freely ooze out from the joints, and thus leave the masonry more or less unstable. In case stone walls are imperatively called for they should, therefore, not be built with lime, or common cement mortar. A proper kind of Portland cement is required. Considering this as to expense, and as to the possibility that the kind of cement chosen is not the proper one, it would appear to be like a positive rule for every practitioner to avoid in frosty weather the use of common stone on any kind of walls. Foundations may be of dimension stone bedded in sand merely; basement walls of brick laid in lime mortar. In case exterior faces of these walls are to be shielded against dampness, it would be utterly useless to apply the usual cement mortar coating, the full efficiency of which is doubtful in any case.

When, soon after the great Chicago fire of 1871, the rebuilding of the city began, basement walls were in a number of cases built with rubble stone. Frost soon thereafter setting in and remaining almost constant till March in the year following, their green mortar was in solid condition enough to sustain the superstructure in the meantime thereon erected. But so soon as the March weather set in they were speedily converted into a loose mass of rubble, held in a precarious position by a loose mass of mortar, which began to ooze out and endanger the stability of the structure. A remedy was found in the speedy call of the "house doctor" and his jackscrews. Yet so ignorant were both architect and builder as to the threatening cause, that the "doctor" was discharged after the rectification of a south wall, to be called again within a week thereafter in order to also uphold the north wall, which had followed the example of the south wall.

An "accident" took place on another street, where a block of three stores, four storeys high, fell all on a sudden into a heap of ruins. Its basement walls, some 6 feet high from the ground, had been built of stone. "Jack Frost" had solidified them for the time being. The walls were completed and roof put on. When "Jack" took his leave the structure was doomed. Lucky it was that the crash took place early in the morning prior to starting work.

The lesson then so repeatedly given had, however, not sufficed to afford the necessary amount of instruction. A prominent member of the profession undertook, two years thereafter, to build in winter a stone cellar wall of a store, with no favourable result. Had the tottering wall been an isolated one instead of one leaning against the wall of an adjoining store, it would probably have come to the ground.

Contrary to general opinion on the part of the public, it must be stated as a fact that masonry is improved in its quality by the action of frost, provided it has received the amount and degree of care required. It is in disrepute because the conditions on which success depend have so seldom been altogether well observed, even if they were at all understood. When mortar freezes, when the ultimate parts of its humidity expand into solid crystals, the rubbing motion of particle

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against particle then taking place is without question a very severe one, enough so to exact an improved condition of them, especially in regard to the silica which thereby seems to become in a measure "unlocked." It is converted, partly so, from its original inert state into one of more or less acute affinity, by which the silicatisation of the lime is started, and increased in rapidity of its action. My own conviction in regard to the fact that masonry properly executed in frosty weather is comparatively the best is positive. It is shared by good and attentive masons as well as a number of architects. All that is required in the case is that the subject be more fully investigated and results taken *ad notam*. A time-honoured prejudice will then be fully dispelled.

The necessity of "keeping the weather out" from inhabited buildings is self-evident, and protective measures, especially as to exposed parts, such as fire-walls and chimney-tops, owing to the introduction of Portland cement and terra-cotta lap-coping, have at last become a rule. Facts have gradually had the effect of demonstrating a necessity, from which no part of a building is excepted. A most special care is owing to monumental structures which, as the case is, are designated to endure for ages. Frost is their principal enemy. Water enters into the minutest open joint and ever expands it by freezing. It is to be kept in mind that this expansion taking place is ever and ever repeated with irresistible force. It is exceedingly difficult, if at all possible, to construct monumental work, self-evidently to be durable, with small pieces of material, the joints between them offering so many chances for gradual destruction.

A cemetery vault was, some eight years ago, constructed at Graceland Cemetery, Chicago, with arches composed of small blocks of granite. The structure was altogether neat and attractive, affording evidence of a good deal of happy thought on the part of the architect. But the grim existence of "Jack Frost" had not entered upon his mind. The result was that improved arches were made in the spring following.

In the earlier days of our commonwealth, attention to the destructive agency of frost seems to have been rarely paid. Many a cemetery vault then built on the side of a hill, the arch covered with soil and sod, has gone out of existence owing to the destructive agency of frost. Some of them have been rebuilt in place of being abandoned. All of them, I trust, could be made permanent by not only covering the arch with a coating of Portland cement concrete, but also protecting this coating with sheet lead of fair thickness, the sheets soldered.

The fewer the joints, the larger the constructive units, the more certain the durability of the structure. All joints should be carefully prepared for filling with lead, to be firmly caulked. Such caulking requires that the blocks be massive, in order that they may resist all lateral motion thereby induced. This necessity should be considered a factor in the style of all monumental work.

The superficial inspection of the New York Brooklyn suspension bridge reveals a want of care as to the results of the action of frost, and even Government work is, here and there, allowed to be thus injured. I have noticed heavy granite copings on quite new retaining walls somewhat moved off their beds. The retaining walls to the approaches of our river tunnels have been rebuilt twice and are again leaning, owing to an ever-repeated freezing of the ground which leans against their back. On our principal residence streets are shown a large number of fence copings in a "demoralised" condition, brought on by the action of frost. The time for proper care and attention in regard to the relentless action of frost seems, after all, to be as yet in suspense.

SPECIFICATIONS IN CANADA.

MUCH has been said and experienced, says Mr. D. A. Hewitt in the *Canadian Architect*, on the length of time it requires to draw a thorough and comprehensive description of the several things that go to make a complete specification. The drudgery could be lightened somewhat and delegated to a junior clerk who writes a good hand or can operate a typewriter, by a system of cataloguing or cypher code alluding to the architect's private collection of choice architectural phrases.

In taking instructions from a client it is well to have a sheet on which to note the various and minor requirements which really enter into and form a very important part of the specification. By a judicious arrangement of the "Wants," this list may form a part of the specification skeleton, from which a concise and well-arranged description is obtained for drawing the final specification. From the numerous pamphlets and books published on this subject, a good many clauses suited to the particular phraseology of the architect can be had, and from which he may make his book. The numerous clippings are most conveniently sorted into an "invoice" book, the pages of which are numbered, and an index of contents in the back aids as a rapid search.

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The Price List issued by us as Agents for Major Braithwaite is objected to by Lady Northwick, the Lady of the Manor of Ketton, and the owner of the Ketton Quarries, and her Trustees, and by their Lessee, Mr. Molesworth, on account of the stone which we offer for sale on behalf of Major Braithwaite being described as Ketton Freestone, and the Quarries from which it is obtained as being situate at Ketton.

The fact is that Major Braithwaite's recently opened Quarries, though close to the Parish of Ketton, are not in that Parish but in the Parish of Edithweston. We regret the inaccuracy, and withdraw the Price List, for which another is now substituted in an amended form. The stone from Major Braithwaite's Quarries will in future be called "Edithweston Freestone."

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December, 1898.

as "Strapping," "Casing," "Hardware," Lathing," "First Coat of Plaster," or other things, according to the special department of work. The intention is to number the different paragraphs in each trade, as—25, "Strapping," 58, "Casings," and so on consecutively. A "skeleton list" of the aforesaid specification, giving the number and name of each paragraph, would assist the memory of the specification writer and be a check on the items that it should contain. When the architect is desirous of getting up a specification for a new piece of work, he takes from his model specification a list of numbers (without names), and where special or altered clauses eventuate, he drafts them on separate slips of paper and makes a note of it on the list of numbers. The routine or stereotype of the matter can thus be obtained for the stenographer by the use of a string of numbers; the intention is not to use the skeleton numbers in the finished document.

Interlining of old specifications has its advantages, but so seldom is it that two jobs are similar that it entails considerable drafting of slips to apply in this case. The suggestion of model clauses or slips is better.

Another feature is noted in specification writing, that which might be called the "construction method." As the several items come on the works and are used, in the same order should they appear in the written document, and thereby save many omissions or the makeshift of an addenda.

In the carpenters' work four subdivisions might be made and classified as "rough work," "exterior work," "interior work" and "trimmings, with hardware." Some architects draw a carpenter's specification as a whole, without making any different headings or marginal references. This involves time and patience in hunting out any one item, unless the person looking for it is familiar with the make-up. Mechanics having to refer for guidance experience difficulty in locating the desired information from the vague way the clauses are designated and the length of paragraphs, covering several items.

On completion of the whole specification a frontal index page should give the contents of the several pages, thus :—

Page 1—Excavate, grade, &c.

Page 2—Drains, weepers, filling.

For single items of reference, the alphabetical index of contents to the printed forms is easy of access, but does not always assist the architect so well as a list prepared on the construction method.

Each trade should have a slight reference clause drawing attention to one general set of conditions and time schedule, giving date of completion for each contractor, preceding the main specification. Thus, such features of the "Builders' Revised Contract" as do not coincide with the wishes of the writer can be straightened out as he may desire.

Frequent changes could be made from time to time in a model specification or system similar to the manner in which a filing cabinet can be used. The arrangement should consist of cards of tag board, 3 inches high by the width of foolscap, on which each paragraph is pasted. The numbers must assist in maintaining order. When it is found absolutely necessary to elongate a clause, or introduce a new one, and space is not to be had on a card, let such additional card bear the number of the paragraph or insertion, and be distinguished by letters, as No. 76A or No. 76B

In "setting up" for a specification one would only require to pick out the clauses and add such changes by written slips to convey to the stenographer the matter. Letter files or a desk drawer will easily contain this system, and be kept in order by the office boy after each piece of work has been written.

NATIONAL PROVINCIAL BANK, RAMSGATE.

A NOTABLE addition to the public buildings of Ramsgate was opened for business on the 21st ult. in the newly-erected premises of the National Provincial Bank, the designs for which were prepared by Mr. W. W. Gwyther, of Temple Chambers, E.C., and carried out under his supervision by Messrs. W. W. Martin & Sons. Fitness for the purpose for which the building is designed is everywhere apparent, and at the same time beauty of detail and fitting has been secured. The banking-room is a spacious hall of horseshoe shape. The walls are of duck-egg green, the columns and pilasters of cinnamon brown, the capitals slightly picked out in the same shade of green. At the back of the hall is a glazed dome whence the clerks' desks will derive light. At night a sun burner will be utilised. The public space is covered with a floor of Venetian mosaic work; that of the manager's room is of wainscot oak and parquetry. Messrs. De Grelle, Houdrét & Co., of 130 London Wall, supplied the mosaic and terrazzo work. The grille is of wrought-iron by Messrs. Allen & Co., of Queen Victoria Street, City. The ceiling is in harmony with the remainder of the

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84 Brook Street, Grosvenor Square, W.; December 8, 1893.

Sir WILLIAM BROADBENT encloses cheque for the "Grundy" Heating Apparatus supplied to his house, and is glad to say that it has proved very satisfactory for warming and ventilating as required. The principle of the apparatus is most excellent.—To Mr. Grundy.

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SANITARY PAINTING.*

A TRULY ancient and honourable handicraft is that of the painter; one of the few that have come down to us from the remotest antiquity practically untouched by that all-devouring ogre which has destroyed so much handicraft—I mean machine production.

In painting you still get the personal equation which no machinery can ever substitute. In all art work it is the personal equation that confers the merit upon the work. This is, of course, well recognised when fine art work (as it is called) is under consideration. But house-painting is so familiar that it incurs the contempt of those who, from lack of training, are unable to appreciate either its æsthetic value or the degree of personal skill displayed.

And yet, to the really observant, how interesting is a bit of properly executed painters' work. To appreciate the æsthetic value of the different textures of the surfaces, as finished by the skilful painter, and to realise the manipulative skill and feeling for effect that went to produce them, is an education in itself. Then the genuine practical knowledge of colour required to be brought to bear in the harmonious tinting of structural work can only be fully appreciated by those who have tried. In fact, to the house-painter as much as to the fine-art man, is it necessary to bear in mind that his paints must be mixed with brains. And then, what scope there is for the exercise of skill and knowledge in the mere mixing and alternating of the coatings of paint in order to obtain from it the greatest protective power. From the merely protective point of view, unskilful painting may mean monetary loss through rot and weather influences which the paint has failed to keep out, while skilfully painted work always means money saved.

I think, therefore, a few words designed to disseminate a truer conception of the sanitary, æsthetic and protective value of good painters' work may not be without interest in an important city like Liverpool.

In his way the sanitary painter is even more important than the sanitary plumber. The plumber's sanitary appliances are located in a few well defined places in a building, and the application of his skill is limited accordingly, whereas the painter's sanitary work extends from cellar to garret, and almost embraces every yard of the interior surface of a building.

When it is realised that one-third of our lives is passed in our bedrooms alone, and probably half or more indoors, how important does it become to have our dwellings sanitary in the highest degree; and for this sanitation the public must depend mainly upon the painter. He it is who must remove all old colourings and old papers, which are necessarily tainted with the effete exhalations of the occupants, and these are known to be poisonous; fill up all crevices, which harbour disease germs; rub down old paint to smoothness, and fill up its dents and cracks so that it shall not easily catch and retain unsanitary germs—in fact, do all those things which in specifications are commonly classed under the word "prepare." Now, as the preparing of work is not to the untutored eye self-evident in the finished result, this part of the work is frequently omitted or scamped, and, indeed, this omission or scamping always takes place in low-priced work; and this fact principally accounts for the extraordinary variations of price in painters' work

If the public only realised what whited sepulchres they go into in the shape of rented dwellings, offices, shops and the like, in which this elementary sanitary work has been grossly neglected, they would insist upon every master house-painter being registered or licensed like any doctor, lawyer, or other professional man, whose work is of such general public importance as to require a public certificate of competency to entitle him to practise.

To many this may seem far-fetched, but to those who keep abreast of the science of the day and appreciate the bearing of the results of modern bacteriology, I feel sure these remarks will appeal with full force.

In the public interest I cannot too strongly emphasise this point; it is one which touches the public health very closely, and in its own interest the public should demand from those who practise the art of domestic painting the most conscientious performance of their sanitary work.

In this connection let me say that the modern system of competitive tendering for sanitary work of any kind is simply a premium on scamping. It is no uncommon thing for painting tenders to vary 100 per cent. for what purports to be identical work, and the public generally, failing to recognise any other measure of value than that of price, accepts the lowest tender. But can anyone, knowing human nature, reasonably expect the conscientious performance of work under such conditions?

There are no worse offenders against common sense in this respect than committees and public bodies. They allow the idea that as custodians of the money of their constituents they are bound to exercise the most rigid economy to dominate every consideration, and altogether overlook the fact that scamped work of this class is really, when broadly and fully considered, the least economical for the public, whose interests they are trying to serve.

It seems to me that if those who obtain competitive tenders made it a rule to accept the tender nearest in price to an average of all the tenders received, much better results would accrue and a truer economy be observed.

Not less important in its bearing upon the comfort and happiness of the public is the house-painters' work from the æsthetic side.

The important effect of environment upon animals generally, and upon man in particular, is well recognised by scientists like Darwin, Wallace, and others; and although their works deal mostly with the effects of climatic and geographical environment, the principles they have laid down are well recognised as applying to social and æsthetic environment.

Each one from his own experience knows that some kinds of colouring confer pleasure, while others leave him unaffected, or even go so far as to give pain and produce physical and mental discomfort.

Now, quality in colour is one of those things that cannot be described in a specification. It can only be felt by those who have the colour sense, and interpreted by those who have in addition technical skill. It is not a thing you can schedule at so much a yard. It can only be obtained from certain individuals who have been endowed by nature, and who must have a free hand to produce their best effects.

Far-reaching and subtle are the influences of æsthetic colour in the domestic and business environment of our daily life. From the home where the tiny impressionable children spend so many hours, and where good and bad æsthetic impressions become indelibly fixed on young and sensitive organisations, through school and business life, from the cottage to the palace, in all our surroundings we are soothed, stimulated, calmed and invigorated, or the reverse of all these things, according to the kind of colour impressions we surround ourselves with. Is not the benefit derived from going to the country, or the seaside, or from foreign travel, as much due to the colour impressions we receive as the fresh air we breathe, or the change of climate?

In short, so subtle and yet so persistent in its effect upon the human organism is the quality of colour, that it is a surprising thing to those who, like house-painters, make the study of colour the business of their lives, to find so little real appreciation of its value among the general public. And yet, rightly appreciated, the consideration of these things forces us to the conclusion that the colour work of the house-painter is only a wider form of his other sanitary work, affecting as it does so intimately the health of his clients. In a word, the house-painter is really a kind of colour doctor, who ought to be able to prescribe intelligently in terms of colour, and to whom the public should turn for colour advice, instead of being, as at present, much given to inconsiderately swallowing any quackery in the way of colour which may happen to be the rage of the moment.

To see the devotion and determination of the victims, one would think that their eternal salvation in a colour sense depended upon their living in an environment of ivory-white and a Morris paper, as though, like a certain notorious medicine, these were a "safe cure" for all the colour ills that flesh is heir to.

There is one side of painting that I think the public do really appreciate the value of to some extent, viz. its protective value. In fact, they go to the extreme frequently, and think that in a multitude of coats of paint there is safety. At all events, many specifications, especially those emanating from architects' offices, are largely over-specified, to the great delight of the cut-price tenderer, who sees his opportunity to hoodwink the architect and the public by posing as the cheapest of the cheap, when he is only the most unscrupulous of his tribe, and never intends to carry out the requirements of the specification.

In the matter of the protective value of paint there is as much danger in too many and too thick coats of paint as in

* An address delivered at the convention of the Master House-Painters of England and Wales by Mr. A. G. White, president.

too few and too thin. Nor is it merely upon the number of coats of paint that the protection depends. The nature of the texture of the surface, its chemical qualities; the nature of its environment, whether exposed to excessive heat or cold, or wet, or wind and sand, or chemical fumes—all these things have to be considered when the protective value of painting is in question.

The time of the year when the painting is done modifies the practice profoundly, and the materials which in summer give excellent results, in winter would fail entirely.

These considerations bring us back to the point we started from—viz. preparation of painters' work—for if preparation is essential from the sanitary point of view, it is doubly so from the point of view of durability: the time spent on the preparation of old work before any paint is applied, and the subsequent between-coat preparation, is of the highest possible value as bearing in the most direct manner upon the ultimate durability and therefore protecting power of the paint.

Here let me say that the public seem to fail entirely to appreciate the value of drying time as affecting the appearance and durability of painters' work. Nowadays a painter is almost afraid to ask a reasonable time for the execution of his work. The client is so accustomed to seeing business work carried on around him in the shortest possible time, that he expects the same thing from the painter, and often gets it, but to his own detriment. The public ought to realise that the processes of painting are practically the same to-day as they were in the remote past; that machinery and labour organised to work to high pressure cannot effect in the painter's work what it can in other trades, because painting is a handicraft, and because time is an absolute necessity between the processes if the work is to give satisfaction.

Scamped preparation means frequent repaintings and frequent expense.

The life and health of a building, therefore, depend upon its intelligent protection by paint.

So that whether you consider the house-painter from the point of view of the preparation of the interior of a dwelling, or from the colour treatment of the dwelling, or from that of the protection of the exterior of the dwelling, he is, and ought to be, in all his work a sanitary expert in the highest and broadest sense of the word, and enjoy a high degree of consideration from the public accordingly.

I have endeavoured thus briefly, and avoiding technicalities, to put into popular form some of the broad facts that underlie the practice of the painter's art, in the hope that the public may more adequately appreciate how important it is that a class of work bearing so directly upon the public health and happiness, both physical and mental, should be entrusted to really competent exponents of the painter's art, and that it may realise the good old English maxim, that the "best is the cheapest," applies in the highest sense of the word to the art of domestic painting.

PATENTS.

[This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C. from whom all particulars and information relating to Patents may be had gratuitously.]

APPLICATIONS FOR PATENTS.

26755. Joseph Lowe and George Eldred Shawyer, for "Improvements in roofing construction."

27173. Jonathan Rowe, for "Improvements in or relating to the manufacture of bricks."

Specifications Published.

24423. Lake (Piron), for "Apparatus for heating buildings and the like."

30798. Dellagana & Hand, for "Pavements, floors, stairs and the like"

3113. Liddle (Omohundro), for "Machines for making bricks, tiles and the like."

5244 Pullan & Mann, for "Machines for making firebricks, glazed bricks and the like."

6452. Weyler, for "Bricks, tiles, slabs or blocks for use in the construction of floors, roofs, vaults and the like."

21860. Vanhauten, Plumen & Noppeney, for "Fireproof floors, ceilings or similar surfaces."

TO INVENTORS.—Patents for Inventions, Trade-marks and Designs secured; every assistance given to inventors. Specialists in Building matters. Information free.—Messrs. RAYNE & Co., Patent Agents, 37 Chancery Lane, London, W.C.





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CATHEDRAL SERIES, No. 184.—DURHAM: GALILEE, NORTH ENTRANCE (DETAILS).





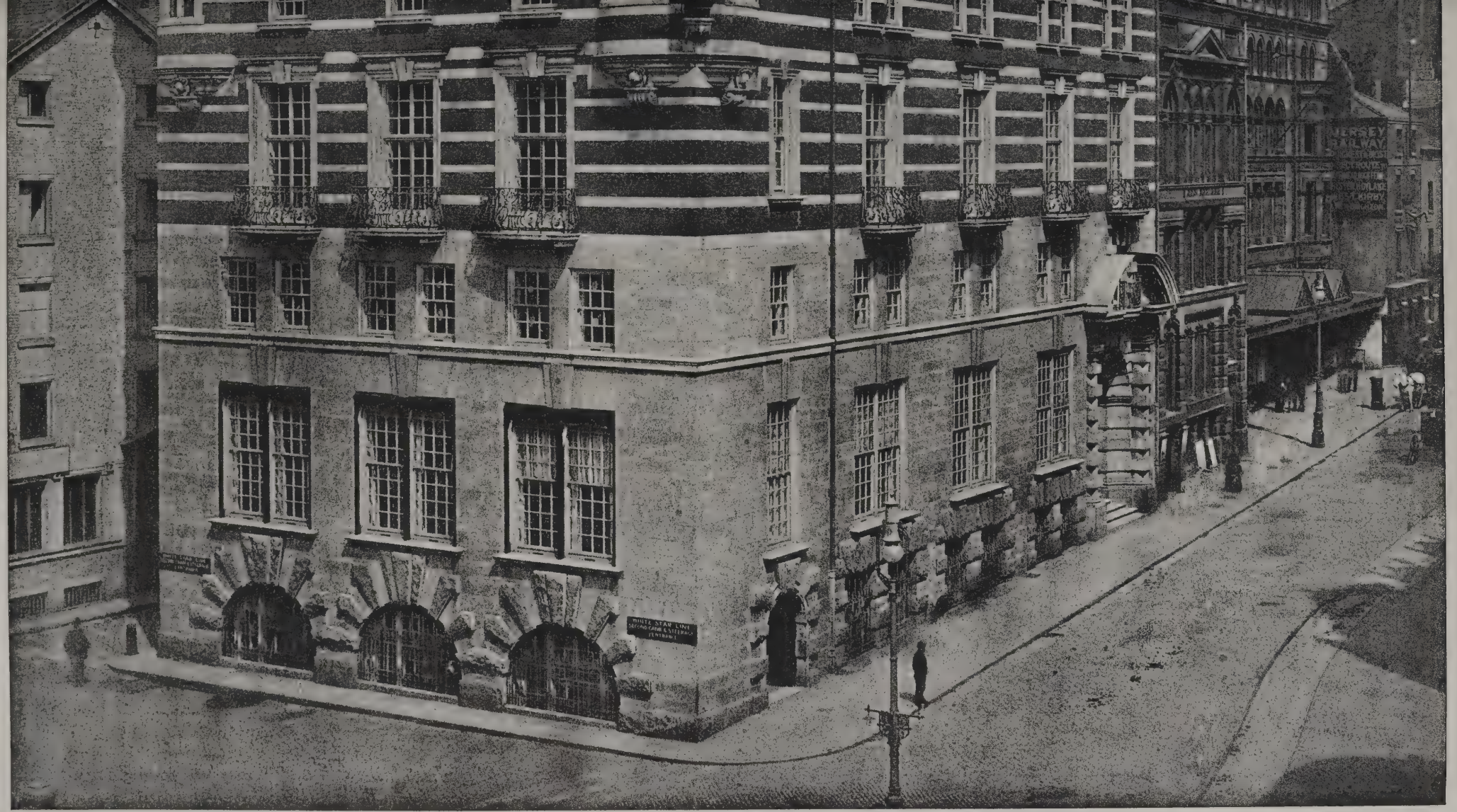
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Messrs. ERNEST GEORGE & YEATES, Architects.





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OFFICES FOR MESSRS. ISMAY, IMRIE & CO., LIVERPOOL.

Messrs. R. NORMAN SHAW, R.A., and J. FRANCIS DOYLE, Architects.





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BRITISH INSTITUTE OF PREVENTIVE MEDICINE, GROSVENOR ROAD, S.W.

Messrs. A. WATERHOUSE & SON. Architects.

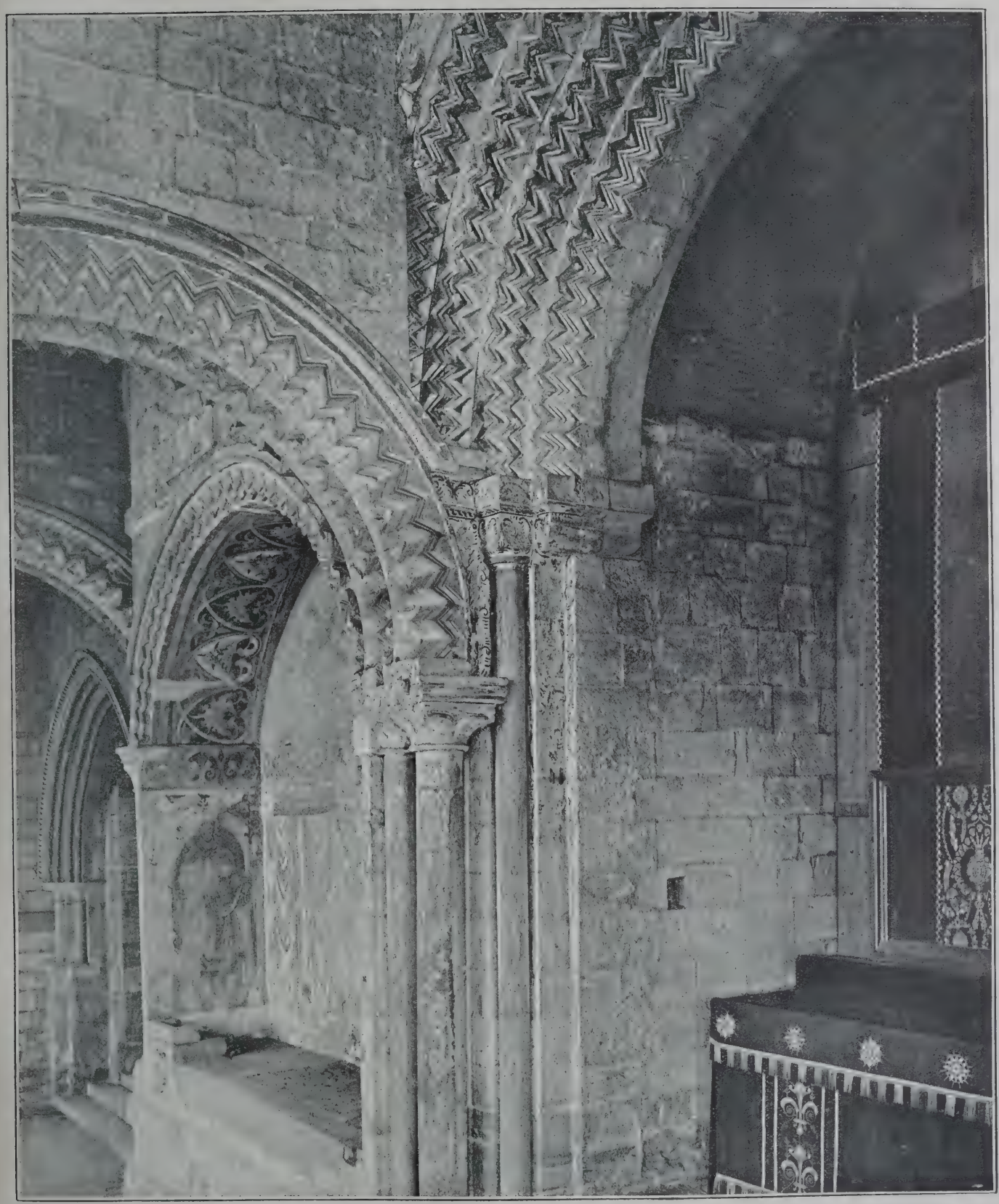




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CATHEDRAL SERIES, No. 183.—DURHAM, FROM BELOW THE WEIR.



PHOTOGRAPHED BY S. B. BOLAS & CO., 77 OXFORD STREET, W.

CATHEDRAL SERIES, No. 185.—DURHAM:

GALILEE, SHOWING JUNCTION OF GALILEE WITH WALL OF CHURCH.

The Architect.

THE WEEK.

IT is satisfactory to know that throughout England there are gentlemen in authority who are zealous to secure the safety of the people who attend performances in theatres, music-halls and other places of amusement. There would, however, be an advantage if they did not form rival bodies, and if a builder or lessee after having satisfied one of them discovered that he was not to go through the ordeal *de novo* with the rest. In the hurry of arrangements for opening, a perplexed lessee is likely to forget some of the authorities who have to be assured that he has not laid a trap for the public, and in that case the value of his property runs the chance of being diminished, for the majority of seekers of amusement cannot believe that a mere formality is sufficient to call for the interference of a magistrate. A case of the kind has just occurred in Nottingham. An ex-lessee of a "palace of varieties" was summoned because alterations were made without the approval of the licensing justices. The defendant was no longer associated with the building, but as his name was on the license he was considered to be still responsible. It was admitted that the offence was not wilful, and that the case was brought before the Bench not so much for the penalty, which was 20*l.*, as to make clear to owners, architects, builders and others who had anything to do with alterations of such premises that their responsibilities were serious, and that they ran risks if they did not adhere entirely to the conditions. It was not disputed, however, that the plans were submitted to the Works and Ways Committee of the Nottingham Corporation as well as to the Watch Committee, that the premises were inspected by an official, who offered suggestions which were duly carried out. What made the case more extraordinary was that the magistrates were members of the committee, and were therefore in one capacity called upon to condemn the work of which they approved in another capacity. A pantomime could not have a more strange incident. It would be ridiculous to have imposed a fine in such a case, and accordingly it was dismissed on the payment of costs. But the hope was expressed that the case would serve as a warning to owners, architects, builders, &c. We have nothing to do with questions of municipal and magisterial etiquette, and if the law allows quarrels over straws every one engaged must accept the consequences. But we should like to know what assistance is possessed by the ordinary bench of magistrates to enable a judgment to be formed about the security of a complex building like a theatre. A municipal committee can have the services of the borough surveyor at command, but a county surveyor would be amazed if he were called from one end of a county to give advice in such a case as that related.

ALL visitors to Edinburgh have pointed out to them the house which is supposed to have served as a residence for JOHN KNOX. It is in the Netherbow. Sir DANIEL WILSON says it was secured for him, and the rent paid by the city treasurer was "eight merks." There, we are told, he entered on his duties as minister of St. Giles's, there he lost "the brave and faithful wife who had shared his earlier privations and sufferings," there he brought his second wife, and there hospitably entertained his friends. When the High Street became the battle-field of queen's men and king's men KNOX had to abandon his manse, but on his return to Edinburgh, says WILSON, "in the absence of other evidence we may welcome such guidance as tradition supplies, and still think of the house that has so long borne his name as the lodging where his last days were spent." From a paper which was read by Mr. ROBERT MILLAR, the late Lord Dean of Guild, before the Society of Antiquaries of Scotland on Monday, the belief which connected JOHN MOSMAN'S house in the Netherbow with the Reformer can only be traced back to a popular guide-book called "STARK'S Picture of Edinburgh," published in 1806. It appears, moreover, there was another JOHN KNOX who possessed property near the Netherbow, whose name was used to mark off the boundaries of properties from 1561 to 1681. Probably STARK was thus led to the identification of the house now called JOHN KNOX'S, on the supposition that there could have been no JOHN KNOX but the Reformer. Mr. MILLAR has made an exhaustive investigation of the Council records, the Dean of Guild's accounts and the protocol books of the city of Edinburgh, in order to ascertain where JOHN KNOX lived in Edinburgh, and has arrived at the following conclusions:—For a few months in 1560 the Reformer seems to have been temporarily accommodated in more than one house, but all in the immediate vicinity of St. Giles. Before the end of that year, however, he had become the tenant of ROBERT MOWBRAY'S house, which stood on the east side of the close now known as Warriston's, with a tenement between it and the High Street, and was, in fact, on part of the site of the new Council Chambers. This he occupied from 1560 to 1566. In 1568 he was found occupying a house belonging to JOHN ADAMSON and BESSY OTTERBOURNE, but as they possessed three houses it was not certain which of the three was the one occupied by KNOX. Two were situated on the line of the east side of the present St. Giles's Street, and the third stood on the site of the recently removed poultry market, at the south end of the space to be occupied by the new offices of *The Scotsman*. No reference has been found that could afford identification of the residence of KNOX after November 1569. He left Edinburgh in May 1571, returned to it in August 1572 and died in November following.

IT is somewhat characteristic of a national weakness that while we are reproving foreigners for vandalism, a rather discreditable example of it is about to be perpetrated in Southampton. The Bargate compensated for the commonplaceness, which is inevitable in a modern port. The municipal council have decided that it interferes with the traffic, and they intend to remove it. They can say they are only following a metropolitan precedent, but the Bargate is not comparable with Temple Bar, and is not so much of an obstacle to locomotion. A history which has appeared in the *Southern Daily Echo*, proves the Bargate to be a structure of various periods, beginning with the Norman. It is connected through a variety of circumstances with English as well as local history. As the author of its history says:—"The Bargate pleads in all its architectural and antiquarian grandeur to be left alone, and we hope public sentiment will declare it has a claim to preservation. Desperate diseases, it is said, require desperate remedies, but there is no rule without an exception, and in the case of the Bargate the 'disease' is not so desperate as to require such an unheroic remedy as some people propose to apply to it."

THE forty-first session of the Society for the Encouragement of the Fine Arts has commenced. The first lecture will be given on the 19th inst. by Mr. J. S. SHEDLOCK on "CHOPIN: His Mazurkas, Polonaises and Preludes," with musical illustrations. During the session the following subjects will be treated:—"The Sacred Lake of the Incas," by Mr. JOHN WILSON; "The Elements of Design in Painting," by Mr. T. R. SPENCE; "The Diary of a Sarum Worthy of the Seventeenth Century," by Mr. E. DORAN WEBB, F.S.A.; "Some Goldsmiths and their Work," by Mrs. PHILIP H. NEWMAN; "The Growth of Art in our Public Schools," by Mr. ROBT. CAMERON, M.P.; "Lithography: Past and Present," by Mr. HENRY HEWKLEY; "The Schools of Painting of Sicyon and Ephesus," by DR. J. S. PHENÉ.

A POLISH lady has, it is said, purchased the Palazzo Sciarra in Rome for about 60,000*l.* It is not one of the best examples of its class. It was erected in the beginning of the seventeenth century from the designs of FLAMINIO PONZIO. The doorway is by some authorities ascribed to ANTONIO LABACCO, and by others to VIGNOLA. What has made the building remarkable is the wonderful collection of pictures, which was considered to be unsurpassed by any private gallery in Rome. In an excavation made in the Piazza Sciarra the ancient pavement was discovered, with fragments of columns, an inscription, and a gold medal. It is supposed that the triumphal arch which was erected as a memorial of the Emperor CLAUDIUS for his conquest of Britain stood there.

"'TIS SIXTY YEARS SINCE."

THE success of SCOTT'S "Waverley" has induced people to suppose that a period of sixty years is sure to be marked by great revolutions. Writing in 1804, he was able to contrast a "weak piping time of peace" with the warlike era of the Forty-five. It seemed incredible then to some sceptics that people could be living who had witnessed such feudality as is represented as existing at Glennaquoich, and which not even the necessities of a warlike expedition were able to control. SCOTT took great pains to demonstrate how real was the base on which his novel was raised. His models were the surviving "folks of the old leaven" he had known in his childhood. Many of the incidents introduced were, he says, received from the men who were actors in them.

Whatever may be the extent of social revolutions in a period of sixty years, it must be owned that with the arts it is not possible to have such marked contrasts in any modern period. New inventions may arise in those which are connected with science, but with the fine arts the case is different. In the latter so much depends on a few remarkable men who are endowed with special gifts by nature, it seems unwarranted to draw a conclusion between the merits of different periods. The artist is the child of his time, as SCHILLER says, but the power which makes him great is not derived from the Government he has to obey, or the people he daily encounters. We can analyse the character of his art, and give credit to the influence around him as one of the factors which gave it character; but, however exhaustive may be the process employed, there is always some element left which is beyond our tests.

Let us, for example, turn to the year 1839, and begin with the exhibitions. In the Royal Academy of that year were seen works by Sir DAVID WILKIE, C. R. LESLIE, DANIEL MACLISE, J. MALLORD TURNER, W. MULREADY, EDWIN LANDSEER, W. COLLINS, C. R. EASTLAKE, W. ETTY, not to mention others. Each of them had a manner of seeing things which distinguished him from earlier and later painters. Frequenters of the Academy exhibitions who will prize that which is forthcoming in the summer would not object to seeing such works on the walls as TURNER'S *Ancient Italy*, *Modern Italy*, *The Fighting Téméraire tugged to her last Berth*, WILKIE'S *Sir David Baird discovering the Body of Tippoo Sahib*, EASTLAKE'S *Christ Blessing Little Children*, MACLISE'S *Robin Hood* and *Gil Blas*, ETTY'S *Pluto carrying off Proserpine*, HERBERT'S *Brides of Venice*, which were in the exhibition of 1839. It was not considered a fortunate year by contemporary amateurs, but there were pictures then seen which deserve to be remembered. It is possible that the standard of the majority of painters in 1839 was lower than what now prevails, and, it must be owned, some works which were produced sixty years ago might never have existed so far as the present generation is concerned. It is, however, always best to judge a period by its best products, and if so tested, it is not apparent that 1899 will be much superior to 1839.

There can be little doubt that the architectural drawings of 1899 will be of a more attractive nature than those which were to be seen sixty years ago. But the ordinary art critics will not condescend to cast an eye on them, and in their indifference they are simply following their predecessors. In one of the journals of 1839 only a single drawing in the architectural collection was noticed, viz. OWEN JONES'S *View of the Alcove in the Hall of the Two Sisters in the Alhambra*. It owed its distinction to the gorgeous colour, which was made more sparkling, but not more artistic, by a liberal use of gold leaf on the ornamentation. The most important architectural drawing was the *Staircase of Goldsmiths' Hall*, by P. HARDWICK. He was not elected an Associate of the Academy until November. There was a measured drawing by C. J. PIERCE of the *Interior of the Madeleine, Paris*. W. RAILTON, who was in the course of the year selected to be the architect of the NELSON Column, contributed a view of the *Residence now erecting for the Bishop of Ripon*. There was a drawing of the *Eagle Tavern, City Road*, by the architect, P. S. PAUNET. The building has had many tenants and its life has come to an end, but in 1839 it was supposed to mark the beginning of a revolution in the character of the minor theatres. An innovator of that time who hoped to accomplish a reform of the arts by a close imitation of the work of an earlier period was WILLIAM DYCE, M.A., of Aberdeen. He sent a drawing entitled *Design for the façade of a Chapel in the style practised by the scholars of Giotto, in Upper Italy; intended to illustrate the polychromatic decoration of the end of the fourteenth century*. Afterwards Mr. DYCE was enabled to exercise much influence on the Government Schools of Design, and like subsequent directors without much profit to the country. Among other designs were those by H. E. KENDALL for *Chapels at the Rochester and Chatham Cemetery*, and for *Chapels, Westminster Cemetery, Earl's Court*, by T. ALLOM, B. BAUD and H. CASE. Amidst such neighbours it is no wonder OWEN JONES'S drawing dazzled the visitor, and from the effect produced the introduction of an Alhambresque style into England could not have appeared unlikely to the artist. JONES was, however, disappointed then and afterwards. Fortunately for him, he was able to employ the style in a humbler class of work.

At the time Classic in some form held sway. It was in 1839 the Gresham committee invited designs for the Royal Exchange. It was stipulated that "the new building be of the Grecian, Roman or Italian style of architecture, having each front of stone of hard and durable quality." There was some dissatisfaction caused by the demand of one pound for a lithographic plan of the site. The designs were submitted to Sir ROBERT SMIRKE, JOSEPH GWILT and PHILIP HARDWICK. On their recommendation the first premium of 300*l.* was awarded to WILLIAM GRELLIER, district surveyor; the second of 200*l.* to a M. DE CHATEAUNEUFF, of Hamburg, and ARTHUR MEE; and the third of 100*l.* to SYDNEY SMIRKE. The designs by WYATT and BRANDON, J. PENNETHORNE, T. L. DONALDSON, RICHARDSON and MOCATTA were selected for commendation. The Gresham committee in adopting the report requested the assessors to prepare a plan and specification for the Exchange from the premiated designs. They did not carry out the proposed manipulation. WILLIAM TITE and GEORGE SMITH, the surveyor to the Mercers' Company, were then asked to advise the committee. TITE declined. SMITH was handicapped, as GRELLIER had been his pupil. To endorse the decision of the judges would be to incur a suspicion of favouritism, to go against it would be assuming superiority to them. Under those circumstances so astute a practitioner as WILLIAM TITE could hardly fail to exercise his diplomatic powers most efficiently, and eventually he was entrusted with the work.

Another competition of which the result was unexpected was that for the Nelson Monument in Trafalgar Square. The committee of subscribers, on the advice of a sub-committee, adopted WILLIAM RAILTON'S design, which the author described as "well calculated to portray to posterity the progress of two sister arts at this period of the nineteenth century; and, withal, will not exceed the amount of the subscription." The column was said to be an enlargement of one of those at the National Gallery, which were taken from Carlton House. It was also foreseen that the hero would appear like a mastheaded midshipman. As ALBANY FONBLANQUE said, "To stick up an admiral at the masthead is much the same sort of thing as putting a grown gentleman into the corner with a fool's-cap on his head." But no ridicule could prevail with the committee.

A competition, or rather two, which ended in the erection of a noble building, took place in 1839. It was announced that the Council of the borough of Liverpool, having determined on the erection of new assize courts for the southern division of the county of Lancaster, were ready to receive designs for that building, for the erection and completion of which it was proposed to appropriate a sum not exceeding 50,000*l.* A premium of 300 guineas was to be paid for the design which the Council considered best adapted for the purpose, and 200 guineas for the second best. It was followed by another invitation for the erection of St. George's Hall, Liverpool, for concerts and other purposes. HARVEY LONSDALE ELMES, the son of JAMES ELMES, the biographer of WREN, was successful in both competitions. Arrangements were made to treat the two buildings as one, and the success of that plan has been confirmed by all who have visited Liverpool.

The principle of competition was admired by many architects in 1839, otherwise there would not have been

seventy-five designs sent in for the St. George's Hall. The benefit of the system was, however, counteracted too often by intrigue and jobbing. In the competition for the General Post Office ROBERT SMIRKE took no part. Before any decision was arrived at he was directed, as if there were no designs under consideration, to study the business transacted in the departments, and then to prepare a plan. THOMAS HOPPER, one of the competitors, maintained that his design was the basis of SMIRKE'S, and he published a pamphlet addressed to Lord MELBOURNE, with plates of the two, in order to expose the weakness of the competition system under circumstances which should guarantee fair play.

The most important building in progress during 1839 was BARRY'S Parliament House. It was necessary to construct an embankment, and for that purpose Messrs. WALKER & BURGES designed a coffer-dam. The wall was faced with granite, and has stood remarkably well against the force of the Thames floods. When the embankment was nearly complete tenders were sought for the erection of the front of the building and projecting wings. The amounts varied from 184,639*l.* to 159,718*l.* The latter came from Messrs. GRISSELL & PETO, of Lambeth, and was accepted. When the quantity of masonry to be executed is taken into account and the character of work demanded, the sum appears moderate. In 1839 prices were low, for labour was cheap. The trades union rate for mason's wages was 24*s.* a week, which in the course of the year was raised to 26*s.* It is easy then to understand how such a church as St. Mary's, Islington, accommodating 1,100 worshippers, could be erected for 3,500*l.* Bricks in 1839 were by a new Act subjected to a duty of 5*s.* 10*d.* per thousand when the size did not exceed 150 cubic inches. For those of a larger size the duty was 10*s.* per thousand. The charge was to be imposed while the bricks were drying, and the allowance for waste was 10 per cent. The only exemptions were bricks which were to be used for drainage of wet and marshy land, and for that purpose every brick was to be marked clearly with the word "drain," in order to be legible to the excise officers when visiting the brickfield.

The embankment of the river before the Houses of Parliament caused some apprehensions about the safety of Westminster Bridge, which was the last of the old Thames bridges. It might be considered as having an existence of a century, for although it was not completed until 1747, the foundation-stone was laid in January 1739. LABELEYE was the engineer, and the contract price was 28,000*l.* In order to keep the piers secure it was decided to sink piles about them and to carry out various repairs, for which the estimate was 103,000*l.*, an amount which suggests the increase in the cost of construction during a century.

A still older bridge was supplanted by a new structure that was opened for traffic in the early part of 1839. We refer to Bow Bridge. The bridge had endured over seven hundred years, for it must have been constructed between 1100 and 1118, since that was the period during which Queen MATILDA reigned, by whom it was ordered. At the time of its removal the arches were flat pointed or Tudor, which suggested they could not be older than the end of the fifteenth century. Originally the form was semicircular. Why it was called Bow Bridge cannot be ascertained. The engineers were JAMES WALKER and ALFRED BURGES. The latter was the father of WILLIAM BURGES, the architect, and survived his son. The report stated that very little attention appears to have been paid by the original builders to uniformity, as scarcely two corresponding points in the structure were found to agree. The springing courses were on different levels, and the piers were unlike in width and length. Another discovery was that originally the superstructure was not covered with gravel or paving to form a roadway. The traffic passed upon the masonry, in which ruts were worn in parts to a depth of nine inches by the wheels of waggons, and here and there were holes caused by horses' feet.

A London improvement which was talked about in 1839 was the embanking of the Thames. The Corporation informed the Commissioners of Woods and Forests that the time had arrived when "a survey and plan should be made of the river Thames, for the purpose of ascertaining the most desirable line of embankment on both sides of the river from London Bridge to Vauxhall Bridge, and also the expenses of making the proposed embankment, and of excavating and deepening the bed of the river where required; and that a Bill should be brought into Parliament in the next session for embanking the river Thames, according to a plan to be agreed on, in which power should be given to the Commissioners of Woods, &c., to embank the bed and soil of the river opposite the Crown property, and that power should be given to the Corporation either to embank themselves, or to permit the owners of the wharfs and property on each side of the river to embank, under their directions, upon such terms as may, upon consideration, be thought desirable; half of the expense of the survey and of the Act of Parliament to be borne by the Commissioners of Her Majesty's Woods, &c." JAMES WALKER, who was the Government referee in all cases of hydraulic construction, was appointed to undertake the inquiry. Many years had to elapse before an attempt was feasible to realise the project, and although much has been done yet there is still no quay on either side extending to London Bridge.

In the obituary of architects the most important name is that of the designer of the National Gallery, WILLIAM WILKINS, who died in his sixty-first year on August 31. He attained distinction in Cambridge, and on his return from Greece he found commissions awaiting him. He was the original architect of University College, and among his works are St. George's Hospital, and University Club House. Haileybury College, is another of his works. He designed the Nelson Columns in Great Yarmouth and Dublin. At Cambridge his skill was often called in. He was the architect of Downing and Corpus Christi Colleges, and of the additions to Trinity and King's. WILKINS did not neglect literary work. He brought out an edition of "Vitruvius," and was author of "Antiquities of Magna Grecia," "The Topography and Buildings of Athens," and "Prolusiones Architectonicæ." WILKINS was a Royal Academician and Professor of Architecture. In one sense he was unlucky, for there was a prejudice excited against him which nothing he was able to perform could overcome. Another architect passed away in 1839 who had gained much repute among managers of theatres, viz. RUDOLPH CABANEL. He was a German, and was understood to be acquainted with all the mysteries of stage construction. The old Coburg Theatre was designed by him, and he devised a roof which bore his name long after his death. GEORGE SAUNDERS, F.R.S., should also be mentioned, for he was formerly architect to the British Museum, where he built the Townley Gallery; he was a diligent and learned antiquary, and the author of a very interesting and valuable paper containing the results of an inquiry concerning the condition and extent of the city of Westminster at various periods.

Among the painters who expired in 1839 the best known was Sir WILLIAM BEECHEY, an Academician since 1797, and the first who received knighthood on REYNOLDS'S death. He was born in 1753. The *beau monde* patronised him, and Queen CHARLOTTE appointed him to be her portrait-painter. Another veteran was HENRY SINGLETON, who died in his seventy-third year. He was an artist for whom there was no progress, and to the end he preserved the style of treatment to which he was initiated in his youth.

In those days it was considered a necessity to devise schemes of reform for the Royal Academy. A collection of them suggests how hopeful are aggrieved artists and amateurs, for they should know the Academy is incorrigible. Poor HAYDON, who tried so often, consoled himself, in his pamphlet of 1839, by saying that no distinguished artist was ever produced by an Academy, and that the days of the Royal Academy were numbered. More satisfactory to the bailiff-hunted artist was his conviction that "a feeling is generating, a taste spreading, which in the end must beat down all opposition, and render doubts of our genius in 'high art' absurd." HAYDON could not have foreseen how his high art pictures in the Egyptian Hall were to be unvisited while crowds were rushing to see "Tom Thumb." Another reformer of 1839 was EDWARD EDWARDS, who held that the Academy could strengthen its functions by the adoption of four heroic measures, which were as follows:—

(1) In the separation of its functions as assembly of honour and as school of instruction from those which are connected with the annual exhibition, confining it wholly to the former. (2) In the removal of the limitation as to the number of its

members; the recognition of engravers as full members, forming an integral part of the academic body; and the abolition of the class of associates. (3) In the appropriation of such a sum from public funds as shall be sufficient, when added to the proceeds of the funded property at present possessed by the Academy, to provide for the liberal increase of its means of instruction—as lectures, collections and the like—and for its future permanent maintenance as assembly and as central school; and (4) in adequate provision for the official inspection of its schools, and for the publication of periodical reports upon its general proceedings.

The list of prize-winners of 1839 was, however, suggestive that with adequate materials the Academy could turn out able artists. JOHN HENRY FOLEY obtained the silver medal for the best model from life; FROST the gold medal for historical painting; EDWARD FALKENER (who afterwards wrote "Dædalus") the gold medal for the best architectural design; HENRY LE JEUNE, now a Honorary Retired Associate, a silver medal for a copy made in the painting school, and the award of a medal for a drawing from life; FREDERICK STACKPOOLE, who is also on the retired list, a medal for a drawing from the antique; THOMAS HAYTER LEWIS, a silver medal for a drawing of the University Club House, Pall Mall. There were other prizemen who did not produce much to uphold the reputation of the Academy, but those we have named turned their teaching to good account. The fame of FOLEY is not yet diminished, and may endure for another period of sixty years.

In 1839 there were many people who believed the days for the arts of representation were over, for the glorious sun was to stay in his course not merely to play the alchemist but the artist. DAGUERRE, the French scene-painter, had exhibited examples of his sun pictures. FOX TALBOT claimed priority for his photogenic drawings. During a great part of the year there was a controversy on the subject, and it must be said justice was rendered to the foreigner. In one of FOX TALBOT'S numerous and lengthy statements we find the following description of an apparatus which anticipated those in use by modern architectural photographers:—

> The most curious application of this art is the one I am now about to relate. At least it is that which has appeared the most surprising to those who have examined my collection of pictures formed by solar light. Everyone is acquainted with the beautiful effects which are produced by a camera obscura, and has admired the vivid picture of external nature which it displays. It had often occurred to me that if it were possible to retain upon the paper the lovely scene which thus illuminates it for a moment, or if we could but fix the outline of it, the lights and shadows divested of all colour, such a result could not fail to be most interesting. And however much I might be disposed at first to treat this notion as a scientific dream, yet when I had succeeded in fixing the images of the solar microscope by means of a peculiarly sensitive paper, there appeared no longer any doubt that an analogous process would succeed in copying the objects of external nature, although indeed they are much less illuminated. Not having with me in the country a camera obscura of any considerable size, I constructed one out of a large box, the image being thrown upon one end of it by a good object glass fixed in the opposite end. This apparatus being armed with a sensitive paper was taken out in a summer afternoon and placed about one hundred yards from a building favourably illuminated by the sun. An hour or two afterwards I opened the box, and I found depicted upon the paper a very distinct representation of the building, with the exception of those parts of it which lay in the shade. A little experience in this branch of the art showed me that with smaller cameræ obscuræ the effect would be produced in a smaller time. Accordingly I had several small boxes made, in which I fixed lenses of shorter focus, and with these I obtained very perfect but extremely small pictures, such as without great stretch of imagination might be supposed to be the work of some Lilliputian artist. They require, indeed, examination with a lens to discover all their minutiæ.

Photography by itself was sufficient to make 1839 memorable.

A Meeting of the Society of Biblical Archæology was held on Tuesday, when Dr. Gladstone, the chairman, referred with regret to the recent death of Professor Hayter Lewis, in whom, he said, the Society had lost a distinguished member, and one whose friendship was valued by all who knew him.

MAINS FOR ELECTRICITY SUPPLY.

By F. J. WARDEN-STEVENS.

(*Continued from page 9.*)

HAVING dealt with the actual cables and methods of laying them, the details of joint boxes and service connections will be of interest.

Joint Boxes.—Of course, whether mains be direct-laid or drawn-in, there is a limit to the length of a cable. This is the length in which it is made, and in the case of a feeder does not exceed 440 yards at the outside. It is therefore necessary to make joints even in feeders. In distributors there have to be more frequent joints for the purpose of house services, and so there are two classes of joint boxes—one for a simple connection and the other a tee connection for services.

With a direct-laid or built-in system there are as a rule very few, if any, joint boxes appearing on the surface, they being usually of cast-iron filled in with a suitable semi-solid compound and buried. With lead-covered cables, the lead covering is sweated to a brass tube which is then screwed into the iron box. These iron boxes are of sufficient size to allow of the two cable ends being connected by means of clamps and copper bars. The copper connecting pieces provide for a cable being continuous without any actual joint. The covers of such boxes are generally clamped down on to a rubber or similar packing, the box then being filled with the compound. This in the case of tee joints is a usual course, but in some cases a much simpler joint box is provided—a casting the shape of the joint, whether tee or straight, is used, being made in halves. The joint is made in the usual manner, and some packing is wound round the cables where they pass through a gland in the casting; the two halves are clamped together over the cables, squeezing the packing, and the whole is filled in with compound.

In the case of a drawn-in system these joints are placed in brick chambers, which are of two kinds, those for drawing-in purposes and those for service connections. The first named are comparatively large, and are provided with street covers, which should be watertight, and at the same time ventilated. With conduit systems there is a considerable danger of gas being admitted through leakage, and as a consequence there is danger of explosion either in the boxes or conduits. This has been provided against by erecting ventilating shafts to boxes, but they have not proved very successful, as there is no circulation unless an inlet is provided as well as an outlet. Artificial ventilation by means of fans has been supplied in some cases to keep conduits clear. In other cases the course is adopted of filling all boxes with sawdust or wood blocks, thus reducing the space available for gases to collect. It must be borne in mind that all conduit systems, whether bare copper or otherwise, are partly liable to explosions, and that nothing but good ventilation and insulation will prevent such explosions. Gas will percolate through the soil, and will get through almost anything. An electric spark will ignite such gas, and the damage is done. It is only with direct-laid systems that this danger is altogether averted, and in such systems the street boxes, if any, can be thoroughly sealed. Service boxes used with conduit systems are usually small brick chambers which contain a simple joint box, as previously mentioned.

Drainage.—The drainage of a system of mains and joint boxes requires great care, especially with the bare copper system. A very usual and effective method, where the drainage system in a town is good and the sewers are never full, is to lay the conduits with a slope to certain boxes and to connect these through a trap to the sewers. Any water will then pass away, but it must be borne in mind that should for any reason the water back from the sewer to the mains considerable damage may be done, and even the non-return traps are not safe; they may stick at the critical moment.

Services.—Service connections are generally run in iron pipes, but this is not altogether to be approved. The objections are that this method is not sufficiently flexible to overcome obstacles such as drains, gas and water

services, which may be also entering the premises, and also it forms a passage by means of which objectionable odours may be introduced into the premises. Lead-covered or armoured services are more flexible and convenient, or one of the solid bitumen system may be used. Service connections should be arranged so that they may be attached or detached while the current is on, as it is not advisable to discontinue the general supply too frequently. The service boxes are often arranged with clamped connections and simple switches in the boxes, in order to attain this end.

Conditions of Use of the Various Systems.—It is, of course, impossible to specify the exact conditions which will make it advisable to use a particular system, but some idea can be given.

The overhead system is, according to the Board of Trade regulations, permitted for electric lighting only in districts which may be particularly defined as "rural," although for tramway purposes they are allowed in towns. It is somewhat to be regretted that this is the case, as for small towns and straggling districts this system offers particular advantages, and renders electric lighting possible in many circumstances where without it electricity could not be economically distributed. The great advantage of overhead cables is that the cost of fixing is very low. With underground mains it costs as much to lay a small cable as a large one, and in consequence where cables are small the cost of laying is more than that of the cable.

The overhead system offers facilities for extension, which is a considerable advantage when it is desirable to commence an electric-lighting undertaking on a small scale, owing to uncertainty as to the demand probable; then, as the demand increases, the capacity of the cables can be easily increased. This system is also of importance when it is desired to light the whole of the streets in a country town, in some of which there may be no possibility of a private demand, and therefore would not justify the expense of underground mains. It is generally considered that the overhead cable system for electric lighting seems to be of a temporary nature, and in consequence very little attempt has been made to improve it. If some of the restrictions at present placed upon the use of overhead cables were removed, there is little doubt but that both the appearance and reliability would be very much improved.

In the overhead system the cables, which may be either bare or insulated, are supported on wood or iron poles by wall brackets or by standards on roofs, the method of fixing depending upon the conditions as to width of streets, relative cost of iron and wood poles in the district, the cost of obtaining wayleaves, &c. In fixing bare cables, they are supported on insulators attached to cross-arms. These insulators must be sufficiently strong to stand the strain of the cables, and the cables must also be strong enough to carry their own weight. When of copper the cables are hard drawn, in order to increase their tensile strength. If the cables are insulated, they are supported by thongs to steel wire at intervals of about 1 foot. The steel wire takes the weight and protects the insulation on the cables.

The Board of Trade regulations lay down the law that the supports for overhead cables must not be further apart than 200 feet, or 150 feet if the line is not straight, and every metal support must be efficiently connected to earth. Every support must be properly stayed against wind pressure or forces caused by changes in direction of the line or unequal lengths of span. The maximum pressure of the wind is taken as 50 lbs. per square foot, and the strength of the cables as being equal to not less than six times the forces applied, and the support twelve times. The minimum height of the cables is 18 feet above ground, or 30 feet crossing a street, or within 5 feet horizontally and 7 feet vertically from any building or erection other than the support, except where brought into a building for purposes of supply.

In making a service connection, the wires should be taken from the nearest pole to a point on the consumer's premises which cannot be reached except by a ladder, and insulated conductors should be taken into the building.

In the case of high-pressure cables, they must be insulated thoroughly, must be supported by a suspension wire by means of insulating thongs, and they should never be fixed to buildings. High-pressure conductors should, however, not be overhead in a public place, and in practice their use is generally confined to long distance transmission across fields, &c.

Direct-laid systems in the first place are not advisable where cables may have to be enlarged; under these circumstances it may be taken that a conduit system is the cheapest in the end. It is also obvious that a conduit system is of very little use if there are branches in the conduits between the drawing-in boxes, which effectually prevent a cable from being drawn out. This is usually the case with distributing mains. The only possibility is that cables may be drawn into the ducts to strengthen the distributors at a later date.

With distributing mains it is generally admitted now that they should be laid down at once of sufficient size to meet any future demand. If they should require increasing, the same effect can be produced by increasing the number of feeding points. It is therefore quite a usual practice to adopt a direct-laid system for distributing mains.

Of the direct-laid systems it may be said that the bare copper system is the best and cheapest where the conditions are favourable. In the case of insulated conductors the cost of insulation is heavy with large cables, while the cost of insulators in a bare copper system is practically the same, whether the conductors are large or small. A bare copper system takes up a considerable space, and is not flexible; it is therefore unsuited for use in a ground crowded with other pipes and culverts.

The direct-laid armoured system is suitable where there are no corrosive substances or gases in the soil; it is inexpensive, but the cost of service connections is high with this system. As a matter of fact, it is often adopted for feeders as well as distributors, and in cases where the number of services is small compared with the length of cable laid it is very suitable.

The laid-in bitumen systems are largely used for distributors; no armouring is required, separate cables can be used and service connections are easily made.

As has been previously mentioned, drawn-in systems are not so particularly suited for distributors as for feeders. In the former case services and tee connections have to be cut before a cable can be withdrawn, whereas with feeders there are no such connections. The feeder runs straight from the generating works to a point on the mains, and no tappings are taken for any purpose. It is also often necessary to alter the sizes of feeders, as when an undertaking is started it is difficult to estimate accurately the current a particular feeder will have to carry, and it may become necessary to alter the size later to suit the demand.

In deciding upon the particular conduits to use, local circumstances have a great effect. Prices of conduits vary in different districts; the nature of the ground, space available, and many other considerations arise which make it impossible to give any definite opinion.

In drawing in cables great care must be exercised, as otherwise the insulation may be damaged, strands in the cable may be broken and conduits may even be cracked. The work of drawing in must be supervised by a thoroughly qualified and experienced electrical engineer, and also care must be taken that the conduits are smooth on the inside. A winch is sometimes used for drawing in cables, but it is to be avoided and hand-drawing substituted if possible. By the latter method any serious obstacle is easily detected, while with the former the drawing in may be continued and the cable damaged.

Lead-covered cables are now used considerably for drawing-in systems, and special care is required in handling paper-insulated cables of this class, as they are rather brittle, and sharp bends may break the insulation.

A few of the chief regulations with regard to underground mains may be of interest here.

All metal conduits or pipes containing any electric mains must be efficiently connected to earth, and be so jointed and connected across all street boxes and other openings as to make good electrical connection throughout their whole length, and isolated lengths of metal pipe must be adequately earthed.

Where the conductors placed in any conduit are not continuously covered with insulating material, they must be secured in position, and no unfixed uninsulated material of a conducting nature must be contained in a conduit. No such conductor must be at a higher pressure (above

earth) than 300 volts. Adequate precautions must be taken to insure that no accumulation of water shall take place in any part of the conduit, and to prevent any dangerous access of moisture to the conductors or insulators, and the insulators must be so placed that they can be readily inspected.

Every portion of any high-pressure electric main placed above the surface of the ground or in any subway not in the sole occupation of the suppliers must be completely enclosed in a tube of highly insulating material embedded in brickwork, masonry or cement-concrete, or in strong metal casing efficiently earthed. A high-pressure electric main must not be used for the transmission of more than 300 kilowatts, or in the case of an overhead cable 50 kilowatts, except with the consent of the Board of Trade.

The maximum working current in any conductor must not be sufficient to raise the temperature of any part of its insulation to such an extent as to alter its properties, and such increase of temperature must never exceed 30 deg. F. The sectional area of the conductor laid in any street must not be less than the area of a circle of one-tenth of an inch in diameter, and where the conductor is formed of strands of wires each separate wire shall be at least as large as 1-20 S.W.G; this also applies in the case of an overhead cable.

The covers of all street boxes must be so secured that they cannot be opened except by means of a special appliance. All street boxes and conduits must be regularly inspected for the presence of gas, and if any influx is discovered the supplier must give immediate notice to the authority or company whose gas mains are laid in the neighbourhood of the street box.

It must be borne in mind that the mains are a most important part of any electricity supply undertaking, as upon them depends the continuity of supply. The mains cannot be duplicated as can the machinery at the works, and so it is even more important that they should be well designed. Further, the mains are not so accessible and cannot be examined daily. The consideration of being able to supply any consumer from two different directions is also of great importance, as otherwise a failure in one cable will cut off the supply. By a judicious arrangement of feeders and loops in distributors it becomes impossible for more than a few consumers at the most to be disconnected through a fault in any cable.

This now concludes the question of the mains and the methods of laying, and I shall next proceed to the systems of distribution and generation of electricity.

THE NATURAL HISTORY MUSEUM, BIRMINGHAM.

ALIKE as a teacher, constantly struggling to satisfy aspirations and realise ideals, and as having had some years' experience in responsible charge of a university museum at Cambridge, this question is of keen interest to me, says Professor Hillhouse in the *Birmingham Post*, and I may be pardoned for taking part in what appears thus far to be a "one-sided controversy."

Excluding buildings of a national character, the conception of the Natural History Museum at Oxford appears to me to be, from the conjoint public and teaching point of view, an ideal one, though naturally upon a somewhat broader scale than would be needed here. Essentially it consists in a large and lofty hall, with glass and iron roof supported upon ironwork of peculiarly light and graceful construction, amply lighted in all parts, and with floor and wall space occupied by exhibition cases constructed and arranged upon a uniform and logical plan. But the museum is also, as it always ought to be, the focus of systematic teaching; and around it are lecture theatres, laboratories and working rooms, all lighted from the outside, with their upper floor approached by a broad continuous gallery, which surrounds the exhibition hall, and adds to the floor and wall space available for exhibition purposes, though at Oxford this gallery is needlessly massive and darkening. If in the future the University of Birmingham were to erect a natural history museum for teaching purposes, it would doubtless endeavour to collect around it in the same way all the departments concerned in field natural science or anthropological teaching. At first sight it may seem a bold proposal, but is it quite out of the question that this same method should be adopted in Birmingham, and now? Let us start with one or two preliminary considerations. On the one hand we have a strong desire, many would say urgent need, which finds expression at frequent intervals, that our grand assemblage of municipal teaching institutions should have its one broad and patent gap filled by the erection of a natural history museum, to which hitherto site and finance have both been obstacles, the former having now ceased to be a difficulty. It is urged that no more humanising influence exists than is provided by a love for nature, that no development of the faculty of observation is so keen and true and healthy as that induced by the "field" sciences. For both purposes it is urged that a natural history collection open to free public access is essential. On the other hand there are very large collections—zoological, geological, botanical—already existing, in scattered form, for teaching purposes, of chief importance amongst them being the collections which will belong to our new university, which have long outgrown the space devoted to them, and as to the increasing needs of which the respective professors have for years past made annual appeals to a sympathetic but impecunious college council. Is it not possible for these two parallel needs to be economically and satisfactorily brought together? Birmingham is now engaged in building up an university which will be, in a broad sense, a municipal institution, and the honour derived from or due to which will redound to the honour of Birmingham as a city, just as fully as if it were financed directly from the municipal purse, just as fully, for example, as with the school of art. If the City Council were to decide to grant an annual sum to the university finances or to endow certain professorships, such as public health or bacteriology, though it might be a departure from the principle of exclusive control over money spent (not always insisted upon, by the way, as *e.g.* with the Drainage Board), it would only illustrate the fact that money given from the municipal chest to properly controlled objects, existing solely for public purposes, is money taken out of one public pocket and put into another, with the chance of occasionally losing a coin in the transfer, but the certainty of great material and moral gain. The whole principle of Government grants is based upon this.

Allow me, then, to put the present case in hypothetical fashion thus. Suppose the City Council to enter into reciprocal relations with the new university, the former to provide and maintain a public natural history museum of the Oxford type, with lecture-rooms, laboratories, working-rooms and offices for botanical, geological, zoological (and anthropological) purposes; the latter to transfer to this new building its existing departments as above, with their entire staffs and the large collection in their charge, and to wholly finance these departments for teaching purposes upon exactly the same lines as if they were retained in their present home; and the respective staffs to be required, as they now are, to look after the maintenance and proper display of the collections which thus far have been in large measure due to their own personal activities. What now would this "suppose" mean from the points of view of city and university? I take for granted that the museum would be open to the public, and that it would be developed upon lines which would provide whatever is desirable for public purposes, for, in point of fact, as every practical teacher knows, these differ in no essentials from purely educational needs. The City Council, representing the public purse, would construct the buildings as capital expenditure, and would provide an annual charge, represented by rent of site, general maintenance and repairs, wages for the attendance necessitated by the public use of the museum, for cleaning the public parts, and for sufficient working assistants for actual museum purposes. There would be no need whatever for a highly-paid staff of curators, this work being done by the staff of professors. An annual vote for specimens would also doubtless be needed, though much material might be expected from private gifts, Government gifts and loans, and the private activity of the professors in charge. The university, on its part, would provide and pay for the whole of the teaching and laboratory staff, and maintain everything required for its own particular teaching purposes, and its professional staff would act as a board of curators. The university would further hand over its own extensive natural history collections, worth probably some thousands of pounds. In other words, in return for the use of the special portions of the museum buildings devoted to systematic teaching, the university would provide skilled supervision for the public museum, which it and its professors would largely endow with specimens. The university, on its part, would naturally profit by the more complete facilities for teaching certain subjects, and by the freeing for other expansions of parts of the present college buildings now in use by these departments.

I venture to think that such an arrangement would be mutually profitable, relatively inexpensive, would save needless duplication or overlapping, and be in no wise one-sided in its material advantages. If by chance any should disagree upon this final point, may I once more revert to the general principle that from the point of view of our full civic life money given to or expended by City Council or university court is, in equal degree, money received and spent by and for the community at large? May I further venture to illustrate the potentialities,

of such reciprocal action by pointing out that for many years my own department at Mason University College has profited largely owing to the supervision of the Edgbaston Botanical Gardens having been so fully placed in my hands, while I would fain hope that some equivalent advantage has accrued to the Botanical and Horticultural Society and to the public generally. This is a small matter, but serves to show what might be expected upon a large scale from such reciprocal action as is suggested above.

TESSERÆ.

The Future of Art.

IT has been held by some that the progress of the arts may, or rather must, be unlimited; by others that they can now only experience decay; but their sensuous character and dependence upon emotion prevent either of these results from taking place—on the one hand, by limiting their progression, on the other, by preventing all possibility of their extinction. The passions and sentiments of man, although continually upfurrowed by moral and physical changes, which so alter the appearance of society that its product presents widely different characteristics at different times, in their grand features they remain as immutable as the senses themselves. A discovery in science or the recognition of a political principle may give variety to the exertions of man; but the continual renewal of his race is the continual renewal of the same desires, hopes and fears—love, grief and joy are constantly reborn; and it is only a truism to assert that in the passions are the foundations of art laid. Based on these, at once may be recognised the cause of the permanency and of the fluctuations of art—permanency as related to the constitution of man, which produces its constant renovations at different epochs; fluctuations that result from the direction that is given to the operations of the constitution amid those great changes which sweep in continual revolution the mind and condition of the human race, with such recurring tides that it would almost appear that the limits of the atmosphere of our globe not only bound a circumscribed portion of visible and tangible being, but also of intellectual and moral being.

Timanthes's "Sacrifice of Iphigenia."

It has been the fashion to illustrate the principle of leaving something to the imagination by the ancient picture of the "Sacrifice of Iphigenia," where we are told that Agamemnon, the father, was painted hiding his face in his robe. The expression of grief and horror had been given in the countenance of the other bystanders, and it was left to the imagination to divine what passion would have been depicted on the face of Agamemnon if that robe had been torn aside. Lessing, and after him Girardin, have indeed given a different account of the intention of the painter. The Greek artists, say they, sedulously avoided that distortion of features through excessive grief which was incompatible with beauty of form. They would tone down the expression, as Lessing argues that the sculptor did in the features of Laocoon, until it became consistent with the lines of beauty. Timanthes, therefore, finding that in order to render with fidelity the expression of Agamemnon, he must admit such a distortion of the features as would violate this rule, chose rather to veil the countenance. But we would suggest that something else must have weighed with the artist; for if it was an acknowledged principle of Greek art rather to sacrifice a portion of the passion, so to speak, than to admit a distortion of the features, why should Timanthes have felt any scruple, in this instance, in modifying the expression of the father's countenance in obedience to a known rule of art? Why should he have thought himself obliged to resort to the expedient of concealing the face? Is it not more likely that Timanthes painted Agamemnon in the attitude he did, simply because it was the most natural—because it was, in fact, the only attitude in which it was possible to conceive a father present at the sacrifice of his own daughter? Other spectators might have looked on with different degrees of grief or horror, but we feel that the father could not look; he must veil his head. This natural attitude, bespeaking the grief it only seemed to hide, was no doubt highly expressive.

Picts' Houses.

There are stone remains in Scotland of a dreary and mysterious darkness—the Picts' houses, or Eird houses of the north, belonging to an age who shall say how many centuries older than that of the old square keeps? You enter crawling along a cavernous drain-like passage, which descends and widens into a chamber. This chamber may be from 3 to 6 feet high and 20 or 30 feet long. Its sides are made of rough huge stones, laid on each other so that the walls converge upwards, where great blocks of granite are laid across them. You pass through a lateral narrow opening, and enter another chamber of a like character. Some of these houses have three or more chambers. They are met with in fields, where the husbandman has for centuries passed the plough over them, unconscious of their existence, or of any farther peculiarity than a slight ascent, with a projecting stone or two dangerous to the plough. Nor are these cavernous edifices mere rare anomalies. In some places, and chiefly in the upper basin of the Don, there are complete villages of them. Professor Stuart, in a paper read to the Antiquarian Society of Scotland, mentioned between forty and fifty as the number opened in one parish. It is in the Orkney Isles, however, that they are found on the largest scale, and most elaborately built. The tradition of the country, not unnaturally, associates these and other mysterious antiquities with a race which, according to the popular but now superseded history of Scotland, was extinguished in conflict with the nation now occupying the soil. Hence they are deemed the dwelling-places of the Picts or Pechts, being endowed with elvish faculties and malign propensities. They are supposed to have been of superhuman strength, but diminutive and dark, and no wonder when such were their habitations. With the Orcadians, the possible existence of a lingering remnant of the Pechts, dwelling in the recesses of the earth, is still a matter of substantial apprehension. Mr. Stevenson, the engineer, the father of the author of 'Treasure Island," when passing through Orkney on lighthouse business, was called upon by the people of a small tavern to decide for them a very important point. A being was then asleep in one of their beds whom they verily believed to be a remnant of the accursed and not quite extinguished race—so diminutive was he and so black withal. Now, if their suspicions were well founded, they would be under the disagreeable necessity of putting him to death, and this was just the question which Mr. Stevenson, being a lighthouse engineer, should decide for them. On entering the chamber, Mr. Stevenson, with curious sensations beheld, in unconscious and peaceful repose, the familiar face of an old schoolfellow. He was a being of slender proportions and not very comely visage, but of a restless, enterprising, enthusiastic character, being no other than the Rev. John Campbell, subsequently renowned in African missionary history. Did, then, human beings live here in chambers not much wider than graves, in contact with the slimy walls and with the company of a few snails and toads?—no rats, for the rat would not inhabit such a place. That houses of this laborious structure should have been built for the people at large is out of the question, so that we must suppose them to have been in a manner the mansions of the aristocracy.

The Ruins of Baalbec.

On all sides are gates of marble of prodigious height and magnitude; windows or niches fringed with the richest friezes; fallen pieces of cornices, of entablatures, or capitals; magnificent vaulted roofs; everywhere a chaos of confused beauty, the remains of which lay scattered about or piled on each other in endless variety. So prodigious was the accumulation of architectural remains that it defies all attempt at classification or conjecture of the kind of buildings to which the greater part of them had belonged. After passing through this scene of ruined magnificence an inner wall is reached, and from its summit the view of the interior is yet more splendid. Of much greater extent, far more richly decorated than the outer circle, it presents an immense platform in the form of a long rectangle, the level surface of which is frequently broken by the remains of still more elevated pavements, on which temples to the sun, the object of adoration at Baalbec, had been erected. All around that platform were a series of lesser temples — or chapels, as we should call them—decorated with niches, admirably carved, and loaded with sculptured ornaments to a degree that appeared excessive to those who had seen the severe simplicity of the Parthenon or the Colosseum. But how prodigious the accumulation of architectural riches in the middle of an eastern desert. Combine in imagination the Temple of Jupiter Stator and the Colosseum at Rome, of Jupiter Olympius and the Acropolis at Athens, and you will yet fall short of that marvellous assemblage of admirable edifices and sculptures. Many of the temples rest on columns 70 feet in height and 7 feet in diameter, yet composed only of two or three blocks of stone, so perfectly joined together that to this day you can barely discern the lines of their junction. Silence is the only language which befits man when words are inadequate to convey his impressions.

The International Archæological and Anthropological Congress, at Moscow, decided to hold the next meeting at Constantinople, and in case political difficulties interfered, Athens or Bucharest was to be substituted. As all three are ineligible, it is proposed to hold the Congress in 1900 in Paris, although that city seems to be the least adapted of all for peaceful deliberations on scientific subjects.

NOTES AND COMMENTS.

IT was a popular belief that when the Romans first saw the Tay and the North Inch at Perth they cried out, "Ecce Tiber! Ecce Campus Martius!" In the opinion of Sir WALTER SCOTT the exclamation was no great praise, and he wrote the following epigram upon it: "'Behold the Tiber!' the vain Roman cried, viewing the ample Tay from Baiglie's side; but where's the Scot that would the vaunt repay, and hail the puny Tiber for the Tay?" It would be creditable to the Romans to be impressed with so delightful a scene, but there is no authentic evidence that any Roman soldier uttered a word of praise on reaching the heights near Perth. According to a paper read by Dr. JAMES MACDONALD in Edinburgh, the first mention of the story is in a book printed in 1638, called "The Muses' Threnodie," by HENRY ADAMSON, a native of Perth. In this rhyming dialogue on the antiquities of Perth the author relates the arrival of AGRICOLA's legion and their joyful encampment on the meadows of the Tay, in which they recognised a likeness to the Campus Martius on the banks of the Tiber. This ancient story, he says, he found in an old manuscript. In 1757 the forgery of BERTRAM, which appeared in the shape of a treatise on Roman Britain, professing to be compiled by a monk called RICHARD of Cirencester, and which deluded many antiquaries, gave new prominence to the claims of Perth as a Roman station. PENNANT in 1769 states that the people of Perth relate with singular pleasure the tradition of the Roman army exclaiming "Ecce Tiber!" when they came in sight of the Tay, and although JAMES CANT in a second edition of ADAMSON's "Threnodie" in 1774 characterised the part relating to AGRICOLA's army as a poetical fable, the tale had caught the popular ear and speedily passed, through the medium of the "Statistical Account" and other local literature, to the dignity of accepted historical narrative. It is known that the Romans were in Perthshire, but with regard to the many stations, camps and roads which are popularly called Roman, there could be no assurance until they had yielded such positive evidence as had been obtained by the recent excavation at Ardoch.

THERE have been many attempts to illustrate the beautiful objects in the South Kensington Museum, but the new work brought out by Messrs. LONGMANS, GREEN & Co., of which the first part has just appeared, is superior to all its predecessors. The plates are on a large size (12 by 9 inches), and therefore will allow the details of work in the precious metals, lace and carving to be properly appreciated. In the first number there are twelve sheets, showing examples of wood-carving, gesso-work, sculpture, leather, glass, bronze, silversmith's work and brass. It is announced that the intention is to supply teachers and students in art and technical schools, designers and all engaged in the practical production of artistic and useful articles with the best types which the Museum contains, at a cost which will bring them within the reach of all. "The requirements of junior students will be considered and catered for, as well as those of the more advanced and of the thoroughly-finished workman; the idea, generally considered, being that of placing before the workman the best types of form and choice details of ornament, care being especially taken that in the ornament all necessary tooling will be shown in such manner as to be readily copied by the workman." The first part shows how well the project is likely to be realised. The work is edited by Mr. WITTHAUS, and he will have the aid of some of the officers attached to the Museum.

THE majority of people who take an interest in such subjects are convinced of the responsibility of the Municipality of Venice for the neglect of the public buildings of the city. What seems more reasonable than to confer as far as possible the privileges of the ancient Council on the elected representatives of the citizens? But in respect of such a work as the Doge's Palace the State monopolises all the rights of ownership. The Minister of Public Instruction is the responsible representative, and his instructions are given to the local architects of his department. The arrangement corresponds in some measure with that adopted in France, and which is supposed to have preserved the buildings. A similar arrangement is often proposed for adoption in England, especially for the cathedrals. Municipal councils are not always remarkable for good taste or good sense, and in general they decline to respect traditions. From time to time changes in the character of buildings under their control must be expected. In Venice there is much scope for innovation, and it is as well the authority to determine the extent of alterations is to be found at a distance. All that has been said against the Municipality recently is therefore applicable to the Department of Public Instruction in Rome.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: CHOIR, LOOKING WEST. VAULTING OF SOUTH AISLE. ARCADE, CHAPTER-HOUSE.

THE screen which appears in the illustration of the interior is a rather simple structure, if compared with many other screens which were erected in modern times in English churches. But in 1876 it was sufficient to prevent the Bishop from preaching at the opening of the cathedral after the restoration. His lordship wrote to the Dean, saying:—"You look down from the cathedral on the parish of St. Oswald's, in the patronage of the Chapter, in which two new churches are earnestly needed, one of which at least might have been built for the sum now expended on an Early English screen and an Italian pavement hardly in harmony with the simple grandeur of the Norman edifice. Whilst therefore as a visitor to the cathedral I shall be always ready to support any measures for its improvement which I can conscientiously approve, as bishop of a diocese in which the population and consequent spiritual wants are increasing at a more rapid rate than in any other English diocese, I cannot give my countenance to an expenditure of Church funds which, in my judgment, has been unwise and wasteful." Where there is only a limited sum of money for religious purposes, it is difficult to determine what is the most profitable way in a spiritual sense to distribute it. To build new churches is a good work, but Dr. LIGHTFOOT should have remembered that the cathedral is an inheritance which should be preserved for future generations. The revenue of the Dean and Chapter was supposed to be in part at least applicable to conservation, and they were acting rightly in expending money to make the cathedral adapted to the use of modern worshippers. The obnoxious screen did not, we believe, cost 600*l.*

OFFICES FOR MESSRS. IMAY, IMRIE & CO., LIVERPOOL.

RAPHAEL HOUSE, MOORFIELDS, E.C.

THE new premises in course of erection by Messrs. RAPHAEL TUCK & SONS have a frontage to Moorfields of 96 feet, and return frontages to White Street and Tenter Street of 137 feet and 74 feet respectively. A handsome entrance-doorway is situated in the centre of the Moorfields front, with a projecting pediment supported by caryatides, and above are two life-size figures carved in stone representing Art and Commerce. The whole of the front is executed in Monk's Park stone, with a Portland stone base. The entrance-door leads into a spacious hall, at the further end of which is a fine staircase with passenger lift, and on the right is the counting-house, and on the left the board-room. On the first floor are the offices of the principals and a show-room, nearly 40 feet long, and various other rooms and warehouses. On the upper floors are the artists' rooms with a good north light, and two goods' lifts are situated in Tenter Street and White Street. The premises will be heated by hot water from a heating apparatus in the basement, and electric light will be used throughout the building. The staircases will be of fireproof construction, and the plastering of the ceilings and walls will be in asbestic plaster. The total floor areas will be about 50,000 superficial feet. The fronts in White Street and Tenter Street will be in red brick and stone, and white glazed brick. The basement has been built by Messrs. MARK PATRICK & SON, and the superstructure is being executed by Messrs. PATMAN & FOTHERINGHAM. The carving will be executed by Mr. GILBERT SEALE, and the lifts by Messrs. WAYGOOD and the Otis Company. The architect is Mr. W. HILTON NASH, of Bush Lane House, E.C.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &C.

(*Continued from page 427, Vol. lx.*)

VIII.

Tours.

WE now proceed to inspect more closely the architectural features of St. Gatien's, a church which has peculiar claims to the interest of Englishmen, having been commenced by Henry II., whose birth at Le Mans should have been recorded by us when sketching the features of that city. Built almost immediately after the destruction (from incendiary causes, as usual) of the Romanesque cathedral—a structure apparently of very considerable extent—the radiating chapels and arcades of the choir are in the earliest Pointed; indeed, the windows of the former cannot be said to have quite shaken off the Romanesque element.

Although inferior in size and importance to the vast northern cathedrals, Tours yields to none in solemnity of effect and delicacy of detail. At a first glance it appears, both externally and internally, commonplace (if we may use such a term), but a lengthy or repeated visit will serve to dispel this feeling, and the building will be found, after a careful survey, to enshrine everything that is elegant in detail and proportions; besides



TOURS: WEST FRONT OF THE CATHEDRAL.

which it is one of the few French cathedrals showing finish in all its parts and no traces of incomplete plan. The choir and its surroundings are the earliest portions, if we except some remains of Romanesque work in the bases of the towers. That the arcades of the choir at Tours lack that richness of foliaged ornament common to Auxerre, Troyes and Bayeux cannot be denied, yet, viewed from either transept, the Doric simplicity of its five acutely-pointed arches on piers composed of a cylinder with four encircling shafts, all with boldly-foliaged capitals, is undeniably imposing. So are the narrow stilted arches of the apse. Next in point of date come the choir, clerestory and triforium, the transepts and the first two bays, counting from the east, of the nave. These belong to the Middle Pointed period, which they admirably represent. Of especial beauty are the windows in the clerestory and triforium of the choir, presenting a perfect lantern of old stained-glass—the glory of Tours and the subject of a monograph from the pen of the late Chanoine Bourassé, who, associated in his ecclesiological studies with Chanoine Manceau, did much towards the improvement of the cathedral about 1846-48. Till nearly the middle of the fifteenth century, when the nave from the second bay east was commenced, no further progress seems to have been made at Tours, but the work once taken in hand was carried steadily on into the Flamboyant and Early Renaissance periods—the marvellous west front, with its twin towers crowned by small scaled domes, from which unhappily the "melancholy gold" has been scraped, completing the work. All the splendour which precedes decay characterises the style in which this western façade of Tours—by no means on the gigantic scale of Rouen or Troyes—is built.

A difficulty occurred in the construction of Tours Cathedral, which occasioned a somewhat unsightly irregularity in the north transept. It appears from an inspection of the plan of this church that its constructors, being anxious to lessen the width of the building from the commencement of the nave, found it requisite to deviate from the line of the choir piers by bringing the large transeptal columns at the north-east angle a few feet inwards. This materially had the effect of disarranging the vaulting of the westernmost end of the north aisle of the choir, making it necessary to construct the east wall of the transept at an acute angle, and to throw out an enormous flying buttress from the outer angle of this transept.



TOURS: NAVE OF THE CATHEDRAL.

So great is the span of this buttress that a street and part of a garden run under it. The transeptal roses are magnificent, though the effect of the northern one is impaired in some degree by a huge buttress carried up the face of the transept, from the causes enumerated above. The diminution of width in the nave as it approaches the west is very marked, but it has the effect of increasing the length and adding considerably to the charm of the view westward, which terminates in a noble traceried and stained-glass window free from organ gallery or any other encumbrance. The Flamboyant work at the west end of the nave aisles is likewise extremely bold and fine. We know of few French naves so beautifully arcaded as this of Tours, and we lingered long during our several enraptured visits at its north-west or south-west angle, wrapt in admiration of its graceful attached piers, which seem to melt one into

another. A similar effect is produced by the naves of two of our loveliest minsters—Lichfield and Worcester—though in a purer style, and perhaps more graceful in their proportions.

The ritualism of the cathedral of Tours is not remarkable. Tall iron screens surround the choir on west, north and south sides, and from its roof depends a chandelier with three lights. The great organ is in the south transept, as at Le Mans. We do not remember a French cathedral whose nave aisles are so contracted as those of Tours—a narrowness rendered still more conspicuous by the chairs which project from the nave, leaving only a very narrow passage between them and the flanking chapels. One of these chapels (that of the Sacred Heart) at the east end of the north aisle has a modern altar and reredos of singular beauty. The former, of stone, is, as usual, without antependium, and its mensa rests upon three small columns with gilt caps and bases. The stepped predella has eight arcades with niched figures, and supports the candlesticks. In the centre of this rises a lofty Gothic arcaded tabernacle richly painted and gilt. Another good modern altar is that of the lady chapel, which, as usual, has been profusely coloured. Its three lancets contain old glass from the church of St. Julian, and is apparently collected from several windows there. The north and south walls have frescoes of the Marriage and Death of the Virgin, and of her Annunciation and Assumption. The chief feature of the altar in this lady chapel at Tours is the throned figure of the Virgin and Child above the tabernacle. It is most graceful. The predella, too, is of much elegance, with paintings of the Presentation and the Entombment. Other interesting points in the choir aisle at Tours are the fenestration of the first oblong chapel on either hand by a couple of plate-traceried two-light windows, having in the head a sexfoil; and some paintings in the northern of these chapels, curious, solemn, naturalistic, and representing in oblong panels the Apostles, St. Luke taking the place which belongs to St. Matthias. As we leave the cathedral by the west door a Sister of Charity approaches the bénitier and takes the holy water very reverently, kneeling. The great central door is thrown wide open, and we shall never forget the air of simple, solemn grandeur which the nave, ruby stained by the great window, presented about half-past six in the afternoon of our second day in Tours.

The exterior of St. Gatien's does not present many features of interest. The lofty clerestory, nave chapel and transept windows make a goodly show; but in point of splendour and leaf-like delicacy the tracery cannot compare with that in the same position at Troyes. Perhaps the most pleasing external feature, after the harmonious Flamboyant west front, with its tall flanking towers and graceful series of arcades just under the central gable, is the apse of the choir, spreading itself out at the base where the chapels cluster in dignified amplitude, soaring, but not at all exaggerated in its clerestory. There is no tower at the crux, the masses of roof meeting at an insignificant nondescript turret surmounted by a tall cross, for we are in France now, and not in Normandy, where the central tower almost always constitutes one of the grandest external features of the churches—as at Rouen, Fécamp, Lisieux, Dives, Coutances, and Evreux.

Altogether Tours is a most fascinating and instructive cathedral. We came prepared for disappointment, we went away enchanted; while its situation in the eastern part of the city, remote from the busy streets, seems to impart to its immediate surroundings a certain air of calm seclusion, wanting, however, in those picturesque features which, almost without exception, find a place in an English cathedral precinct.

We have so dilated upon the architectural glories of St. Gatien as to render our notice of the other churches of Tours somewhat brief. Dismissing, briefly, Notre-Dame de la Riche and St. Saturnin as large, late Gothic churches, with few features to recommend them beyond their spaciousness, town-like air and elaborate fittings, we proceed to speak more particularly of St. Julian's and of the imposing but as yet incomplete modern basilica of St. Martin's.

Turner depicts St. Julian, in his "Seine and Loire," at "an hour after sunset, with no moon, and torchlight." At that time it was a diligence office, and the drawing, which shows the south side of the nave and transept, was made from the Hôtel d'Angleterre, where the artist was probably deposited on arrival. Ruskin cites this drawing as an instance of Turner's love of chiaroscuro, and as being especially remarkable for its preservation of deep points of gloom, because the whole picture is one of extended shade.



TOURS: APSE OF THE CATHEDRAL.

Rescued from the degraded state to which it had fallen in 1847, St. Julian at Tours has since been well restored, and now presents all the features of a grand cruciform church built during the palmiest days of French Gothic—the age of St. Louis. It stands so hidden among the houses at the corner of the Rue Nationale and the Rue Colbert that its grand nave, clerestory and transept came upon us quite by surprise—a surprise by no means diminished when we descended the few steps leading from the south door to its interior, and beheld its almost cathedralic proportions and distribution of parts. It consists of a low Romanesque western tower, a five-bayed nave with triforium and clerestory, transepts, and choir with double aisles, of which the external one on either side is prolonged into a poor sixteenth-century apsidal chapel. The choir has a square east end, lighted by a noble window of eight lights; below it, extending the whole width of the wall, is a frescoed "Last Supper," with a background of gold. This, taken in conjunction with the excellent glass in the window above—

small subjects in roundels—has a very rich appearance. The same arrangement of fenestration occurring in the square-ended choir of the cathedral at Dol may be accounted for by the fact that Tours is the patriarchal see of Brittany. At St. Julian's, Tours, the choir is the oldest part, indicated by its tall cylindrical columns, with their stiff-leaved capitals. This, dating from the 'teens of the thirteenth century, would be coeval with Rouen choir and Soissons generally. The transepts and nave of St. Julian are later, and belong to the more advanced Pointed of 1224. Here the pillars are of the Amiens sort—thick cylinders with a slender shaft at the cardinal points.

Throughout the church the workmanship is very fine, and while sitting near the sacristy door in contemplation of the magnificent clusters of piers at the crux, and making notes thereon, we are accosted by a priest, who emerges from that sanctum, and says, "Bonjour, monsieur; est-ce que vous dessinez?" He is too polite to *tutoyer* us. "Non, Monsieur le Curé," we reply; "j'écris." "Voudriez-vous me montrer votre livre?" "Mais oui, certainment," we reply. "Gracious!" we think, "now we are in for it," as visions of French *mairies*, fearful as those which presented themselves to Mr. Ledbury, flit before the mind. However, after a few minutes' puzzled scrutiny our curé returns the book with a pleasant smile. The names "Senlis," "Noyon," "Chartres;" the adjectives "grand," "splendid," "magnificent," "enchanting," &c.,



TOURS: INTERIOR OF ST. JULIAN'S.

have doubtless caught his eyes, and in a moment we are the best of friends, and in the midst of a delightfully snug little conversation, winding up by his placing a chair for us in one of the best positions for taking the noble proportions of the church at a *coup d'œil*. "If there is any part of the church you wish to see," resumes our friend, "the sacristan is at hand to conduct you," as with a bow which would have done honour to a courtier of the time of the Grand Monarque, he retires to the sacristy. We avail ourselves of the privilege thus accorded, but, as it is rather too hot to rush about triforia and what not, rest content with a view from a small private garden of the external eastern elevation, emerging by a door, doubtless the entrance to the lady chapel.

By this time the afternoon has worn away, so we take tea at a café in a fine open space formed at the junction of the Rue Nationale and the Boulevards Heurteloup and Béranger, and then saunter forth for a walk round the walls in the direction again of St. Julian's, where prayers and Benediction of the Blessed Sacrament are announced to commence at eight o'clock. Our walk takes us along the boulevards in a north-easterly direction, there being a gentle rise all the way, so that having the walls on our right, we look down upon the Loire and Cher Canal and market gardens. To our left rises the enormous mass of the cathedral, its outline clearly defined against the sunset sky. The two great towers of St. Martin's are brought into the picture, and extremely grand they look. We have to pass the cathedral, so cannot resist a walk round in the now quickly gathering darkness. Truly awful is the silence of the vast building—a silence broken only now and then by a cough or a chair scrooping. We make just one complete circulation, arriving at the west door as the sacristan jangles his keys, eager to lock up, and then proceed on our way to St. Julian's, whose interior, impressive by day, looks doubly so illumined here and there by a few gas jets, which serve to throw out very markedly its exquisite details, many of which, notably the flat soffits of the arches, irresistibly remind us of Scott's church of St. Mary, Stoke Newington.

(To be continued.)

From the account of the Liebfrau Kirche at Trèves which appeared in our last number, it might be concluded that only one of the windows had been filled with modern stained-glass of Belgian manufacture. Unfortunately this unsatisfactory school of vitreous decoration extends throughout the beautiful series of windows, whose arrangement in two tiers in the apse recalls that at Marburg and Xanten.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, Mr. G. H. Fellowes Prynne, president, in the chair.

The following were elected members:—Messrs. F. Mount, H. G. Turner and J. M. Lethbridge.

Mr. Hampden W. Pratt was elected trustee of the Association Travelling Studentship in place of the late E. C. Lee.

Mr. H. H. Statham read the following paper on

House-Planning from the Æsthetic Point of View.

When Mr. Paul Waterhouse read his interesting paper on "Oriels and Bay Windows" before the Association a few weeks ago, he commenced it by praising the judgment and benevolence of the Council of the Association in themselves laying down or suggesting the subject to be treated, thereby setting the reader of the paper a definite task, saving him from the onus of making up his mind on a subject, and encouraging him to acquire some definite information on the subject he had been invited to treat of. And he implied that this was the course now usually pursued by the Association in asking for papers. If that is really the case, why have I been, so to speak, left out in the cold? No such benevolent and stimulating process of selection of a subject was exercised on my behalf. I was asked simply to read "a paper," the universe being left open to me for choice. The universe is doubtless a fine field, but a little embarrassing to select from. Under such conditions the only course is either to take a subject which you have for some reason or other been led to think about, or—to decline. I do not approve of what may be called "paper-making" for its own sake. If people tell you that they wish for your views on some particular subject, it is another matter. You may give them your views, even if the subject is one not specially interesting to yourself. Otherwise, on two or three occasions when other societies have been complimentary enough to ask me for a paper, I have felt compelled to say frankly that there was no subject on which at the moment I had any particular opinions or thoughts which I was anxious to give expression to; therefore I must decline. I recommend my own moral example to others who receive general invitations to read papers on any subject they please. It is a dangerous temptation and tends to put papers in the same category as after-dinner speeches, where you speak not because you have got something to say, but because you have got to say something. In one of the finest verses in the Psalms we read:—"While I was musing the fire burned; then spake I with my tongue," but not till then. If you have nothing to say, don't be persuaded to say it. And therefore, if the Council of the Association have, as I gathered, made it a general practice (though not applied in my own case) to specify the subject when inviting anyone to read a paper, I recommend them to keep up that practice; only I would suggest that, after specifying the subject, a rider should be added—"unless there is any other subject which you specially wish to

treat." By tying a man absolutely to one subject you may possibly be preventing him from dealing with another which he would treat better; and if he is willing to dispense with the assistance given by having a definite suggestion made to him, it is probably because the other subject is one that he really cares about.

So much for the general ethics of the paper-chase, which are worth a little consideration. In the present instance the request of the Council for a paper happened to reach me at a time when my mind was rather full of a subject on which I had wished sooner or later to say something; and therefore I could not do better than say it here, thereby complying with your request without falling into the sin of paper manufacture.

Although the architecture of the house cannot, except in the case of such mansions as may be called palaces (which are necessarily somewhat rare) rise to the architectural grandeur of the temple or cathedral, yet there is no branch of architecture more fascinating in its interest. It is the most intimately connected of all with the lives and characters of men. In an architectural sense, the designing of a house is not merely the arrangement of rooms so as to be comfortable in themselves and commodious in their relation to one another, though these are points of the greatest practical importance. That is a merely utilitarian view of the problem. The object of architecture is to transfigure the house from a collection of rooms conveniently arranged, to raise it to the level of a distinct and individual architectural conception or idea which should govern the whole arrangement; to give it as much of interior effect as is compatible with its size and with the practical convenience of internal traffic; to make it something more than a mere dwelling-place; the expression of an artistic thought—whole, complete and indivisible. Of course it will be said that we take a great deal of trouble to make houses architecturally expressive or picturesque. We have our pilasters, our window pediments, our balustrades, our broken cornices over the doors, and pots on the attics and cut-brick cherubs and garlands; or our gables and roofs cutting into each other in different directions and at different heights, our sham half-timbered walls and coloured rough-cast, and plaster devices and what not, but all these will not save our souls; a house may have them or not have them, and be neither much the better nor much the worse in either case. The plan is that in which the artistic idea of the house is really embodied; that is the basis of the whole; if there is a good idea in the plan, even bad external detail cannot entirely spoil it; if there is no idea in the plan—nothing beyond a commonplace collocation of rooms in convenient positions—the best exterior detail will do little or nothing to conceal the poverty of the main conception. Of course in any case the treatment of the masses of the plan is half the problem; and as we shall have occasion to notice, there have been splendid plans which have not been made nearly as much of as they might have been in regard to exterior architectural effect; but it is mainly the plan which distinguishes the house which embodies an idea from that which does not.

Now in this respect among others, the Mediæval revival, so vaunted at the time, has left an ill influence behind it. To take the ordinary scale of dwelling-house first; it is since the Mediæval revival that we have been taught to regard the ordinary sized dwelling-house plan as consisting merely of the fitting together of so many parallelograms of room-spaces, something like a puzzle map, the end of one abutting on the side of another, the angle of one projecting beyond the wall of another, so as to show where the rooms fit on to each other; the result being a plan that is no shape at all, and which cannot be walled and roofed in under the guise of any formal and distinct architectural conception. This way of building is supposed to be "picturesque" and "truthful"; a house is a collection of rooms and it is to be treated so; it accords with the irregularity of nature, and so on. A house is not called upon to accord with the irregularities of nature any more than a garden; it is an artificial creation and should be treated as such. If it is a mere collocation of rooms, that is the architect's fault; it ought to be something more; it ought to be a plan conceived as a whole, the rooms designed and placed so as to be subordinate to that governing idea while retaining convenience of internal position. That is just the crux of artistic house-planning; the mere irregular fitting of rooms together is an evasion of it. And if we look back at the history of the habitation, we find that after men had emerged from that primitive stage in which, as the soldier sings in "Philip van Artevelde"—

> Two sticks and a mat
> Make a very good house,

at a comparatively early period they arrived at the perception that a house should be planned on a centre line, and should have so much of interior architectural effect as space permitted. We may take, for convenience sake, three types as given by Viollet-le-Duc in his "History of the Habitation"; they must not perhaps be taken as quite archæologically accurate, for Viollet-le-Duc possessed imagination as well as industry, and (like other French archæologists) what he thought probable he treated as historic fact; but they are probably near enough to fact in their main characteristics. In the Aryan house on the banks of the Upper Indus, a locality which has long been the accepted "cradle of the human race" (though Mr. Traill complains that "they are moving that bassinette about a good deal lately"), we see a plan drawn out on a centre line, and with the large outer court and inner hall for family life, which is the precursor of the atrium of the Roman house, probably through the "aithrion" or open-air hall of the Greek house. In the Ionian house we have the same centralised system, but the inner rooms have increased in importance; and it is curious to notice on one side what would now be called the "stable wing," much as we see it placed in some of the English eighteenth-century mansions. Then we have the Greek house, in which the inner colonnaded hall has become the principal feature, and provides a really fine piece of interior architectural effect in a house of moderate dimensions, and which we find reproduced more or less in the Pompeiian house. We cannot in this climate have the open-air colonnaded apartment in the centre, though we can have something like it in the disposition of apartments. I am not arguing necessarily in favour of bilateral symmetry in the average-sized house, though I am inclined to say that in the majority of cases bilateral symmetry in the main masses at least (with diversity in some of the details) will produce the best architectural results, more especially in the case of a house which is combined with a garden. We have all learned to recognise of late years the beauty and suitability of the formal garden, differentiating the garden, as a work of art, from the informal lines of nature; and the formal garden will only go well with the formal house. But apart from the bilateral question, at all events we ought to see the house modelled on a distinctly conceived and predominating design which moulds the whole of it; not merely put together as the rooms may fit conveniently. The attempt to do this, as it appears to me, is not often made among us. Occasionally we see such a thoroughly original conception as that house by Mr. Prior, of which the model was exhibited two or three years ago at the Academy. A small house by Mr. Townsend, of which an illustration is exhibited, is noteworthy as an example of a plan and architectural treatment which form a complete and original conception; so is the plan of a house by Mr. Horsley, with its entertaining rooms and gallery en suite on the garden front, forming a much more dignified architectural interior than is generally attained in a house on this scale; and other examples will probably occur to some of my hearers. But in the attempt to give special character and unity of conception and design to houses of average size, both the Americans and the Germans are a good deal in advance of us. I am thankful to say that I cordially hate modern German architectural style and detail for the most part; but in turning over a collection of plans of German houses one is surprised to find what an amount of variety and ingenuity are shown in the arrangement of the plan, and how little of the ragged and accidental character which is so often found in English plans; they are almost always laid out in accordance with a leading idea which gives unity to the whole. We have a good deal to learn from the Germans in this matter of house-planning on an architectural system; it is when they begin to raise and to decorate the elevations that they make such a terrible business of it.

But let us turn now to what in my own mind was the main object of this paper, the treatment of plan in the largest class of houses—those which can be dignified by the name of "mansions." It is here especially that the taste fostered by the Mediæval revival has injured us. The Mediæval mansion was in the first instance the castle, and the castle and the habitable portions included in it were naturally built with what we now call a "picturesque irregularity," which was not picturesque in the eyes of those who built the castles, but simply utilitarian. Castles were usually, or one might say always, built in as commanding and as isolated a position as could be selected, to secure them the better against attack by force or by surprise. The plateau on which they were built was often irregular in shape, and the most was made of it; after the castle had expanded to something beyond the mere "keep" or single tower, the outer wall followed the natural line of the high ground, and the habitable buildings were got in where it was most convenient and where they were safest. It was only when the times became a little quieter and more civilised that castles or châteaux began to assume regular forms uninfluenced by the nature of the site. We can see the change in progress in the plan of the Château of Chambord, where the inner and outer blocks with their angle towers are quite symmetrical in disposition, but internally the circular towers are cut up by partitions in a quite irregular manner; they are still purely military and utilitarian towers, their circular shape having no reference to any object but their engineering suitability as angle defences. With the commencement of the Renaissance period, when architects had become familiarised with the symmetrical temple buildings of the Romans, came

the age of the great symmetrically-planned mansions, first in the Elizabethan form of the courtyard or quadrangle, next in the later Renaissance form of the main central block and the outlying "wings." Later in the Georgian period the wings disappeared and the symmetrical block alone remained; the accessory buildings, such as stables, laundries, &c., no longer forming any portion of the main design, but being relegated to separate buildings at more or less distance from the house. Then after the Gothic revival came the idea that symmetry was not picturesque; there was a reaction against the formal plan, and then followed the taste for what I call the rambling plan, in which the object apparently was to make it appear as if the plan had grown up by accident, or had arisen from the gradual enlargement of the house by successive additions. This habit of deliberately planning a house to look accidental and picturesque is, like the twisting walks and quasi-natural plantations of the landscape gardener, an entirely modern invention. For houses of the largest class there is no precedent for it in any previous age. The irregular castellated dwellings of the Mediæval period, as already observed, were irregular for merely utilitarian reasons—to suit the site and make the most of it. There are various old houses in the country which have arrived at picturesque irregularity by dint of successive additions and alterations, but I think there are few if any that were deliberately built so, without anything in the nature of the ground to suggest such a treatment. It is a modern fancy engendered by the Mediæval revival, and so far as it has been adopted it has robbed us of the finest and most impressive architectural qualities which are possible in a great mansion.

Those who were present at Mr. Aston Webb's charming little lecture to the Class of Design at the beginning of the session will not have forgotten his remarks on the advisability of having a little mystery or surprise in the planning of a house. Inasmuch as the host generally rather enjoyed showing his guests over the house, there was not the same occasion for plain and direct planning as there was in a public building where strangers had to find their own way about. I quite agree with that as far as it refers to the average-sized dwelling-house. But when you come to the largest class of mansion, mystery-planning may become an inconvenience rather than an enjoyment to the guest. Your host may give himself the pleasure of escorting you from the smoking-room through a labyrinth of passages to your bedroom door at night, but in the morning you may find yourself under the necessity of ringing for a servant to show you the way to the breakfast-room. This is a mere point of convenience, not of art, but it is worth consideration. It is a nuisance to be losing yourself in a great house, and getting into the wrong rooms. But this is a minor consideration in comparison with the æsthetic one. It is often urged, I know, that the rambling and irregular house is the more homelike. But it is forgotten that a mansion on the largest scale may (I say, should) aim at something more than homeliness. It is to some extent a house of state; it should aim at the qualities of stateliness and dignity. And it is here that the great charm of house architecture comes in. Here there is the opportunity of combining architectural dignity with novelty and originality of grouping—the interest of arranging and shaping rooms so as to combine architectural effect with convenience. There are no by-laws or requirements of public bodies to hamper the architect; if his client is wealthy and really wants a fine and impressive house, the architect has the opportunity of evolving and shaping a new and original architectural creation which may be of the highest order, and imparting to it the dignity and symmetry which should belong to an architectural design thoroughly thought out and modelled. To adopt the rambling plan is to throw away a great deal of this opportunity. The rambling plan is not shaped at all, it is merely thrown together; it is supposed to afford a basis of picturesque effect, which really means a crowding together of different blocks of building, with a tower at some corner where you do not expect it, without any real design at all. The picturesque, in that sense, is not a difficult business; but what has become of the dignity which should belong to the great house of the neighbourhood? "The stately homes of England," as they are called in some popular ballad, are stately no longer. Compare, for example, the block plan of Castle Howard with that of one of the rambling plans; the one is obviously the foundation for a dignified and grandiose mansion—the other may have character, but it can have no grandeur; it is a shapeless plan destitute of any leading idea.

It is worth while to endeavour to realise what the ideal mansion of the great philosopher of the Elizabethan era, was when he published, towards the latter end of Elizabeth's reign, his famous essays, including the one "On Building." In Bacon's time the courtyard or quadrangle system of planning was still in favour, and he requires no less than three courtyards before you get to the house, an arrangement which I should think has never been carried out in actual building, unless it were a Babylonian palace or an Egyptian temple. The three courts are to form a kind of crescendo for the state approach to the house; first "a green court with a wall about it; next a court of the same, but more garnished with little turrets, or rather embellishments on the wall; and a third court to make a square with the front" (the front of the mansion to form one side of it), "but not to be built nor yet enclosed with a naked wall, but enclosed with terraces leaded aloft . . . and cloistered on the inside with pillars and not with arches below." The last words are rather obscure. I think there ought to be a comma after "arches," and that he merely means that he wishes the cloister to be a colonnade and not an arcade; an indication of the Renaissance taste for columns which was just then beginning to reach England. This is the only indication of style in architectural detail that can be extracted from the description. When we come to the house itself, the front is to have on one side a great banqueting hall 40 feet high "for feasts and triumphs;" this is to be "above stairs" (*i.e.* it is to be raised on a lofty basement storey), with a room for preparation under it. The other side of the house is to be in two storeys, the main one divided into a hall and a chapel, and "at the farther end a winter and summer parlour;" this looks as if one parlour was to face to the front and the other to the inner quadrangle, that on the sunny side being of course the winter parlour; in that case "the farther end" means the end farthest from the centre axis of the building. The two sides of the front are to be "uniform without, though severally partitioned within," a principle which was destined to be only too well carried out in many an English house of the following two centuries. Beyond this front is then to be a fair court ("quadrangle"), but three sides of it a lower building than the front; the return on the banquet side to be all stately galleries, with three or five cupolas in the length of it; the other side to be ordinary presence chambers and some bedrooms; but all three sides to be "a double house without through lights on the sides that you may have rooms from the sun both for forenoon and afternoon." This is rather lightly said, and could surely have hardly applied to the side with the "stately galleries." As to communication, probably Bacon counted on all these rooms opening out of each other as they do all round in such mansions as Burleigh House and others, and even with the greater part of Hampton Court, which is of course a good deal later. Four staircases were to be placed in turrets projecting into the court at the re-entering angles. Embowed windows have their advantages; "they be pretty retiring places for conference; and besides they keep both the wind and the sun off, for that which would strike almost through the room doth scarce pass the window. But let them be few; four in the court and on the sides only." He probably means two on each of the return wings; the front wing could not have one, as the centre entry to the quadrangle would be in the way. The quadrangle is not to be paved, "for that striketh up a great heat in summer and cold in winter"; only with paved side and cross walks, and the four spaces laid out in grass. Beyond this court is to be another of the same size and height, which (outside) is to be environed with the garden on all sides, and on the inside, "cloistered on all sides upon decent and beautiful arches, as high as the first storey." This cloister apparently is to be an arcaded one. "On the under side, towards the garden, it is to be turned into a place of shade, and only have windows towards the garden—*i.e.* on the outer side of the buildings. Then, after a reference to the arrangement of the rooms on the fourth or further side, he adds that here there is to be "on the ground storey a fair gallery open, upon pillars." This description forms a curious coincidence with the actual arrangement of the second court of Trinity College, Cambridge, where there is an arcaded cloister on three sides, and an entirely open space on the fourth side, with piers to carry the library above. Bacon adds that the third storey, on this further side, is also to be "an open gallery on pillars, to take the air and freshness of the garden." In this upper gallery there were to be fountains running from the walls. One further detail, "At both corners of the further side, by way of return, let there be two delicate or rich cabinets, daintily paved, richly hanged, glazed with crystalline glass, and a rich cupola in the midst." I confess I cannot make out exactly where these "delicate cabinets" were to be placed.

Such is Bacon's idea of a great mansion on the quadrangle principle of plan. It would not be a bad study for the Academy or the Institute to set as the subject of one of their prizes—the Travelling Studentship or the Soane Medallion—to restore Bacon's mansion in plan, section and elevation. Bacon, it may be observed, deals only with the superior portions of the mansion. "As for offices," he says, "let them stand at a distance, with some low galleries to pass from them to the palace itself." This is really much the way they were placed by Vanbrugh at Seaton Delaval, only that Vanbrugh had them flanking the front or entrance courtyard of the house; masked by the colonnades, it is true, but still pretty well in evidence, whereas I think Bacon wanted them out of the way of notice altogether. "Offices" probably did not with him include the kitchens, as he rather implies these would be in the basement.

(*To be concluded.*)

EXCAVATIONS IN THE FORUM ROMANUM.

WE lately gave a short account of the excavations which were in progress in the Forum by order of the Italian Minister Signor Baccelli, under the direction of Signor Boni, architect. The following more detailed account of the operations by Mr. Richard Norton has appeared this week in the *Times*:—

Some two months ago the present Minister of Public Instruction, Signor Baccelli, gave permission for certain explorations to be carried out in the Forum. For years it has been a great desire not only of archæologists, but of all who were intelligently interested in the antiquities of Rome, that the Forum should be put in order. It would be difficult to find another spot in all the world that has suffered more from intentional destruction wrought by the artists of the Renaissance or from incompetent modern excavators. The architects of St. Peter's and of other noble monuments of the Renaissance may be excused for having sunk shafts in the Campo Vaccino and taken the blocks of the Temple of Cæsar or of the Regia for use in the buildings with which they were beautifying the Rome of their day, but no apology whatever can be found to cover the shamefully ignorant and destructive work that has been done of late years under the name of excavation.

Though harm once done can never be entirely corrected, the work that is now going forward will, in a measure, counteract some of the blunders that have been made. First attention was turned to the little ædicula at the north-western corner of the Atrium Vestæ. Since the excavation of the house of the Vestals in 1883, large portions of this shrine have been left scattered over the ground, suffering constant petty damage from accidents or from tourists. The blocks cumbered the ground and they could not be satisfactorily studied. Now, however, under the direction of Signor Giacomo Boni, a Venetian trained as an architect, one of the most competent of the Government officials, the podium, one of the columns, base and capital complete, one of the pilasters at the back, and the entablature with its inscribed frieze have been put in position. The place of the second column has been taken by a simple and unoffensive brick pier, which next spring will be hidden by a climbing rose. No one can sensibly question the wisdom of this work. It is not restoration, it is merely reconstruction along sure lines. Where sure indications are lacking, theory is not allowed to take their place. Very different was the manner in which Rosa rebuilt a pier of the Basilica Julia. True, a similar motive inspired his work, but the method in which he carried it out could not well have been worse. The materials that he used were quite new and the form that he gave them was inaccurate; he failed to notice that the piers had formerly been provided with bases, some of which are still in situ, and in erecting his pier without a base he made a construction such as had never existed. Signor Boni has been directed to take down this anomaly and to place in their original positions as many of the blocks of the basilica as it may be possible to find.

Work about the Temple of Vesta followed that at the ædicula. The unexplored mound of earth that had been left by the last excavators upon the site of this temple is a characteristic example of the miserable lack of thoroughness with which the Forum (to say nothing of other sites) has been excavated. From this formless mound protruded here and there broken ends of walls. What these walls were and whither they went could not be seen. The mound was said by Lanciani, Middleton and others to be a solid mass of concrete. Had any of these writers poked the mound with a cane they would have soon discovered that the extent of the concrete was very limited. Under Signor Boni's direction the earth and débris have been carted away, and some very interesting constructions brought to light. Within the circle of the foundation walls is a brick chamber, one wall of which is destroyed. The entrance (if entrance there were) seems to have been from the top. The style of the brickwork points to Hadrian's reign, although one brick (which, however, did not belong to these walls) has been found to bear the stamp of Theodoric. What purpose was served by the chamber is difficult to say, but it is satisfactory to have replaced a shapeless mound by a construction of which the form, at least, is intelligible. The work did not end here. Having cleared the foundations and discovered parts of the steps Signor Boni turned his energies to the superstructure and gathered together the scattered pieces of columns and ceiling. One entire shaft and several more in an incomplete condition have been found, while numerous bits of the coffered ceiling are ready to be clamped together. If enough is found to sanction the re-erection of these pieces, a very valuable addition will have been made to the Forum. It is safe to say that not one person in five hundred of those who have, hitherto, strayed over the site of this the most sacred temple of all Rome have had even an approximately accurate notion of its original appearance. During the work quantities of fragments of vases of all ages were found. Only one of these was of much interest, but this one makes up for the unimportant quality of the rest. It is a fragment of a Greek red-figured vase of the best time showing the figure of a warrior. Was it such ware as this the Vestals used?

Care has also been bestowed upon other monuments near the Temple of Vesta. Between it and the Temple of Castor are a mass of remains of a shrine, the original name and site of which are unknown. Middleton points out that they exhibit finer workmanship than any other monument in the Forum, and says that they were drawn by Ligorio, in whose time they were dug up near the church of San Adriano. Ligorio's design resembles these blocks, but those to which I refer are not the blocks he drew. The present blocks were found where they now lie, and probably when the corner of the Forum now occupied by the church of Santa Maria Liberatrice is excavated the foundations of the shrine will be discovered, for on the Capitoline plan we see a small building in just this spot. For the present Signor Boni has been satisfied to collect some twenty-five pieces of the same structure—pieces which had been scattered here and there, some even as far as the Arch of Severus—and to put them with the others. It is much to be hoped that further exploration in this vicinity may enable us to discover the former purpose of the building. Possibly it was the Temple of Minerva, which certain of the Mediæval writers mention as standing in about this position.

Yet another little understood monument is the Puteal Libonis. Middleton and others have asserted that a certain set of curved stones at the north-eastern corner of the Temple of Castor were the remains of this puteal, a supposition attributable to the blinding influence of theory, for it needed but a little observation to see that the stones in question could not form a circular base such as the puteal demanded, that they were not in situ, and that they had been taken from some ancient building and crudely hacked into their present shape. One or two of them have now been raised up on edge for the due edification of theorists, and the puteal no longer exists.

Many fragments of the arches of Fabius and of Tiberius have recently received the attention for which they have long waited in vain. In removing some of the earth near the Fabian arch an excellent female portrait head was found a few inches below the surface—striking evidence of the careless manner in which earlier excavations were carried out. But by far the most important discovery, and at the same time the clearest evidence of the incredible carelessness of the earlier excavators, was a metope and fragments of the cornice of the Basilica Æmilia. These had been built into the wall that supports the street on the northern side of the Forum. As the metope block is rather larger than a cubic metre the excavators must have seen it, and as it is splendidly decorated with a boucranion it is difficult to comprehend upon what system it was discarded. What treasures may not yet be found in this very modern wall? Fragments of the Basilica Julia have also been found, one of them from a window of the upper storey. As this is the first piece of the kind it is most important. Thus in these few weeks our knowledge of the architecture of the Forum has been increased in a noteworthy manner. All these varied facts might have been the common property of scholars long since had the work of past years been done by those who were equal to the task.

The question that is at present engaging the attention of the committee (composed of Senator Sacconi, Professor Lanciani, Signor Gatti and Dr. Huelsen), to whom Signor Boni refers his plans, is what had best be done about the honorary columns which formerly stood on the brick bases in front of the Basilica Julia. Signor Boni has found all the parts of one of these columns. The base on which it stood is shown by photographs taken at the time it was excavated. The pedestal only is lacking; it was similar to that on which the Column of Phocas stands. Is the pedestal to be restored in brick and the column raised upon it or shall the column be left on the ground? Some advise the erection of the column on the brick base, leaving out the pedestal entirely. Their contention is not easy to understand. If one has a statue of which the head remains while the neck is lost, one does not set the head on the shoulders, but makes a plaster neck, or inserts an iron pin to support the head. So, too, if one has an inscription of which the central portion is lost, one does not set the two ends in juxtaposition, but separates them by so much space as the lost portion occupied. Or else the head is simply left to lie by the torso, and the two fragments of inscription wherever they are least likely to be injured. What reason is there for not treating the column in the same way? Here are brick base and column. Why not build a pedestal with the proportions of that of the Column of Phocas, a monument of exactly the same class and period as the column under consideration? The brick base would deceive no one and would serve to put the column in its proper relation to the neighbouring monument.

To no other buildings in the Forum pertains a deeper and more abiding interest than to the Rostra Vetera and the Temple of Cæsar. Interesting facts regarding both of these

monuments have just been brought to light. Almost all the base moulding and cornice of the Rostra have been found, and there is good evidence that an inscription of the *præfectus urbi*, Valentinus (parts of which have long been known), formerly decorated the fifth century addition to the northern end of the Rostra. At the Temple of Cæsar the earth—which, *mirabile dictu*, had never been removed from the space between the hemicycle in the front wall and the (probably) third century wall that stands before the hemicycle—has now been taken away and a very important discovery made. Suetonius mentions that after Cæsar's death a column was set up *parenti patriæ*, and other literary evidence gives reason to believe that it stood on the spot where Cæsar's body had been burnt. In front of the hemicycle, just where one would naturally look for traces of this column, the remains of a base such as would be used to support a column have been found, resting on a beautifully laid pavement that seems to be the very pavement of the Forum which Cæsar himself must have trod. It was a very stirring sensation that one experienced, standing on those stones the day they came to light—those stones beneath which Imperial Cæsar's ashes still seemed to glow—mine the first Anglo-Saxon feet that had ever trod so close to the presence of the greatest Roman of them all.

This is what has been accomplished. Much still remains to be done, and we must devoutly trust that Signor Baccelli will continue on the course he has chosen, and not allow himself to be influenced by the jealousies and rivalries that ruin the efficiency of the Archæological Department. Even Greece does not offer such a spectacle of wasted money, misdirected effort and incapacity as is to be seen in the management of the Italian Department of Fine Art.

THE COST OF LIGHTHOUSE CONSTRUCTION.

THE following letter to Mr. W. F. G. Anderson, of Glasgow, has been sent by Mr. D. A. Stevenson, engineer to the Commissioners of the Northern Lighthouses :—

Edinburgh : January 3, 1899.

Dear Sir,—In your address to the Glasgow Chamber of Commerce you quote from the Royal Commission report of 1861 to show that lighthouses in Scotland have been more expensive to erect than elsewhere, and in which it is stated that the Bishop cost in construction less than half what was expended on Skerryvore. In previous letters to you I explained the matter, asked you to publish the facts and gave you, as desired, time to make inquiries which, I venture to suggest, would have been better made before than after you spoke.

Most people will agree with me that the only fair and business way to compare the cost of two works, be they lighthouses, harbours, or ships, is to take into account all that has been spent on them in each case. Now in Mr. Douglass's account of the Bishop Rock (Proceedings of Inst. C.E.), which I sent you, he says, "The cost of the works executed at this station from time to time" is "111,900*l*.," and what has been spent at Skerryvore is 83,000*l*., which, by the way, includes the cost of the shore station and other matters not included in the cost of the Bishop; consequently the Bishop has cost the Mercantile Marine Fund more than Skerryvore, not less. You say you are informed that the recent additional expenditure of 64,889*l*., about double what the original stone tower cost, was incurred at the Bishop principally for the purpose of raising the height of the light and improving it. That is not so. Mr. Douglass clearly states in his paper that the tower as constructed was too small and too weak to stand the seas to which it was exposed, and had to be strengthened and ultimately practically rebuilt. You do not imagine surely that the Trinity House would have spent 64,889*l*. merely to raise and improve the light. If they had done so it would have been a piece of gross extravagance, and those who pay light dues would have had good ground for complaint. But even if it were so, Why was the Bishop Tower not made high enough at first?—the Skerryvore has not required to be heightened.

I am aware that you did not originate the comparison between the Skerryvore and the Bishop, but you quoted the report of the Commission that did so without stating—and this is what I complain of—what has occurred since that report, although I am quite ready to admit that you did so in ignorance. Of course, the Royal Commissioners who reported in 1861 were unaware and did not foresee that the Bishop Tower, only completed in 1858, at a cost of 34,559*l*., was too weak and too small for its work, and that over 64,889*l*. in addition would require to be spent in strengthening it within the next twenty years, bringing up the cost of the work above that of Skerryvore. If they could have foreseen it, the Royal Commissioners would then have understood what was the reason for the difference of cost, which appeared to them so remarkable, and they would have drawn a comparison favourable to the Skerryvore instead of the reverse, cautiously stated though it was.

Driven from this position, you now propose to enter on new comparisons to support the case you are trying to establish, that the Scottish lighthouses are expensive, pitting the Wolf against Skerryvore and the new Eddystone against Dhu Heartach; but the costs that have been supplied to you for these towers are not made up on the same basis, and have misled you, as the correct figures show that the cost of these towers, and indeed of all our Scottish lighthouses, will compare favourably with similar works in any other country.

I regret being drawn into this correspondence, as I have the greatest respect for the ability of the late Mr. Walker, the engineer of the Bishop Rock Tower, and no one knows better than I do the difficulties to be overcome in connection with the construction of rock lighthouse towers. I desire to criticise no one's work, but I regard it as my duty to see that justice is done to my predecessors in office.

I am glad you recognise the difficulty of making a fair comparison between the cost of lighthouses where the position and circumstances are not and cannot be exactly similar in any two cases; and such comparisons as have been attempted, taking the cost per cubic foot of masonry or per candle-power of light, are delusive.

As on this point of the cost of our lighthouses, so on practically every point in your address in which you adversely criticise the action of the Northern Lighthouse Board, you are misinformed or not fully informed; and I again invite you to study the statement submitted to the Mercantile Marine Fund committee by the Commissioners of Northern Lighthouses in 1895, which would put you right on many points.

As you are evidently reluctant to comply with my request and publish the facts as to the Bishop, I am sending this letter to the press.—Yours faithfully,

(Signed) D. A. STEVENSON.

Mr. W. F. G. Anderson, Glasgow.

In reply, Mr. Anderson has sent the following letter to Mr. Stevenson :—

Glasgow : January 4, 1899.

Dear Sir,—I have your letter of 3rd inst., which I observe you have sent to the press, but as you have withheld the rest of the correspondence I am supplying the omission. I do not propose to prolong the correspondence, as no good end would be served by so doing, but as you now take exception in a general way to other statements made by me before the Chamber of Commerce, and refer me to the statement prepared by the Commissioners as a reply to the evidence which was given before Mr. Courtney's committee, you will permit me to say that I prefer to take it in conjunction with the evidence (particularly of such witnesses as Sir George Nares, Sheriff Guthrie Smith and yourself) rather than in substitution for such evidence. I was quite prepared to do justice to any well-grounded objections on your part at the first meeting of the Chamber, but you have now rendered further action on my part unnecessary. It was only yesterday that I obtained from the Trinity House the information for which I applied on receipt of your first letter, copy of which I annex.—Yours faithfully, (Signed) W. F. G. ANDERSON.

Mr. D. A. Stevenson.

Bishop Rock.

The first lighthouse erected on this site was an open structure of wrought and cast-iron; but when the tower was ready for the reception of the lantern the building was completely carried away during a heavy storm on February 5, 1850. A granite lighthouse was then commenced to replace the iron one, and this structure was lighted in 1858. In 1874, however, the tower had, owing to the tremendous seas to which it was exposed, to be strengthened from top to bottom by iron ties, and in 1881 the Trinity House determined to again strengthen and improve the structure by adding an outer casing of masonry up to the level of the service-room floor, and to increase the height of the building so that the focal plane of the new and most powerful light to be provided should be at an elevation of 146 feet, or 36 feet above that of the former one, and its nautical range be extended from 16 miles to 18¼ miles. This work was commenced in 1883 and completed in 1887. Deducting the cost of the first (iron) lighthouse erected on the Bishop Rock, viz. 12,500*l*., a sum of about 99,450*l*. in all has thus been spent on the present tower. This large expenditure has been due to the fact that the site is one of, if not actually, the most exposed of any rock lighthouse on the coast of the British Isles, and the light, from its position, one of the mose important to shipping.

The following are copies of the previous letters on the subject that passed between Mr. Anderson and Mr. Stevenson :—

Edinburgh : December 17, 1898.

Dear Sir,—I have to-day read your remarks made at the meeting of the Chamber of Commerce, Glasgow, as reported in the *North British Daily Mail* of the 13th current, in which you

submit a contrast of the cost of Skerryvore Lighthouse and the Bishop Rock Lighthouse quoted from a Royal Commission report which sat in 1861, with the view of showing that Skerryvore was an unnecessarily expensive work. Will you allow me to put you right as to a matter of fact, and ask you to give the correct facts equal publicity to your previous statement? The Bishop Rock Lighthouse was erected in 1858, and cost 34,559*l.*; but it had to be strengthened in 1874, and again in 1887 it had to be further strengthened with a new granite casing and other improvements, which cost 64,889*l.*, or, together, 99,448*l.* I may also mention that a cast-iron lighthouse, costing 12,500*l.*, was, in the first instance, erected on the site of this lighthouse, but it was entirely swept away by the force of the sea. You will thus see that 111,948*l.* has been spent on the Bishop Rock light, and on Skerryvore only 83,126*l.* Comment is unnecessary. There are various other points in your address as reported on which you are misinformed with regard to Vee Skerries, Flannan Islands, the erection of lighthouses with tenders, &c.; but I do not propose to trouble you with these. I think you cannot have seen the statement by the Commissioners of Northern Lighthouses submitted to the Mercantile Fund committee, which puts various other lighthouse matters you refer to correctly.—Yours faithfully,

(Signed) D. A. STEVENSON.

Mr. W. F. G. Anderson, Glasgow.

Glasgow: December 19, 1898.

Dear Sir,—I have your letter of 17th inst. in which you draw my attention to the large amount that was spent in strengthening the Bishop Rock Lighthouse on two occasions. I am inquiring into this matter, and after I obtain the information which I require I will communicate with you again on the subject.—Yours faithfully,

(Signed) W. F. G. ANDERSON.

Mr. D. A. Stevenson, Edinburgh.

Edinburgh: December 21, 1898.

Dear Sir,—I have your letter of the 19th current, and send you herewith a copy of the description of the Bishop Rock Lighthouse which will give you the information you desire. It is, you will readily acknowledge, to be regretted that statements are made in public in reference to the Northern Lighthouse Board which cannot be substantiated and might have easily been verified. Kindly return the enclosed when your purpose has been served.—Yours faithfully,

(Signed) D. A. STEVENSON.

Mr. W. F. G. Anderson.

Glasgow: December 23, 1898.

Dear Sir,—I have your letter of 21st inst., covering a copy of Mr. Douglass's description of the Bishop Rock Lighthouse, which I have perused and now return with thanks. Whilst I have found the paper interesting it does not exactly supply the particular information which I desiderate in connection with the question of the relative cost of the Bishop Rock and Skerryvore lighthouses. It appears to me that the relative situation and exposure of the two lighthouses require to be taken into account, and I should like to know whether the strengthening required for the Bishop Rock light arose from defective design or workmanship or from other causes that could not reasonably have been foreseen or provided for. I observe from Mr. Douglass's paper that, in his opinion, if the usual test of cost for such structures be applied to the Bishop Rock light, as it now stands (from which I infer that he includes the original cost as well as the expense of strengthening), it will compare favourably with other sea structures, and if the value be estimated from a nautical point of view it will be found to be lower in cost than any other first-class sea lighthouse.—Yours truly,

(Signed) W. F. G. ANDERSON.

Mr. D. A. Stevenson.

Glasgow: December 27, 1898.

Dear Sir,—I have now obtained some further information with reference to the Bishop Rock Lighthouse, from which it would appear to be scarcely fair to include, as you suggested, the outlay on the iron structure which was washed away, or the outlay on the improvement on the stone tower, 1882-87, since this was effected to give greater elevation and more space for a light of higher power. The strengthening which you also referred to appears to have been a small matter. You are, of course, aware that the comparison between the Bishop Rock and Skerryvore lighthouses did not originate with myself, but was made by the members of the Royal Commission of 1861, and that although I limited my extract from the report to the observations regarding three lighthouses, the Royal Commissioners made a much more comprehensive comparison, embracing English, Scotch, Irish and foreign lights generally, which, so far as the question of cost was concerned, was not in favour of the Scotch lights. As you have taken exception to the particular comparison which I quoted, it has been suggested to me that the cost of the Wolf Rock (62,726*l.*) might be compared with Skerryvore (83,126*l.*). The exposure of the Wolf Rock can, I think, be fairly compared with that of Skerryvore, and it contains more masonry. Similarly, the new Eddystone cost 59,255*l.*, as against 72,584*l.* at Dhu Heartach. I find that the Wolf Rock and Eddystone cost respectively 1*l.* 1*s.* 3*d.* and 18*s.* 2*d.* per cubic foot, as compared with 1*l.* 4*s.* 7¾*d.* for Skerryvore and 1*l.* 14*s.* 6*d.* for Dhu Heartach. I recognise the difficulty of a fair comparison between the cost of lighthouses where the position and circumstances are not exactly similar, and for this reason I attached a secondary importance to this question as compared with the other matters dealt with in the statement which I made before the Chamber of Commerce.—Yours faithfully, (Signed) W. F. G. ANDERSON.

Mr. D. A. Stevenson.

VENTILATION OF SCHOOLS.

AT the Teachers' Conference on Saturday a paper was read by Dr. A. Newsholme, examiner in State and preventive medicine to the Universities of London and Oxford, on "The Essential Conditions of Healthy Life in Schools." Dr. Newsholme confined himself to the structural and physical side of the question, the object being to explain and elucidate such requirements as would be likely to be enforced in secondary schools under a Secondary Education Act, Schedule VII. of the Elementary Education Code being taken as a guide, though many of its requirements were severely criticised. The main problem of school hygiene was that of ventilation. In connection with this cleanliness was essential. Every part of a school should be washable, and wet cleansing instead of dry should always be practised. Dust was the great enemy of health, and infectious dust was very apt to be spread in schools. Carnelley's results showing how the micro-organisms in school air increased with dirtiness of schools and of scholars were quoted. Natural ventilation by windows and other openings could only suffice in summer, in view of the dense aggregation of children in school. In winter the incoming air must be warmed, a point which he emphasised. This implied in large schools a mechanical system of ventilation, propulsion and aspiration of air being secured by special appliances. The Education Department still allowed the deadly system of "direct radiation" without stipulating for conjoined admission of fresh air. Such warmed air was necessarily expensive, but it amply repaid in improved health of teachers and scholars. Carnelley's researches had shown that the air in mechanically ventilated schools was greatly superior to that in schools where trust was placed in natural ventilation along with hot pipes or along with open fires, as still recommended by the Education Department. The desiderata as to school desks and seats were next discussed, the dual and larger desks being condemned. In elementary schools classes were allowed of too large a size, to the detriment of all concerned, worse teaching, impairment of health of teachers by overstrain, and of scholars by too close congregation. No class should exceed fifty in number, preferably forty. Single desks would go far to insure this; and they should hear less of infectious disease spread by school life.

GENERAL.

Mr. Harry Bates, A.R.A., sustained while on his autumn holidays a severe strain of the heart, which has necessitated complete rest for a time. His illness has caused some anxiety to his numerous friends, but he is now making satisfactory progress towards recovery, and his medical attendants give encouraging reports of his condition.

The Salon Exhibition of 1898, which was held in the Champ de Mars, has entailed a loss of 65,000 francs for the Society of French Artists.

Professor Aitchison's Lectures at the Royal Academy will commence on the 31st inst. The subject of the course will be "Greek Architecture." The first lecture of Mr. A. S. Murray's course will be delivered on February 20. The subjects to be treated are the "Niobides in Florence," the "Nereids in the British Museum," "Victories," "Bronze Charioteer at Delphi," "Chariot Groups," "Neo-Attic Sculpture." Sir W. B. Richmond's course began on Monday last.

The Morley School Board have adopted plans by Mr. T. A. Buttery, of Morley, for the new Board schools, which will be erected at a cost of 7,636*l.*

Mr. L. F. Vernon-Harcourt, C.E., will read a paper on Wednesday at the Society of Arts on "Canals and Inland Navigation in the United Kingdom." Sir E. Leader Williams will preside.

THE

Architect and Contract Reporter.

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," 175 Strand, London, W.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, 175 Strand, London, W.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, 175 Strand, W.C.

For Advertisement Scale, see page xv.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

BAKEWELL.—Jan. 28.—For erection of infirmary, female tramp wards, porter's lodge and the alteration of the present receiving wards at the workhouse. Mr. E. M. Longsdon, architect, Town Hall, Bakewell.

BARROW-IN-FURNESS.—Jan. 20.—For wiring the Free Library. Specification, &c., from the Town Clerk.

BAWTRY.—For alterations and repairs to Holland House, Mission. Mr. Joseph F. Walsh, architect, Lancashire and Yorkshire Bank Chambers, Halifax.

BELFAST.—Jan. 16.—For rebuilding the Crown licensed premises, Shankill Road. Mr. W. J. Moore, architect, Whitehall Buildings, Ann Street, Belfast.

BERWICK-UPON-TWEED.—Jan. 31.—For erection of lock-up and police station in Church Street. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-upon-Tyne.

BLACKPOOL.—Jan. 25.—For alterations and additions to station buildings at Central Station, Blackpool, for the Lancashire and Yorkshire and London and North-Western Joint Railways. Mr. C. W. Bayley, secretary, Hunt's Bank, Manchester.

BRIDLINGTON QUAY.—For erection of four terrace houses. Messrs. Chorley, Connon & Chorley, architects, 15 Park Row, Leeds.

BRIGHTON.—Jan. 17.—For conversion of an existing building at the Brighton Workhouse into apartments for the accommodation of a superintendent nurse. Mr. H. T. Reed, Parochial Offices, Prince's Street.

BURNLEY.—Jan. 16.—For rebuilding the Yorkshire Hotel, Gunsmith Lane. Mr. Robert Neill, architect, 9 Grimshaw Street, Burnley.

BURTON-UPON-TRENT.—Feb. 1.—For widening the bridge crossing the Midland Railway, Horninglow Street, and alterations to existing buildings adjoining thereto. Mr. George T. Lynam, borough engineer.

CARLISLE.—For erection of two houses at Brampton. Mr. J. Studholme Thompson, solicitor, Bank Street, Carlisle.

CHELTENHAM.—Jan. 23.—For reconstruction of retaining wall at No. 3 reservoir at Hewletts. Mr. E. T. Brydges, town clerk, Municipal Offices, Cheltenham.

CORNWALL.—Jan. 19.—For additions to the Churchtown school, Paul. Mr. William Curnow, Urban District Council, Paul.

DEVON.—Jan. 18.—For erection of a classroom and offices at the Eastdown Board schools. Mr. James Mayne, clerk, Eastdown, Barnstaple.

EXMOUTH.—For erection of four houses and shops opposite the railway station and Strand; erection of six semi-detached villas in Montpellier Road; putting new roof and making alterations and additions to 4 The Beacon. Mr. Philip Kerley, architect, Exmouth (opposite the railway station).

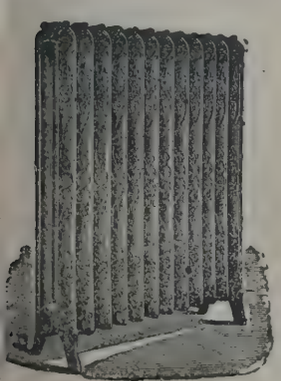
FAREHAM.—Jan. 16.—For construction of concrete foundations, erection of brick, steel and concrete superstructure of new infirmary wards, sanitary blocks, boiler-house, tall chimney shaft, &c., at County Lunatic Asylum, Knowle. Mr. W. J. Taylor, county surveyor, the Castle, Winchester.

FELIXSTOWE.—For erection of a villa. Mr. G. W. Thompson, architect, Granville House, Arundel Street, London, W.C.

GOOLE.—Jan. 18.—For erection of a foreman's cottage, Creyke's Siding, for Messrs. W. Smith & Co. Mr. H. B. Thorp, architect, Goole.

GUIDE BRIDGE.—Jan. 23.—For construction of refreshment rooms at Guide Bridge station, for the Great Central Railway Company. Mr. O. S. Holt, secretary, London Road Station, Manchester.

HANDSWORTH.—Jan. 17.—For enclosing and laying-out the new burial-ground, including making roads, &c., and



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erecting a chapel and boundary walls, &c. Mr. Edmund Winder, jun., surveyor, Corn Exchange Chambers, Wharf Street, Sheffield.

HUDDERSFIELD.—Jan. 18.—For erection of twelve dwelling-houses at Calmlands, Meltham. Mr. J. Berry, architect, 9 Queen Street, Huddersfield.

IRELAND.—Jan. 18.—For erection of business premises in High Street, Enniskillen. Mr. Thomas Elliott, architect, 37 Darling Street, Enniskillen.

IRELAND.—For alterations to business premises, Queenstown. Mr. Arthur Hill, architect, 22 George's Street, Cork.

ISLE OF THANET.—Jan. 25.—For erection of cottage home buildings at Manstone. Mr. Leonard Grant, architect, High Street, Sittingbourne.

KEIGHLEY.—Jan. 19.—For erection of two houses and shops in Cavendish Street. Mr. Geo. H. Knowles, architect, Burlington Chambers, Keighley.

LEEDS.—For erection of two pairs of semi-detached houses in North Grange Road, Headingley. Messrs. Kendall & Bakes, architects, Calverley Chambers, Victoria Square, Leeds.

LEEDS.—Jan. 17.—For alterations and additions to the poor-law offices, East Parade. Mr. T. Butler Wilson, architect, 12 East Parade, Leeds.

LEEDS.—Jan. 17.—For pulling-down and rebuilding boundary walls in Old Park Road, Roundhay, for the purpose of widening the road. Mr. E. J. Silcock, 10 Park Row, Leeds.

LEEDS.—Jan. 21.—For erection of a shoe factory in Hudson Road, Burmantofts. Messrs. Stephen Ernest Smith & John Tweedale, 12 South Parade, Leeds.

LEEDS.—Jan. 28.—For additions and alteration of Messrs. Wm. Wms. Brown & Co.'s old bank premises in Commercial Street into shops and suites of offices; alteration of shop premises and the Jubilee Hotel in Victoria Square; erection of printing warehouse, Cookridge Street; erection of shop premises and bakery, North Street; and settling tanks, Sheepscar Street. Mr. Thomas Winn, architect, 92 Albion Street, Leeds.

LEEDS.—Feb. 6.—For alteration and renovation of the public baths in Cookridge Street. Messrs. Walter Hanstock & Son, architects, Branch Road, Batley.

LIVERPOOL.—Jan. 17.—For erection of a police-station, dwelling-houses, &c., at Huyton. Mr. Henry Littler, architect, County Offices, Preston.

LITTLE ILFORD.—Jan. 25.—For erection of school buildings, out-buildings, caretaker's cottage, &c., in Bessborough Road. Mr. S. Jackson, architect, 65 Fenchurch Street, E.C.

LONDONDERRY.—Jan. 17.—For erection of six alms cottages (with the alternative of four) at Carrigans Lane. Mr. R. Eccles Buchanan, architect, 33 Shipquay Street, Londonderry.

NEWTOWN CUNNINGHAM.—Jan. 23.—For erection of teacher's residence at Newtown Cunningham, co. Donegal. Mr. M. A. Robinson, architect, Richmond Street, Londonderry.

NORTHALLERTON.—Jan. 31.—For erection of bathroom, bath and hot and cold water supply at the workhouse, Northallerton. Messrs. Fairbank & Son, 13 Lendal, York.

OLDHAM.—Jan. 21.—For erection of additional business premises at Delph, for the Delph Industrial Co-operative Society, Limited. Plans and specifications may be seen and bills of quantities obtained at the Society's office.

PRESTON.—Jan. 17.—For erection of a police-station, dwelling-houses, &c., at Huyton. Mr. Henry Littler, architect, County Offices, Preston.

RAWTENSTALL.—Jan. 23.—For erection of five cottages in Annie Street. Mr. F. J. Hobson, architect, King Street, Rawtenstall.

RIPPONDEN.—Jan. 31.—For erection of a fireproof mill adjoining the present mills at Ripponden. Messrs. Richard Horsfall & Son, architects, 22A Commercial Street, Halifax.

RISHTON.—Jan. 16.—For work to be executed at the Conservative Club. Messrs. J. C. Howard Sandback & J. Parker, architects, 15 Richmond Terrace, Blackburn.

ROCHDALE.—Jan. 17.—For erection of buildings for electricity works. Mr. J. Leach, town clerk, Town Hall, Rochdale.

ROCHESTER.—Jan. 18.—For erection of fire station at Station Road, Strood. Mr. W. Banks, city surveyor, Guildhall, Rochester.

ROTHERHAM.—Jan. 21.—For the erection of a villa residence at Greasborough, near Rotherham. Mr. J. Platts, architect, Old Bank Buildings, Rotherham.

RUGBY.—Feb. 15.—For erection of public offices in High Street. Mr. D. G. Macdonald, surveyor.

SCOTLAND.—Jan. 21.—For erection of court-house and police-station at Dunoon. Mr. Wm. Fraser, architect, Burgh Buildings, Dunoon.



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SHILLINGFORD.—Jan. 18.—For erection of a residence. Mr. Saml. Johns, architect, Wallingford.

SOUTHMINSTER.—Jan. 17.—For erection of Railway Hotel at Southminster, Essex. Mr. P. M. Beaumont, architect, Maldon.

TUNBRIDGE WELLS.—Jan. 26.—For erection of a chimney shaft at the workhouse near Penbury. Mr. Frank Wm. Stone, clerk, 23 Church Road, Tunbridge Wells.

WAKEFIELD.—Jan. 17.—For erection of cottage homes in connection with the acute hospital now in course of completion. Mr. J. Vickers Edwards, County Hall, Wakefield.

WALES.—Jan. 20.—For erection of thirty-five cottages, Cwmaman, Aberdare. Mr. T. Roderick, architect, Clifton Street, Aberdare.

WALES.—Jan. 23.—For erection of an intermediate school and hostel at Hengoed to accommodate eighty girls. Messrs. James & Morgan, architects, Charles Street Chambers, Cardiff.

WALES.—Jan. 25.—For additions and alterations to the Imperial Hotel, Porth. Mr. A. O. Evans, architect, Pontypridd.

WARWICK.—Jan. 19.—For erection of bathroom and lavatories at the workhouse. Mr. Francis P. Trepess, architect, 8 Jury Street, Warwick.

WHITBY.—Jan. 21.—For alterations to Talbot Hotel. Mr. John J. Milligan, architect, 77 Baxtergate, Whitby.

WIMBLEDON.—Feb. 13.—For erection of isolation hospital, to include three ward blocks, administrative block, cottage, receiving and discharging block, laundry and disinfecting station and mortuary, on site off Gap Road. Mr. C. H. Cooper, surveyor, Council Offices, Broadway, Wimbledon.

WINCHESTER.—Jan. 18.—For construction of strong-rooms in county offices and other small works. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

WINGATE.—Jan. 28.—For erection of a shop near Trimdon Station. Apply to the Secretary.

WOMBOURN.—Jan. 17.—For erection of a superintendent engineer's house at the Bratch waterworks. Mr. John D. Wassell, clerk, District Council Offices, Town Hall, Bilston.

A SCHOOL attached to the Methodist New Connexion a Fartown, Pudsey, was opened on Saturday last. The cost of erection was about 2,200*l.*

TENDERS.

CRAWLEY.

For laying 390 feet of 9-inch stoneware pipe sewers at West Green. Mr. C. H. BURSTOW, architect, 6 West Street, Horsham.

H. Lindfield & Son	£145 10 0
J. G. Pickard	139 16 0
R. EASTON, Crawley (*accepted*)	98 10 0

CRANFORD.

For alterations and repairs to the Dorkwell Isolation Hospital, Cranford.

D. D. Heath	£619 12 0
Speechley & Smith	594 0 0
A. Cutler	488 0 0
H. MORGAN, Isleworth (*accepted*)	469 3 0

GREENWICH.

For alterations to the Lord Nelson, Trafalgar Road, for Messrs. Barclay, Perkins & Co. Mr. G. HUBBARD, architect, 23 Finsbury Circus, E.C.

Wallis & Son	£3,120 0 0
Balaam Bros.	2,855 0 0
F. & H. F. Higgs	2,820 0 0
H. L. Holloway	2,533 0 0
W. Nash, New Cross	2,398 0 0

DEVIZES.

For erection of a bacon factory and other buildings on the Bath Road, Devizes, for the Devizes Bacon Company.

H. ASH, Devizes (*accepted*)	£3,289 0 0

FENTON.

For erection of fifteen lobbied houses in Blurton Road. Mr. ELIJAH JONES, architect, 10 Albion Street, Hanley.

T. Godwin	£5,527 0 0
C. Cope	5,447 0 0
Yorke & Goodwin	5,200 0 0
J. Bagnall	4,998 0 0
C. Cornes & Sons	4,900 0 0
G. A. Foster	4,770 0 0
J. H. Broadhurst	4,650 0 0
J. Cope	4,600 0 0
H. P. Embrey, Fenton*	4,516 15 0

* Accepted subject to architect's bill of deductions.

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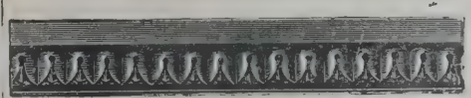

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P. BARRETT & SON, Dorchester (*accepted*)	£29 0 0

FRIMLEY.

For sewering a portion of Gordon Road, Camberley (about 3,000 feet), King's Ride, Camberley (about 1,400 feet), York Road (about 900 feet), Cromwell Road (about 750 feet), in each case 9-inch pipes. Mr. W. J. HODGSON, surveyor.

Bell	£888 0 0
Streeter	865 10 10
Coker	781 17 6
Turner	769 4 0
SWAKER, Chiswick (*accepted*)	704 4 0

HALIFAX.

For erection of ten through houses in Queen Street and fifteen in Middle Dean Street, West Vale. Mr. S. WILKINSON, architect, Sowerby Bridge.

Accepted tenders.

Fifteen houses in Middle Dean Street.

R. Longbottom, mason.
S. Sutcliffe, joiner and carpenter.
D. Wadsworth, slater and plasterer.
J. Stafford, plumber and glazier.
E. Broadbent & Co., painter.
G. Greenwood & Sons, concreter.

Ten houses in Queen Street, West Vale.

R. Longbottom, mason.
M. Hurst, joiner and carpenter.
J. Robinson & Son, painter.
J. Stafford, plumber and glazier,
G. Greenwood & Son, concreter.
J. Hoyle, slater and plasterer.

HEYWOOD.

For draining, levelling, paving, metalling, flagging, kerbing, channelling and making-good Buckley Street, for the Corporation. Mr. J. AINSWORTH SETTLE, borough engineer.

J. FLETCHER, Heywood (*accepted*)	£623 0 0

ILKLEY.

For excavating, ballasting, metalling, kerbing, channelling, asphalting and generally making-up Back Parish Ghyll Road.

J. J. Ingham	£306 11 11
T. Egan & Sons	262 9 8
W. Plows	251 19 8
J. FARRAR, Ilkley (*accepted*)	226 9 5

IRELAND.

For construction of reservoir, filter-beds, river diversion, pipes, fountains, hydrants, valves, pipelaying and all work and materials required for supply of water to town of Schull. Mr. RICHARD EVANS, engineer, South Mall, Cork.

J. White	£891 18 6
A. W. SMITH, Bandon (*accepted*)	795 0 0

For sewerage and waterworks at Glengarriff, co. Cork. Mr. RICHARD EVANS, engineer, 53 South Mall, Cork.

W. J. MURPHY, Bantry (*accepted*)	£295 0 0

KNARESBOROUGH.

For execution of a scheme of main sewerage at Pannal. Mr. R. ANNAKIN, surveyor, Harrogate.

B. Oxley	£651 10 5
J. Frosh	650 18 0
J. Keightley	645 11 3
F. W. Simpson	633 0 3
J. Firth	614 16 6
J. Pierson	605 15 0
W. ANNAKIN, Harrogate (*accepted*)	569 13 0

KNUTSFORD.

For taking-up existing boulder pavements and replacing them with 4 by 4 by 4 Penmaenmawr or Scotch granite cubes in Carrington, Partington and Warburton. Mr. JOSEPH BURGESS, surveyor, 7 Market Street, Altrincham.

G. BOZSON, Ashton-on-Mersey, Sale (*accepted*)	£2,517 0 0

LAMBETH.

For alterations to John Bull public-house, Tyers Street. Mr. GEO. HUBBARD, architect.

Burman & Son	£697 0 0
J. W. Heeps	599 0 0
W. Nash	547 0 0
Edwards & Medway	523 0 0
Hill	483 0 0

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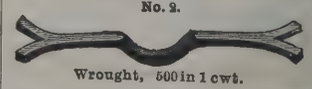
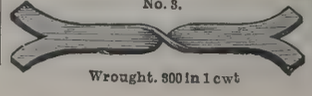
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J. Riddett & Son	£7,523 0 0
Broughton & Cox	6,684 0 0
W. Boulter	6,524 9 0
J. Wright	6,478 19 6
W. Starkie	6,456 16 3
Bradshaw Bros.	6,417 0 0
H. Herbert & Sons	6,300 0 0
W. M. Sharp	6,279 0 0
J. E. Johnson & Son	6,250 0 0
H. T. & W. Chambers	6,212 4 6
U. Gurney	6,100 0 0
H. Bland	6,100 0 0
T. Richardson & Son	6,079 0 0
J. Chapman	6,077 0 0
T. Herbert	6,075 0 0
J. H. Clayton	6,072 0 0
J. Bentley & Co.	6,039 0 0
T. F. Scott	6,022 15 0
J. Hutchinson & Son	5,990 0 0

Note.—Referred to sub-committee for acceptance.

LOUGHBOROUGH.

For taking-up and relaying drains, taking out old and putting in new water-closets and other sanitary works at the workhouse. Mr. W. T. HAMPTON, architect, Swan Street, Loughborough.

J. Smedley	£700 0 0
Main, Kendal & Main	695 0 0
A. Faulks	680 0 0
Ballard & West	611 1 0
Moss & Son	605 0 0
W. Tailby	596 16 0
J. G. PARKER, Loughborough (*accepted*)	580 0 0
Surveyor's estimate	601 15 0

LYMINGE.

For alterations to old administrative block of buildings at the workhouse. Mr. G. S. WILKS, architect, 2 Cheriton Place, Folkestone.

J. OVENDEN, Lyminge (*accepted*)	£998 0 0

MIDDLETON.

For sewering and draining Haworth Street and Wade Street. Mr. W. WELBURN, borough surveyor.

W. Hardy	£583 6 4
T. Rowland	552 4 3
H. Davison	508 1 0
J. Smith	495 14 3
Etheridge & Clarke	388 5 0
T. KILBURN, Bolton (*accepted*)	383 15 9

NEWTON ABBOT.

For erection of buildings at Witheridge Farm, Ogwell, near Newton Abbott. Messrs. RENDELL & SYMONS, surveyors, Newton Abbot and Totnes.

F. A. Stacey	£339 0 0
H. Mills	283 15 0
J. H. Foaden	262 14 6
W. J. Norris	260 0 0
Ford & Tozer	246 0 0
W. Atwill	228 0 0

NORTHFLEET.

For rebuilding three cottages in Lawn Road.

A. E. Tong	£770 0 0
W. H. Black	726 0 0

Neither tender accepted.

NOTTINGHAM.

For erection of a terrace of five houses in Scott's Street, Bulwell. Mr. FRED C. MARTIN, architect, Angel Row, Nottingham. Quantities by architect.

F. H. & J. W. Moore	£970 0 0
F. Messom	938 0 0
H. Jordan	900 0 0
J. OSCROFT, Nottingham (*accepted*)	885 0 0
Squires & Bancroft	880 0 0

For erection of a workhouse at Bagthorpe. Mr. W. H. WARD, architect, Birmingham.

F. EVANS, Old Basford (*accepted*)	£158,000 0 0

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A. P. Mears	980 0 0	16 0 0
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Free & Sons	875 0 0
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Culver Road.

Free & Sons	632 0 0
G. W. Talbot	608 9 8
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F. JONES (*accepted*)	525 13 2

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Miskin & Sons	£120 0 0
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Capper	52 10 0

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For additions and alterations to Waunwen Board school, Swansea. Mr. G. E. T. LAURENCE, architect.

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J. & F. Weaver	£2,793 14 5
J. & D. Jones	2,770 0 9
E. MORGAN (*accepted*)	2,643 16 11
T. Richards	2,591 12 0
Bennett Bros.	2,543 6 3

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J. & D. Jones	2,020 0 0
Bennett Bros.	1,669 14 2
J. & F. Weaver	1,578 7 6
T. Richards	1,501 18 2
E. MORGAN (*accepted*)	1,439 8 4

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E. MORGAN (*accepted*)	1,187 10 4
J. & F. Weaver	1,139 15 9
Bennett Bros.	1,128 1 6

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J. & D. Jones	93 4 10
T. Richards	88 19 10
J. & F. Weaver	88 2 4
E. MORGAN (*accepted*)	85 14 10
Bennett Bros.	84 8 10
Whole tender	5,356 10 5

For erection of police buildings at Festiniog. MCLACHLAN & BATKIN, Birkenhead (*accepted*) £2,198 10 0

WATERLOO.

For street works, for the Urban District Council. Mr. F. SPENCER YATES, surveyor.

R. CHADWICK, Liverpool (*accepted*) £1,975 0 0

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For the making-up of Malcom Road.

Mowlem & Co.	£717 0 0
Chittenden, Lake & Co.	665 0 0
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E. ILES, South Wimbledon (*accepted*)	606 0 0

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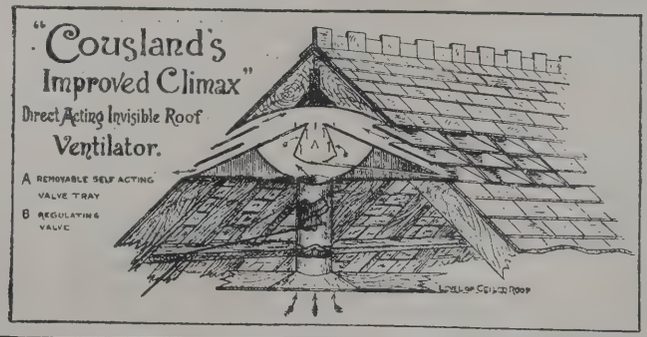
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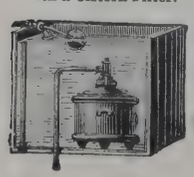




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W. WINNARD (*accepted*)	7,700	0	0

TRADE NOTES.

THE new Board schools, Conisborough, near Rotherham, are being warmed and ventilated by means of Shorland's patent Manchester grates.

OWING to the expiration of their lease, Messrs. John Jones & Sons, of the Art Metal Works, Walker's Croft, Manchester, have removed their foundry and offices to New Wakefield Street, Oxford Street, Manchester.

MR. GEORGE A. LANSDOWN, architect, of 5 and 7 Warwick Street, Charing Cross, London, S.W., informs us that the London County Council having purchased his present premises, he is removing to No. 9 Regent Street, Waterloo Place, S.W.

WE have received from Messrs. Whittaker & Co., Paternoster Square, E.C., a catalogue of useful handbooks for civil, mechanical and electrical engineers, and for students in science, technology and art. The works enumerated embrace an extensive field of subjects, and many of them are by authorities of wide reputation.

MESSRS. JERE KAYE & CO., timber merchants, Huddersfield, notify us that in order to more efficiently cope with their increasing business, they have opened an office at Queen's Dock, Hull, which, with a yard at Victoria Basin, will be under the charge of Mr. W. H. Boden, who has represented them in Hull for several years.

THE heating of the new Municipal Buildings, Douglas, Isle of Man, is to be effected by means of Spencer's patent "Ventilo" radiators, which have been fitted in many parts of the country in churches, chapels, schools, theatres and public buildings, and have been found to give highly satisfactory results. The patentee and sole maker is Mr. W. F. Spencer, Crossbank Works, Oldham, and 145 Queen Victoria Street, London, E.C.

THE fire-extinguishing arrangements at St. James's Hall, Piccadilly, have recently been thoroughly overhauled, and the water-supply being of insufficient pressure to enable jets to be thrown into the roof and upper galleries, Messrs. Merryweather have just fitted one of their patent "Hatfield" pumps, driven by an electro-motor. This pump is connected to the hydrant system, and enables jets to be thrown 40 feet above the roof at any time. The pump is placed in the basement and a switch placed by each hydrant enables it to be started immediately from any part of the building.

THE High Church, Paisley, having recently undergone extensive alterations and improvements from the designs of Mr. John Hutchison, architect, Glasgow, every care has been taken to make the ventilation efficient, Cousland's Improved Climax patent direct acting invisible roof ventilators and natural exhaust ventilators being used, supplied by the Climax Ventilating and Heating Company, 93 Hope Street, Glasgow.

MESSRS. ROBERT W. MANN & SON, auctioneers, surveyors and estate agents, inform us that, owing to the early expiration of the lease of 32 Lowndes Street, the business of Messrs. Robert W. Mann, Son & Ransome, auctioneers and surveyors, has been amalgamated with that of their other office at 12 Lower Grosvenor Place (near Victoria Station), and transferred to that place, which will be henceforth their only address.

VARIETIES.

THE new Baptist church erected in Wellington Road, Eccles, was opened for service on Sunday. The cost of the church, inclusive of the Sunday schools, opened some few weeks ago, is 4,000*l.*

THE Urban District Council of Handsworth have applied to the Local Government Board for sanction to borrow 17,500*l.* for works of sewerage, 15,030*l.* for the purpose of their depôt in Queen's Head Lane, 4,000*l.* for works of street improvement, 2,362*l.* for the purpose of the Victoria Park, 2,200*l.* for the erection of a fire-station, and 770*l.* for their refuse-destructor in Queen's Head Lane. An inquiry into the subject matters of the application is to be held at the Public Buildings.

A NEW Wesleyan Sunday school was opened at Wortley on Saturday last, which is to replace the old one, which has become inadequate to the requirements. The designs were

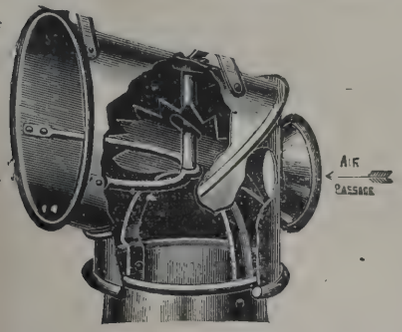
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prepared by Mr. Wilkinson, of Park Square, and the contracts were let for about 900*l.* Additional classrooms have been provided, and the infants' department has been divided into three such apartments.

THE Dover Corporation, who already own the local waterworks, electric tramways, bathing establishments and machines, &c., at their meeting on Tuesday afternoon had before them a proposal to purchase the local gas and electric light undertakings. The proposal was adjourned for further particulars.

THE interesting old parish church of Coddenham, Suffolk, which is situated in an historical part of East Anglia, has just been enriched by the addition of an elaborately-carved reredos, the gift of the vicar and friends. The panels are carvings in high relief decorated with gold and colour, and represent on the left the Three Marys at the Tomb, and on the right the Descent of Our Lord from the Cross. Iron-hinged brackets of elaborate design, with curtains hanging therefrom, are fixed on either side of the reredos.

THE new lecture-hall and school buildings in connection with Wesley chapel, Birkenhead, were opened on Thursday, the 4th inst. Accommodation is provided for over 700 children, the cost being about 3,000*l.* The contract has been successfully carried out by Mr. James Merritt from the designs and under the superintendence of Mr. T. W. Cubbon, architect, of Birkenhead.

THE entrance to the lower chamber in the central lobby of the Houses of Parliament is occupied with scaffolding, and a number of workmen are engaged in placing an elaborate mosaic representing St. David in the niche over the doorway. The mosaic is to be a companion work to that depicting St. George over the entrance to the House of Lords, and it is intended to place mosaics representing the patron saints of Scotland and Ireland in the corresponding spaces over the doorways leading to St. Stephen's Hall and to the Commons' dining-room and committee-rooms. The St. David mosaic will be in place before the opening of Parliament.

A MEETING of the Liverpool Architectural Society was held on Monday evening in the rooms of the Reference Library, William Brown Street, when the members, numbering about thirty, were permitted to inspect a selection of the most valuable literature in the department of architecture which the institution possesses. The formal business of the meeting was brought to an early close by Mr. W. E. Willink, the Society's president, in order that the opportunity to examine the volumes displayed by the chief librarian, Mr. Peter Cowell, should be taken advantage of to the fullest possible extent. Much satisfaction was expressed at the pleasurable and profitable results of the meeting, which terminated with the thanks of the Society to the libraries committee and the chief librarian.

THE directors of the Natclough Fustian Manufacturing Society, Leeds, for the purpose of meeting the requirements of the County Council, have constructed two huge brickwork tanks for the purpose of filtering dye-water before being turned into the river. On Monday one of the tanks had been filled for the purpose of testing the filtering process. The tank measured 26 feet by 19 feet, and there were 10 feet of water in it, when, without the slightest warning, the outer wall, which runs alongside the river, was carried bodily out. One of the workmen, who was on the wall, was carried with it, but, strange to say, he escaped without injury. Others had narrow escapes. The damage is put down at 120*l.*

SHORTLY after two o'clock on Sunday afternoon a large iron bridge spanning several lines of railway at the north end of Crewe, on the London and North-Western system, suddenly collapsed, through a number of huge pillars giving way, and fell with a great crash on to the lines below. Some waggons standing near were smashed and derailed. The permanent way was cut up and a portion of the main line platform was wrecked. Many signals were completely cut through and the signalling arrangements disorganised. An engine and coach had a narrow escape of being crushed by the falling débris and several persons had wonderful escapes. Happily no one was injured. The bridge fell right across the main line to Chester and Holyhead, which was completely blocked, traffic having afterwards to be worked by a circuitous route. The bridge stood on massive iron pillars, and what caused their collapse is a mystery.

A NOVEL application of aerial tramways is now in use in connection with the works for the rebuilding of Vauxhall Bridge, the contractors for which, Messrs. Pethick, of Plymouth, have commissioned Mr. J. M. Henderson, of Aberdeen, to carry a suspension cableway right across the stream. This consists of a wire hawser 6½ inches in circumference, crossing the river with a span of about 920 feet and suspended from two uprights or masts, 77 feet high, on each bank. On this cable runs a trolley, from which can be hung a load of any desired character up to a weight of four tons. A stationary engine at the Westminster end hauls the trolley forwards and backwards

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as required by means of an endless rope, and another rope enables the raising and lowering of the load also to be controlled from the bank. The apparatus is expected to be of great service, both in removing old material and in conveying new into position, and it has the additional advantage that, by its adoption, the free navigation of the river will be less interfered with than by the extensive stagings which the contractors would otherwise have been obliged to construct. That a very large amount of material will have to be transported may be judged from the fact that the new structure, which is to take five years to complete, will be much wider than the old one, and that the foundations of its piers, besides being proportionately larger, are to be carried down 22 feet below the present bottom of the river, instead of standing on the bed as was practically the case with the old bridge. Another interesting point is that it is to be built of concrete, a material which so far has not been much used for arches of such large span as the new Vauxhall Bridge will possess.

THE fabric of St. Luke's Church, Birmingham, although erected only a little over fifty years ago, has long been falling into decay, and considerable fear is entertained that the whole building may collapse. The attention of the city authorities has, says the *Liverpool Courier*, been directed to the matter, and as the result of a careful inspection of the structure it has been condemned as dangerous. Some few years ago the south wall showed signs of giving way, and that side of the church was propped up by stout pieces of timber. At the time this step was taken it was apparent that the fabric of the church as a whole was gradually giving way, and that the time was not far distant when it would become so dangerous and such a menace to public safety that it would have to be razed. Recently the process of decay has proceeded so rapidly that in the opinion of experts the condition of the building is such that further delay in either closing it for worship and pulling it down would be a source of danger. The internal columns are leaning to such an extent that they resemble so many towers of Pisa. They are falling outward, and as the external walls are giving way in the same direction there is the possibility of the north and south aisles tumbling down and the nave collapsing. The tower, too, appears none too safe. Indeed, owing to the perishing of the stone-work the top part of the turret depends entirely upon a few attenuated supports. The walls of the tower and the gable ends have perished to a remarkable extent both inside and out, and the east gable end of the south aisle has decayed to such a degree that there are holes in the walls through which the birds fly in and out. The other gables are in little, if any, better condition, and the circular window of stained-glass at the end of the chancel is only kept in position by a strong piece of wood which is nailed across it. The cause of the dilapidated state of the church is due to the soft and yielding nature of the stone employed in the erection of the fabric, and also the fact that although the walls are of considerable thickness they are simply "faced" with the stone, the interior being filled in with rubble. To look at the church one would think that it was built in the year 1481 instead of 1841. It was one of four built by the Birmingham Church Building Society in the forties. The others were St. Andrew's, St. Stephen's and St. Mark's. They were all built of the same kind of red sandstone, and all are in a sad state of decay. St. Luke's was erected at a cost of 3,700*l.*, the stone being given, and it has accommodation for 800 worshippers.

BUILDING AND BUILDERS.

IN our reference in last week's issue to the competition for Ardrossan and Saltcoats Hospital we gave Mr. Guest Luckett's address as at Glasgow, instead of Aylesbury. Twenty-eight sets of plans in all were sent in in this competition.

A BRICKLAYER'S labourer named Michael Kenny was awarded 120*l.* damages against Mr. William Cunliffe, builder and contractor, at Bolton, on Wednesday, for the loss of a finger through an accident.

TWO Burnley joiners, named Edward Lancaster and Richard Wright, were working at the new Greenwood Hotel, Horwich, when the scaffolding gave way owing to the wet weather, the gable falling with it. Both men were precipitated to the ground and internally injured. They lie at Bolton Infirmary in a serious condition.

THE tramway committee of Glasgow Corporation have approved of an agreement between the Corporation and the Renfrew County authorities for the erection of a new bridge over the Cart at the village of Cathcart. For the purpose of tramway extension the bridge is to be 50 feet wide, and to cost 8,000*l.* The expense is to be borne, one-half by the county authorities and the other half by the Tramways and Statute Labour Departments of the Corporation.

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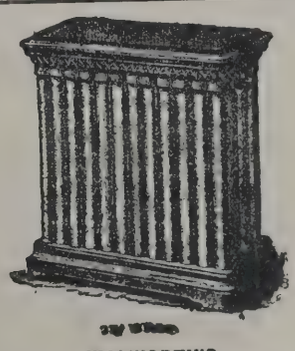
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MR. SANG, civil engineer, Kirkcaldy, has completed his plans and drawings for the proposed new road to be made to connect Kirkcaldy and Pathhead. If the den is to be spanned by a four-arched viaduct, there is a difference of opinion in the Town Council as to the cost of the undertaking, some averring that 20,000*l.* would be expended, while the Council sanctioned the scheme on the understanding that it was not to exceed 14,000*l.*

AT a meeting of Dunoon and Kilmun School Board, held on Wednesday afternoon, the minutes of the Dunoon committee recommending the acceptance of the plans of Mr. Fraser, architect, for the extension of the Dunoon Grammar School, were carried by four votes to three. The carrying out of the plan will necessitate an outlay of between 3,000*l.* and 4,000*l.*, which will be expended in the erection of an additional storey over the central part of the school.

WORKMEN are now employed taking down St. John's Mission Church, Driffield, a temporary wooden structure erected for worship during the restoration of the parish church about twenty years ago, and ever since retained for that purpose. The last service was held on Sunday, when the building was crowded. The new church is to be of brick in the Norman style of architecture, and is to cost about 4,000*l.*

AT last week's meeting of the Old Kilpatrick School Board plans were submitted for the proposed school at Radnor Park. A selection was ordered to be sent to the treasurer to prepare an estimate of the cost, based on the specifications of the new school at Yoker in respect to material and quality of work. The Board also desired the estimate to show the probable cost of the building when completed and the probable cost of the part which it is intended to build at present, including boundary-walls, outhouses, playground and drainage, and the difference between certain systems of heating and ventilation.

THE Nottingham Board of Guardians have accepted the tender of Mr. Frederick Evans, Old Basford, of 158,000*l.*, for the erection of a new workhouse at Bagthorpe, subject to the contract being completed in three years. The lowest of the tenders originally sent in was 274,500*l.*, which far exceeded the estimates of the Board's advisers, whilst the expenditure sanctioned by the Local Government Board only amounted to 217,000*l.* Accordingly, the Guardians called in Mr. W. H. Ward, of Birmingham, their consulting architect, who suggested modifications of the scheme, whereby, without reducing the accommodation or sacrificing any material feature of the plans, a saving of at least 100,000*l.* would be effected, and it is on the basis of Mr. Ward's suggestions that the new tender has been accepted.

THE ordinary meeting of the Colne School Board was held on Monday evening, when a protracted discussion took place on a recommendation from the building and sites committee that the Board should purchase or obtain on lease 600 square yards of land for a new school at Black Lane Ends, where the Education Department have ordered the Board to provide accommodation owing to the closing of the Wesleyan Adventure school. The minute, however, was not confirmed. Another recommendation of the same committee, that a site be procured in Knotts Lane, in the west end of the town, where there is a lack of accommodation, also provoked much discussion, but was eventually adopted.

AN inquiry has been held at Castleton in regard to the application of the local authority for sanction to borrow 3,000*l.* for public improvements. Evidence was given in support of the application by Mr. R. B. Wallis, the clerk to the Council, Mr. Webster, the surveyor, and Mr. Thomas Holt, chairman. It was pointed out that the money was required for the provision of a new fire station, stables, cartsheds, dépôt and caretaker's house, all to be established in John Street, Castleton. Plans had been submitted for a mortuary, but this was only an afterthought, and if the Local Government Board did not press for the provision of one the District Council would drop the project. There was no necessity for a mortuary, it was urged, as the Council already had accommodation in another part of the district. They desired to put up substantial buildings, and to concentrate their offices rather than have them scattered about the district, as at present. No opposition was raised to the application, and after the inspector had finished taking evidence, he visited the site for the proposed buildings.

PROGRESS is being made in the erection of the new Presbyterian church and school hall at the corner formed by Harehills Avenue and Avenue Hill, Leeds. The hall has, in fact, already been completed and formally opened. It has cost 1,800*l.*, is built of pitch-faced stone lined with brick, with a pointed red-tiled roof to conform with the church to be erected in the near future on the immediately adjoining land. The dimensions of the hall are 43 feet by 26 feet 6 inches, and there is seating accommodation for about 250 people. The roof is timbered and the walls finished in plaster with a panelled wood dado up.

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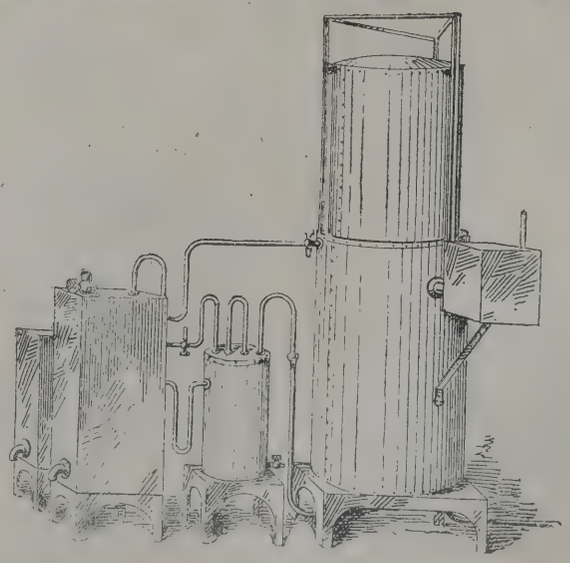
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to the window-sills. Solid wood blocks are used for the floor, and there is marble mosaic work in the entrance. The church will front to Harehills Avenue, but there will be an additional entrance from Avenue Hill. The building is to be in the Old English style of architecture, with a handsome tower and spire at the junction of the two roads. About 67 feet long by 37 feet wide, there will be seats in the church for about 500 people. It is proposed to place the session-house and other rooms between the church and school. These will have a separate entrance. The carrying out of the whole scheme will cost about 7,000*l.*

SOME extensive new halls are to be erected for the Wesleyan Methodist West End Mission at the corner of Earl Grey Street and Wellington Place, Tollcross, Edinburgh. The ground is at present occupied by St. John's school and two blocks of comparatively new tenements of shops and dwelling-houses. The whole of these buildings will have to be demolished to make room for the new halls. A sum of nearly 20,000*l.* was paid for the buildings and ground. The street and basement floors have been planned as business premises. Ten commodious shops with extensive cellarage occupy these floors. The main entrance to the hall will be from Wellington Place by a wide corridor leading into a crush-room on an entresol floor. A wide staircase leads to large hall on first floor, and this hall is planned to accommodate, along with gallery, 1,600 to 1,700 persons. On the first floor there is also arranged a small hall seated to accommodate 280 persons, with platform at one end and classroom and lavatory accommodation at the other. The whole of the upper floors are arranged for classrooms, stores and caretaker's house. Special attention has been paid to the entrances and exits from these, as well as from all other parts of the building. Externally the buildings have been designed in a free treatment of the French Renaissance, and when completed will add considerably to the architectural amenities of the district. The whole scheme has been designed by and will be carried out under the direction of Messrs. Dunn & Findlay, architects, Edinburgh. The total cost of the scheme will be over 40,000*l.*

THE memorial-stone for the new parish church for Hutchestown, Glasgow, was laid a few days since by Sir John Neil Cuthbertson. The site of the new building has a frontage to Rutherglen Road of 125 feet, and to Rose Street of 108 feet. In addition to the church the site provides accommodation for capacious halls to seat 600 people. The church has been designed by the architect, Mr. Alexander Adam, St. Vincent Street, Glasgow, in the semi-Romanesque style of architecture. It is divided into side aisles and north and south areas, with side and back galleries, the seating accommodation being for 950. The special feature of the interior is a chancel arch of chiselled stone-work, divided into three sub-arches, the organ chamber being behind and the pulpit in front. The roof is an ingenious combination of iron and slate, and it covers the whole span without the usual clerestory. The walls are of red sandstone, with rock-faced courses and clean dressings round the windows and openings. The stone was obtained from the Corncocle Quarries, and the green slates from Elo Water in Wales. The main entrance is from Rutherglen Road, the doorway being 8 feet wide. There will be two other entrances, and the main entrance to the halls will also be from the same road. To the east of the principal entrance to the church a tower will be erected with four pinnacles, but no spire in the meantime. The cost of the building and site is estimated at 10,525*l.*

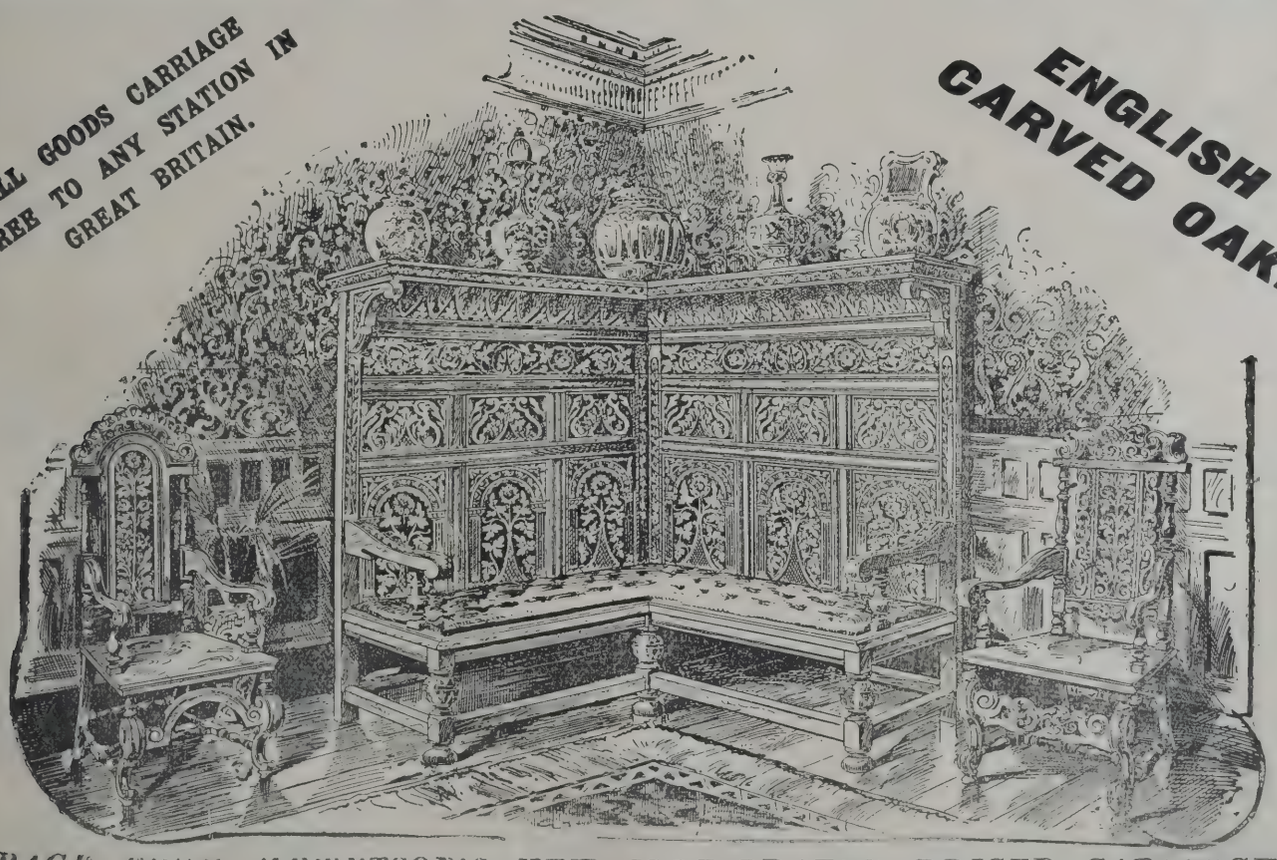
ELECTRIC NOTES.

THE directors of the Moffat Hydropathic have resolved to keep the establishment open throughout the winter in future, and to light it by electricity. The contract for the electric lighting has been placed, and will be proceeded with immediately.

TRIALS of electric lighting have been made at the Vatican, notably in the Raphael Galleries. The whole of the Vatican will be lighted by electricity in a fortnight's time. This is being done by special desire of the Pope.

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Estate Department.—Auctions and Private Sales, Valuations, Lettings, Surveys, Repairs, and Decorations.

THE Niagara Electro-Chemical Company of Niagara Falls has awarded the contracts for an addition 50 by 125 feet to be made to its works on the lands of the Niagara Falls Power Company. The building will be of brick, with iron girders, and have a Mackwirth roof. It will form an addition to the sodium-peroxide department, and it is expected that it will be fireproof. The company will not at present increase its supply of electrical power, but in the near future expects to contract with the Niagara Falls Power Company for a large additional block of the electric energy. The new building is expected to be completed by the early part of February.

BOSTON, U.S.A., claims the distinction of being not only a city of light intellectually, but materially, and it bases its claim on the fact that "it has a larger number of electric lamps for every 1,000 inhabitants than any other city in the world." The figures presented by the *Boston Globe* in support of this contention show that Boston has 373 more lamps per 1,000 than Greater New York, the record standing 1,232 to 859 in favour of the hub. Third in the list comes "boastful Chicago" with 730. Then follow San Francisco with 660, St. Louis with 660, Cincinnati with 551, Philadelphia with 375, Baltimore with 373, Brooklyn with 286, Vienna with 246, Edinburgh with 242, Paris with 185, London with 184, Berlin with 178. And yet, it is admitted, "there are dark places even in Boston of the illuminati."

A CONFERENCE of considerable importance to municipalities possessing electric installations took place in Manchester on Tuesday. It was convened by the Lord Mayor of Manchester to organise opposition to the Lancashire Electric Power Companies' Bill, 1899, and the South Lancashire and Cheshire Electric Power Bill. Those Bills, it was explained by the Lord Mayor, who presided, would, if passed, give power to the promoters to go to the various towns of Lancashire and Cheshire, and supply electric power for lighting and motor purposes in a way that would trespass on the rights already obtained by the municipalities who had control of the electric supply. If their recommendations were adopted by Parliament, the control of the streets by municipalities for electric purposes would be done away with, and private companies would have the right of competing for the supply of the current. Steps were taken to bring the action of the conference to the notice of the Board of Trade, and the local members of Parliament, and an executive committee was appointed.

A SPECIAL meeting of the Garston District Council was held on Monday night for the purpose of considering the adjourned report of the special purposes committee upon the proposed transfer of the Council's electric-lighting order, obtained in 1897, to the British Insulated Wire Company on terms already reported. Mr. J. Pickthall presided. At the previous meeting a resolution was proposed for the adoption of the committee's report, and the discussion was now continued at great length, Mr. J. Rigby proposing an amendment that a clause be inserted in the agreement to the effect that the electric works and refuse destructor be not erected in a residential district. The amendment was defeated by six votes to four. Mr. Paton, after further discussion, said he thought a clause should be inserted in the agreement allowing the Council to repurchase the undertaking at the expiration of fourteen years on the best terms possible, and he proposed a resolution to that effect. He would rather cancel the agreement than allow the company an unlimited monopoly for more than fourteen years. The amendment was defeated by four votes to three, and eventually the committee's report was adopted.

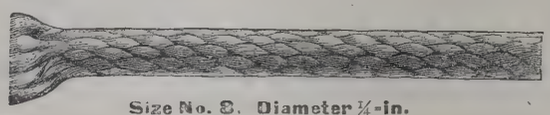
THE Lancashire Electric Power Company have deposited a Bill for next session by which they seek incorporation for the purpose of providing stations for the production, storage and distribution of electricity. The works to be constructed under these powers comprise four central or principal stations, on certain lands set out in a schedule to the Bill, in the parishes of Aspull, Parr, Little Lever, and at the western corner of the Trafford Park estate, in the parish of Barton-on-Irwell. At these central stations the company propose to manufacture and sell everything necessary for "distributing energy for lighting and other purposes, public and private, and for converting the same into motive power, heat, or otherwise." The capital of the company is to be 3,000,000*l.*, in 300,000 shares of 10*l.* each, but with power to divide these shares into "preferred half shares" and "deferred half shares." It is provided that nothing in this Bill shall confer on the company the exclusive right to supply energy within the area of supply, or to hinder or restrict any other body or person from supplying or increasing their supply within the same area, nor shall the company hereafter be entitled to compensation by reason of any competitive supply. The profits of the company are proposed to be limited to 10 per cent. on the paid-up capital, subject to a sliding scale similar to the one in existence in many large gas companies. The South Lancashire and Cheshire Electricity Company have lodged a Bill for similar powers. Only one generating station is proposed. This will be erected on land at St. Helens, now in the possession of the British Plate Glass Company, Limited. The

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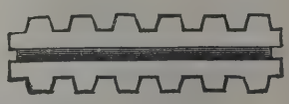
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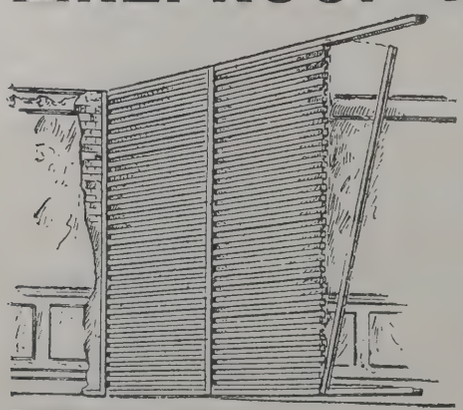
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capital is to be 750,000*l.*, with power to borrow a further sum of 250,000*l.* The clauses in this Bill are almost identical with those in the larger company's Bill.

ADDINGTON CHURCH.

THE chancel of Addington Church, which has been restored and decorated as a memorial of the late Archbishop Benson, will be reopened and dedicated on Friday evening, the 20th inst., when the Bishop of Winchester will be the preacher. The work of restoration, which was planned during Archbishop Benson's lifetime, consists in the reopening of a Saxon window which had been blocked, probably, for six centuries, and the construction of a fine hexagonal oak ceiling on the underside of the ancient thirteenth-century roof timbers, in place of the lath and plaster ceiling which at some period had been substituted for the original boarding. The most interesting feature of the decorative work is a low reredos, of very beautiful perforated white alabaster scroll-work, with statuettes of four archbishops, under canopies, between the windows and in the north and south corners of the church. Archbishops Theodore and Benson are the principal figures, Cranmer and Laud being placed at the north and south ends of the reredos. The walls are adorned with richly varied diaper-work, figures and escutcheons. On the north side are the armorial bearings of Trinity College, Cambridge, Wellington College, Lincoln and Truro, all closely associated with the late Primate's life work. On the opposite wall are those of the five predecessors of Archbishop Benson, all of whom resided at Addington Park. Below the shields are figures of Cosmas on the south wall and Damian on the north wall, the Arabian brother physicians and martyrs, to whom an altar was dedicated in Addington Church; and on the east wall, for the same reason, the Virgin Mary and St. Catherine are represented, and above, at the apex of the roof, the Christ in Glory, with adoring angels on either side. The architect is Mr. Arthur J. Reeve.

VICTORIA STATION.

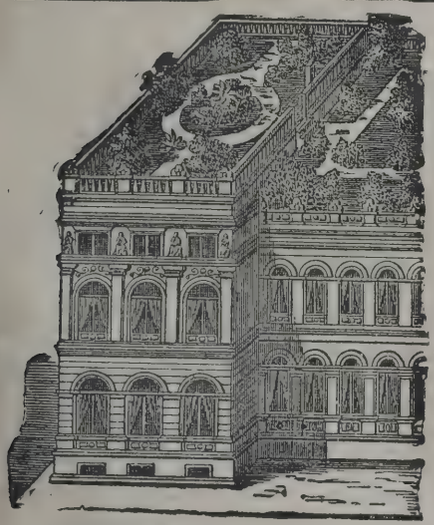
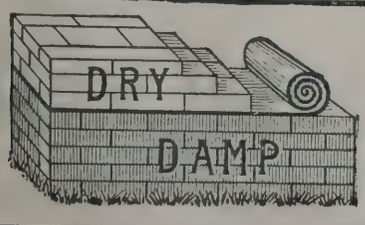
NO one will deny, says the *Daily Chronicle*, that Victoria Station is unsightly, and not a few engineers look upon it as a dangerously inflammable wooden structure. It was opened in 1860, when, by the way, it was regarded by the Brighton Railway officials as merely a "temporary shake-down." At that time the passenger traffic was not a quarter so great as it is to-day. However, the building has been made to serve until it is absolutely imperative, for the convenience of those who travel by that system from the West End terminus, that a larger station should be erected without further delay. As it stands the size of Victoria Station precludes any possibility of any additional excursion trains or improved main line and suburban services, which are most urgently required by the rapidly increasing population of Surrey and Sussex. Brighton—the nearest seaside town to London—Eastbourne and other resorts on the South Coast are complaining that their development is retarded by the impossibility of the company giving them a train service adequate to their requirements.

The result of the policy of delay in the past is that the scheme to be brought to the notice of the shareholders on the 25th inst. is both extensive and expensive—extensive owing to the necessity of meeting the demands imposed by the traffic developed by the new widenings of the line down to Three Bridges, and expensive because the value of land in the Metropolis has so much increased during the past thirty years.

When the new scheme is completed, the Brighton Railway's terminus will be one of the longest in London, and will, architecturally, be one of the handsomest. The additional accommodation is to be obtained mainly by lengthening the station. It is impossible to widen it to any extent, owing to the Chatham's terminus on the left, and the Buckingham Palace Road on the right. What widening there is will be made immediately beyond the Grosvenor Hotel, and will be parallel to the Buckingham Palace Road. Travellers on the Brighton have often realised the difficulty of trains entering and leaving the station. They have had to pass through the narrow neck of a bottle. This neck will be enlarged through the Buckingham Palace Road, and then there will be no delays on Grosvenor Bridge or in the station. The widening of the approaches to the station now suggested will allow of four lines (already authorised, and for which the land is being acquired) running into the terminus, double the number now existing. In the same Bill powers are sought to continue the four lines to Hayward's Heath, and eventually they will be extended to Brighton, thus enabling two lines to be set apart for express trains.

It is, however, with the actual station that the public is chiefly concerned. At the present time only eight passenger trains can be dealt with at one time. After the enlargement the number will be increased to eighteen, because the platforms will be twice as long as they now are, and because of re-

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arrangement. Moreover, there will be no more "knifeboard" platforms, for none will be less than 25 feet wide.

The elongation and widening will bring with it an improved service of trains, especially for the suburbs. There will be more excursions, and these "specials" will in no way disturb the ordinary traffic, as they do to-day. The entrance to the station for passengers will be 45 feet further away than it is now; that is to say, this amount of land will be added to the open space where cabs and omnibuses congregate; but with this comes a larger "circulating" area in the station for passengers, for the platforms will be 100 feet away from the booking offices. Further, there will be a proper cab-rank inside the station.

Roughly, the improvements thus briefly set out will cost nearly 1,500,000*l.*, and when they are completed—everyone will say the sooner the better—the Brighton Company's terminus at Victoria will be both useful and ornamental.

ENGINEERING PLANTS OF LARGE BUILDINGS.

THE prime considerations in the mechanical equipment of the modern building are safety, reliability, simplicity, small space occupied, low first cost, and low expense of operation and maintenance. All these cannot, of course, be secured together, but good judgment must be used in selecting the apparatus which will best meet the requirements of the particular case. At a recent meeting of the St. Louis Chapter of the American Institute of Architects, Mr. William H. Bryan read a paper on modern practice in this field. He said:—

In general it may be said that the number and size of units—boilers, engines, pumps, &c.—should be such that, with any one unit out of service for cleaning or repairs, the remaining units can handle the maximum service if called upon to do so. As the best machinery can safely stand overloads of from one-third to one-half for short periods, there should never be less than three units, each capable of doing from one-third to one-half the maximum work.

The ordinary tubular boiler is preferable where there is sufficient room, where extreme safety is not essential, and where first cost is of prime importance. Where space must be economised, however, and where extreme safety at high pressure is necessary, the water tube boiler will be found worth its increased cost. In economy of fuel, quick steaming and dryness of steam, neither type has any advantage over the other, assuming that both are intelligently designed and operated. The working steam pressure should be 90 to 100 lbs. if simple engines are to be used, and 125 lbs. if compounds are selected.

The chimney should be at least 100 feet high above the grates, and higher if necessary to bring its top well above adjacent buildings. In area it should equal the aggregate tube area of the boilers. For water tube boilers one-ninth the grate area may be used. It should preferably be circular in section, and lined with firebrick. The smoke flue leading to it should be at least of equal area, circular in section, and as short and direct as possible. Where bends are unavoidable, they should be of long radius. Good draft is of prime importance in securing the best results with the fuels ordinarily burned in St. Louis. Smokeless furnaces should always be adopted, for æsthetic and sanitary as well as economical reasons. There are many good devices of this character, such as the down draft, the automatic stoker, and the firebrick arch.

The steam-engines and large pumps should usually be of the compound type, where the steam is worked through two cylinders in series, thus giving an economy of 20 to 40 per cent in the use of fuel over simple or single cylinder engines. The slow speed Corliss engine represents the highest economy, but is rarely available for buildings, on account of the space it requires, and the fact that it cannot be directly connected except to low-speed, high-priced dynamos. Compound high-speed engines occupy much less space, are capable of direct connection, regulate better, and approach the single cylinder Corliss closely in economy. Where space is extremely valuable, high-speed engines of the vertical type may be successfully employed. There are now a number of satisfactory makes on the market at reasonable figures of cost. Very close regulation of speed is now possible without danger of racing, and should be required. The variation over all ordinary ranges of load and steam fluctuations may be kept within 1 per cent., and should never exceed 2 per cent.

The dynamos should, of course, be of the low-speed direct-connected multipolar type, over-compounded slightly. They must be capable of standing a reasonable overload for short periods, and must not heat unduly in any parts under any conditions of service. Their regulation, non-sparking qualities and efficiency, not less than 91½ per cent. at full load, should also be guaranteed. The switchboard should be of marble or slate, so located that all parts are readily accessible. It should

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be provided with all necessary indicating, regulating, switching and testing instruments, including, if the plant is a large one, a recording watt-meter. There should also be provision for a connection to an external plant for use in the event of accident to the local plant, or at night and on Sundays and holidays.

The distributing system may be either two or three wire, at 110 or 220 volts pressure, depending upon the character of the work. Arc and incandescent lamps and motors may all be operated from the same mains and apparatus, but it is customary to bring all the wires back to the switchboard separately for ready control. The enclosed arc lamp has practically displaced all other types on account of its uniformity of operation, noiselessness, simplicity and freedom from frequent carboning. Its efficiency, however, is very low.

The elevator system presents the most complicated problem connected with the modern building, on account of the rapidity with which advancements are being made in all the standard forms of hydraulic, electric and steam. An intelligent selection can only be made by carefully studying the requirements of the particular building under consideration. Until very recently the hydraulic elevator stood at the head, and for a wide range of service is still, in my opinion, without a peer. It has behind it a long record of excellent performance, small repair bills, great reliability and durability, and smoothness of operation. Recent improvements in using higher pressures, and high-duty pumping engines, have given it a renewed lease of life. Broadly speaking, I should say that the hydraulic elevator is preferable where the speeds are high, the lifts long, where many stops and starts are made between terminals, and where the average load approximates closely to the maximum.

The principal objection to the hydraulic elevator as usually constructed is, next to its high cost, its low fuel efficiency, due to three features. First: No part of the live load can be counterbalanced, nor even all of the dead load. Second: The maximum amount of power is required irrespective of the load, the empty car requiring as much as the heaviest load. Third: The direct-acting steam pump ordinarily employed is very wasteful in the use of steam. The first two points seem to be very difficult to remedy, but the third may be met in large plants by the use of high-duty pumping engines.

The electric elevator has made immense strides in the last few years, and to-day is available for a wide range of work. When counterbalanced to half the average load the power required is only that necessary for acceleration and to overcome friction, assuming that the same total load is handled in both directions. It can be counterbalanced as desired, and there is a reduction in power with light loads. Being always operated by automatic engines, preferably compound, its fuel efficiency is high. Being a drum machine, however, it has its speed and travel limitations. Furthermore, for frequent stops the starting current becomes an important factor in lowering the fuel efficiency and bringing undue strains upon the generating plant. This, however, is being very largely remedied in the most recent types. The electric elevator would seem to be preferable for moderate speeds and lifts, and where the average loads are light and the intermediate stops not too frequent. An important advantage of the electric elevator is that it is unnecessary to duplicate the generating plant. The same dynamos which generate electricity for lights furnish current for the elevator motors, and one reserve unit serves for both. This greatly simplifies the arrangement of the plant, reduces its cost and economises space. The electric elevator has yet to demonstrate its equality with the hydraulic, however, in the matters of reliability and low cost of repairs. The latest forms, however, appear to meet all reasonable requirements in these directions.

Coming now to the heating, ventilating and piping systems, we find that the exhaust steam from the engines is used in the heating mains. As a rule there is a surplus of exhaust in the up-to-date building, even in the coldest weather and where compound engines are employed. The most common system is and probably will remain the direct. Here in the West we have come to use the single pipe system almost exclusively, on account of its greater simplicity and lower cost. Now that the rules governing its design are fairly well understood, it is in service an entirely satisfactory plan. In the design of direct heating plants two points are frequently overlooked — the necessity of heating the large amount of air which finds its way through the doors and windows, shafts, &c., and the heat loss due to unceiled roofs. These are of prime importance.

Among meritorious improvements recently introduced, and which are meeting with general adoption, are the Paul and Webster systems of air-removal from the radiators. They possess many important advantages, the principal ones being, first, the ability to heat the building without pressure, thus greatly relieving the engines whose exhaust is used, increasing their power and improving their economy; and, second, getting a greater amount of work out of a square foot of radiating surface, thus reducing the amount required, the space it occupies, and its cost.

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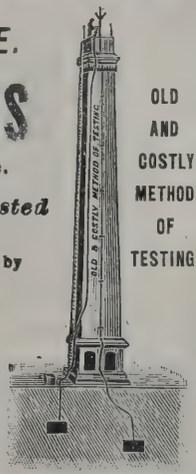
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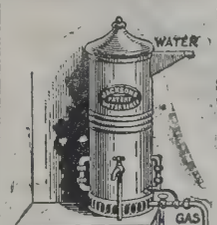
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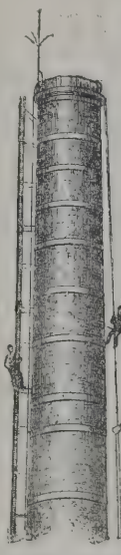
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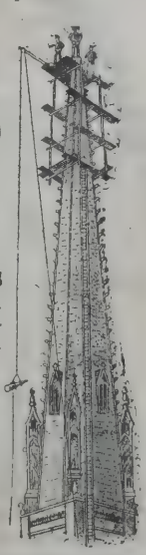


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MUNICIPAL CONTRACTS IN AMERICA.

ON April 17, 1894, says the *Engineering Record*, a contract was drawn between Messrs. G. W. & W. T. S Crichfield and the Bermudez Asphalte Paving Company, a Chicago corporation, which led to considerable litigation, and finally in October to a decision of the Supreme Court of Illinois that throws the searchlight of publicity on the methods employed to obtain or increase its business in Chicago. The terms of this interesting contract have been summed up by Judge Magruder substantially as follows :—

Section 1 provided that the Crichfields were to act as agents of the company to promote its asphalte paving business in the city of Chicago, and were to devote their whole time, attention and best energies in and about such business as the company might direct for the period of one year from the date of the agreement. Section 2 provided that the company should pay to the Crichfields 17½ cents per square yard for asphalte paving promoted by them for which a contract had been made between the company and the city. It further provided for a payment of certain excesses in the prices of curbing and gutters, which it is unnecessary to go into in this place. If the Crichfields promoted any work, but the company failed to secure a contract for it, no payment was to be made; while on the other hand, if they promoted a given amount of asphalte paving, kerb and gutter, they were to be paid for it, provided the company secured the contract for it or for an equal amount of work. Section 3 provided that the payment of commissions was to be made on the basis of the estimated amount of work for each contract at the time it was awarded by the city. The next section guaranteed G. W. Crichfield 120 dols. a month and W. T. S. Crichfield 80 dols. a month, these guarantees to constitute a lien in equity on any work for which ordinances were passed prior to the expiration of the period of the contract. Section 5 provided that all incidental expenses and trouble which the Crichfields incurred in promoting asphalte paving, "or in aiding and assisting in the election of officers," or in any other matter pertaining to the promoting of pavement, kerbs and gutters was to be borne by the company. The same section stipulated that work of the Crichfields should be in favour of Bermudez asphalte or any other material directed by the company.

Under the terms of this interesting contract, the Crichfields did considerable work and received a large sum of money. As luck would have it, however, they disagreed with the company over the final payment of about 5,000 dols., and accordingly brought an action against the company for this sum. The case was carried to the Supreme Court, and there it was stated that the only question it was necessary to discuss in the matter was whether the contract sued on was one the Courts should refuse to enforce.

Judge Magruder, who wrote the opinion of the Supreme Court, considers that the meaning of the expression in the contract "to solicit and promote the asphalte paving business in the city of Chicago" is to solicit by the exercise of influence and other means the passage of ordinances and the letting of contracts by the members of the Common Council of that city This interpretation of the agreement is confirmed by the testimony of the parties. Mr. G. W. Crichfield said that the methods adopted for promoting such business included "the influencing of a public sentiment in favour of that kind of improvement which will result in the passage of ordinances, the making of assessments and the making of contracts". He said that he took whatever steps he deemed advisable, honourable and fair, to secure the paving of streets with asphalte. He admits that in some cases he saw aldermen to get them to favour the passage of ordinances, and was occasionally present at the Council meetings when these ordinances were considered. Mr W. T. S. Crichfield testified that he usually followed the ordinance up, to see "that it was properly drafted, and to see that it was passed and that the proceedings were straight, and that when the assessment was ready, if any objections were filed against the paving o the streets with asphalte, he would make an endeavour to get the objectors to withdraw the objections, and get the assessment confirmed and get the contract passed."

This testimony is especially significant when read in connection with section 5 of the contract previously mentioned and the following facts brought out by the evidence :—"This part of the contract may be fairly interpreted to mean that members of the Common Council were to be elected who should favour the awarding of paving contracts to the company. The evidence shows that George W. Crichfield received under this contract from the company 5,432 dols, and that W. T S. Crichfield received 4,240 dols., making 9,672 dols. The evidence tends to show that they also received other moneys besides those thus mentioned. In addition to this they claim in this case 5,115 41 dols."

The Supreme Court ruled that there are some striking features of this agreement which stamp it as being against

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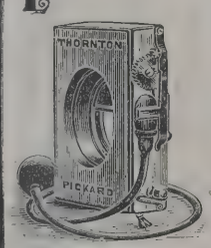
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public policy. A special assessment for a public improvement under the Illinois statutes is a species of taxation, and is authorised only as an exercise of the taxing power. A special assessment should not be levied except for a needed public improvement. The idea of making a contract to promote the levying of a public assessment, not to secure to the public a needed improvement but to enable a paving company to get a job, is not only against public interest, says the Court, but is abhorrent to all proper ideas of justice and honour. Hence it was ruled that any contract by which parties agree to obtain ordinances by solicitation and the exercise of influence on public officials with a view of obtaining contracts resulting from the passage of such ordinances, is against public policy and will not be enforced by the Courts.

The Supreme Court of the United States long ago decided that contracts for the use of influence to be brought to bear on legislators are void, and it is hard to understand how any parties could put enough reliance in a document of this sort to make it the basis of a suit. In Marshall *v.* Railroad Company, 16 How. 314, a special contract was sued on, whereby the plaintiff was employed to attend the sessions of the Virginia Legislature in order to superintend any proceedings to obtain the right of way through the State on behalf of a railroad company. It was in this case that the United States Supreme Court said :—"Bribes, in the shape of high contingent compensation, must necessarily lead to the use of improper means and the exercise of undue influence. Their necessary consequence is the demoralisation of the agent who covenants for hem'

The Illinois Court says that the contract under consideration was one providing for a contingent compensation for obtaining ordinances for paving. An ordinance passed by the Common Council providing for the paving of a public street is a species of legislation as much as an Act passed by the Legislature, though the body passing it is subordinate in its character and created by the Legislature itself. The rule, therefore, which makes void a contract for a contingent compensation for obtaining legislation is held to apply as well to the Common Council of a city as to the Legislature of a State.

It was claimed during the trial that the expenses and trouble contemplated by Section 5 of the contract may not have been incurred or suffered. In other words, the means provided for in that section for accomplishing the purpose of the contract need not necessarily be resorted to, and may not be resorted to. But the Court decides that the section is as much a part of the contract as any other, and that therefore the whole contract is rendered null and void by the illegality of this particular section.

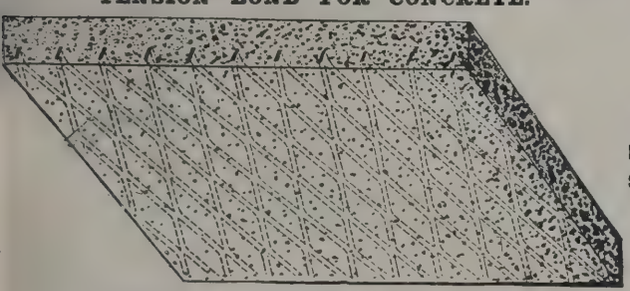
The claim was also made by counsel that the conditions of modern life are widely different from those of the times immediately preceeding us, and that in view of the revolution in business methods which has taken place in modern times what was decided to be against public policy in the past generation may be a common and ordinary method of doing business to-day which is approved by the common sense of man. On this head the opinion of the Court reads :—"That which is against public morals and public decency should be subject to the condemnation of the Courts in all generations. Righteousness is the same to-day as it was yesterday. The refinements of modern civilisation may have increased the forms of bribery and corruption and made them more dangerous and insinuating, but they are none the less subject to the reprobation of honest men." The counsel further urged that as no question had been raised as to the validity of the contract in the lower Courts nor by objections to the introduction of evidence, this particular phase of the agreement was not before the Court. It was decided, however, that where a contract is against the common good, it is unnecessary for the defendant in the case to plead this objection.

It seems hardly necessary to add that the Court found that Messrs. Crichfield had no legal hold on the Bermudez Asphalte Paving Company for the 5,115 41 dols. they claimed as due to them under their contract with the company for lobbying services.

WORKMEN'S DWELLINGS IN GERMANY.

THE United States consul at Chemnitz writes that there is a movement on foot to furnish working men with better dwelling-places in Germany. At present they are crowded into buildings which often look like barracks. The proposed houses will be built upon plots of ground about 16½ feet wide by 102 feet deep, thereby allowing for a front yard for flowers and a back yard for a vegetable garden and shed, the latter for the keeping of poultry or some domestic animal. The houses will contain five rooms. A parlour and kitchen will be on the first floor, the parlour containing a porcelain stove and heating pipes, and the kitchen a wash boiler and stove. The three bedrooms on the second floor will easily hold five or six persons, and can be made to accommodate ten. In the largest an iron stove will be placed. A pump will provide water where the city waterworks

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do not extend to the house. The cost of such a house and plot of ground when a number are built at a time will be between 170*l.* and 190*l.* It will let for about 9*l.* a year—that is for the same price the working-man has to pay for two rooms in the barrack-like tenements of the large cities.

SANITARY INSPECTORS' ASSOCIATION.

THE president of the Association, Sir John Hutton, gave his annual address to the members at Carpenters' Hall, London Wall, on the 7th inst. The Association, he said, numbering 685 members, practically represented all England, and several of the provincial branches, particularly at Belfast, were showing active, vigorous life. The sanitary administration of London was a work of the utmost difficulty. The congregation of 4,464,717 persons in anything like sanitary safety was not a light accomplishment. Of London's forty-three sanitary districts the largest (Islington) contained a population of 341,134, but there were others, like Lambeth and Camberwell, nearly as large. If the people of Islington stood in line, joining hands, they would reach from Euston to Manchester. It was in such circumstances most satisfactory to find the death-rate of London 19·4, or considerably less than those of Manchester, Liverpool, Leeds, Birmingham, Sheffield and other large towns. Among the topics considered in the address were dust-destructors, by which the power of generating electricity for lighting purposes was made possible, food and meat inspection, cremation and the preparation of ice-creams. A cordial vote of thanks was accorded to the President for his address.

MARYPORT DOCKS.

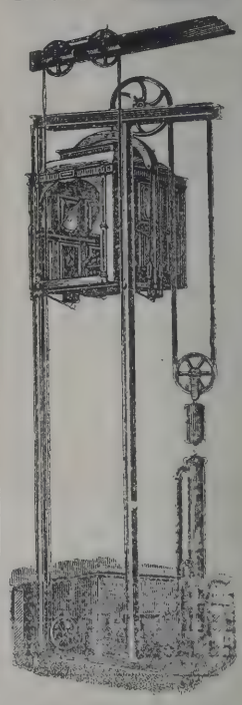
PARTICULARS of the offer made by the syndicate who propose to purchase and enlarge the docks at Maryport have now been laid before the bondholders. The promoters have increased their offer, in accordance with the recommendation of Mr. Fraser, a Liverpool actuary employed by the Harbour Commissioners, who recommends that 161,337*l.* be paid the mortgage holders in cash, and 98,823*l.* in Five per Cent. Preference shares, apportioned as follows:—Classes 1 and 2, their face value in cash, 54,155*l.* and 1,950*l.* respectively; class 3 (125,870*l.* face value), 69,386*l.* in cash and 55,067*l.* in shares; class 4 (84,600*l.* face value), 25,380*l.* in cash and 31,725*l.* in shares; and class 5 (48,121*l.* face value), 10,446*l.* in cash and 12,031*l* in shares. From an explanatory statement made by Mr. Senhouse, the chairman of the Harbour Commissioners, it appears that, if the bondholders accept the offer, the promoters propose to form a company, with debentures not exceeding 400,000*l.* at 4 per cent., and a share capital not exceeding 300,000*l.*, of which not more than two-thirds shall consist of Five per Cent. Preference shares. He points out that steamers of 2,500 to 3,000 tons have frequently to wait four or five days before they can get a tide by which it is safe to enter the dock, whereas, if the channel were deepened and the dock enlarged to admit steamers of 7,000 tons, 1*s.* per ton might be saved on the freight on iron ore from Bilbao and adjoining ports, and 350*l.* saved on each cargo, which would make all the difference to the English manufacturer in successfully competing with his foreign competitor. The present net income is 16,000*l.*, which would secure the interest on the debentures of the proposed company, but, assuming that, owing to the increased trade that would follow the enlargement of the dock, the future net earnings would increase by only 60 per cent., this would amount to 26,000*l.*, and would suffice to pay 5 per cent. on the 200,000*l.* preference shares. Increased accommodation for the shipping trade must be provided in the district, and, if they did not provide it, others elsewhere would, and their trade would be diverted, while they must not lose sight of the fact that increased shipping facilities at Maryport would probably lead to a development of new public works. In conclusion Mr. Senhouse states that, as the holder of 28,000*l.* worth of the existing debentures, he strongly advocates the adoption of the scheme.

HUNSLET NEW WORKHOUSE.

IT has been decided to erect a new workhouse at Hunslet at an estimated cost of about 54,000*l.*, and affording accommodation for 415 inmates and thirty-nine vagrants, with provision for future extension for 209 inmates, bringing up the total to 663. Mr. J. H. Morton, architect, of South Shields, has prepared the drawings, which show the various buildings grouped upon the site in the most natural manner, taking full advantage of the best aspects, and the most convenient positions to suit the gradients. The entrance buildings are placed at the north-west corner of the site, near the bridge in Wood Lane. The

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main buildings are set back from the road, with the infirmary behind. The isolation hospital is in a remote, but convenient, position, as are also the mortuary, post-mortem room, &c. Through the main gates is the principal access to the workhouse grounds, and conveniently near is the porter's residence, with male and female receiving wards adjacent thereto. Separate entrances are arranged for male and female tramps. The main building is composed of an administrative block and four pavilions. At the right of the entrance hall is the master's office, with separate business entrance. In front of this is the clerk's office or committee-room. On the left of the main entrance are the master's dining-room, kitchen and pantry, and immediately behind the master's house are two officers' mess-rooms. The dining-room, behind the master's house, will be 70 feet by 40 feet, and is large enough to provide for future extension. The kitchen, 40 feet by 28 feet, will be fitted up with apparatus capable of cooking for all the inmates of the main building and infirmary. At one side of the house court is the boiler-house, engineering department, &c. The buildings for laundry purposes consist of a large receiving-room for dirty linen, &c., and adjoining is the general workhouse. The men's work-yard will contain large workshops for tailor, shoemaker and joiner, and a paint store.

The inmates' departments consist of four pavilions. The aged and infirm are in pavilions (each side of the administrative block) two storeys high, and the able-bodied are provided for at each end of the corridor in pavilions three storeys in height. The day-rooms have cheerful bay windows, and there are large airing-courts with footpaths of cement or asphalte, enclosed by light iron fencing where practicable. For the aged married couples there are four cottages, each containing one room, fitted up with kitchen and press, arranged with gardens and open palisading, looking into Wood Lane. Immediately behind is the block for probationary children, with cheerful playgrounds and caretaker's rooms.

In the infirmary building the central block contains, on the ground floor, superintendent nurse's sitting-room, nurses' general room, kitchen and pantry, doctor's room, dispensary and stores, and waiting corridor for patients. On the first floor there are eight nurses' bedrooms, a large linen store and bath-room. As to the sick wards, the pavilions for males and females, right and left of the nurses' home are 160 feet apart. Each pavilion contains large ordinary sick wards on each floor, 24 feet wide, with pleasant day-room screened off by a movable glass partition.

The imbeciles are provided for in blocks 60 feet distant from the general sick wards. Each are provided with attendants' rooms, padded rooms, day-rooms, &c. Over the imbeciles' ward, on the women's side, is the maternity ward, and over the imbeciles' ward, on the male side, is the ward for sick children, with day-rooms, nurses' room, &c.

The lighting in the establishment may be of gas throughout or by electricity—if by the latter the cost would be 2,000*l.* A complete and efficient system of drainage will be carried out, with perfect flushing and ventilation. The disposal of sewage from the buildings would have to be considered, but Mr. Morton suggests that the Guardians should purchase or rent 2 or 3 acres of land near the south-east corner of the site to lay out for the disposal of the sewage, either by intermittent land filtration with precipitation tanks, which must be at least 300 yards away from any building, or by means of bacterial tanks, especially if the experiments now being made prove their efficiency and economy. Either system would cost about 500*l.* The rain water from the roofs will be collected in underground tanks. The general water supply will be from the 8-inch main in Wood Lane, belonging to the Rothwell Urban District Council.

LONGMORE HOSPITAL FOR INCURABLES.

THE extensive alterations and additions which have been in progress at the Longmore Hospital for Incurables, Edinburgh, are now completed, and the formal opening of the new wing took place on the 5th inst., the Duchess of Buccleuch having consented to be present at the ceremony. The additions consist of a new wing, and, detached from the main building, a laundry and washing-house, mortuary, post mortem room and chapel. In connection with these additions considerable alterations and rearrangement of the existing structure have been made. The new wing is of L shape, with a frontage to Salisbury Place of 56 feet, in prolongation of that of the original building, and a frontage to the west of 130 feet. A considerable area of ground between the new west front and the buildings facing Causewayside has been cleared of buildings and laid out as garden ground for the patients. The new wing, two storeys in height with a basement, is attached to the original building by a wide corridor of iron and glass, thereby placing it in close connection with the kitchen and administrative department of the hospital. The ground floor is set apart for



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the reception of phthisical cases, there being a large ward for female patients to the south, and at the west extremity a corresponding ward for men. Each ward has in a detached building bath and lavatory accommodation of the most modern type, and the walls and floors are tiled, so as to secure the greatest degree of cleanliness. The entire capacity for beds is from 1,500 to 1,800 feet. On this floor there are also a ward kitchen and staff nurses' room. The connecting corridor separates the male and female wards, and passing across the building terminates in a covered porch, giving access to the garden. The basement floor, which is used for storage, is reached by a stair placed below a broad staircase to the upper storey. The upper floor is laid out for the accommodation of cancer cases. There are two wards facing Salisbury Place for three and nine beds respectively, two wards for single beds, one ward for two beds, and one for six beds with bath-room and lavatory accommodation placed so as to be easily accessible. There is also a ward kitchen and staff nurses' room in this floor. The entire capacity of these wards runs from 2,000 to upwards of 3,000 feet per bed, and special arrangements have been provided for the introduction of fresh air drawn from above. The new building is of fireproof construction, and the ward floors are laid with specially prepared teak wood. The wards are heated by steam radiators and open fireplaces on the Teale system. Necessarily, the considerable extension of the hospital involved a reconstruction of the kitchen department and the provision of additional rooms for the staff. The kitchen now measures 25 by 24 feet, and is ventilated and lighted from two sides. The kitchen store-room and larder walls are all tiled to the ceilings. Additional nurses and servants' rooms are placed over the kitchen in rooms formerly occupied by patients, a bedroom and sitting-room being specially provided for any case of sickness in the nursing staff. The new washing-house and laundry are in a separate building, to which the boiler and engine-house are attached. The whole building is constructed internally of white glazed brick, and in addition to the general washing-house and laundry there is a separate washing-house and laundry for the staff. Equipped with the most modern machinery and special ventilating fans, complete freedom from steam in the buildings is secured. The boilers are provided with Green's economisers, and all waste steam is trapped and utilised for the boiler water supply. The whole building is now fitted with electric light, and an electrically-driven elevator has been installed for the conveyance of infirm patients to and from the upper floors. The drainage system has also been remodelled, iron pipes being everywhere substituted for fireclay formerly in use, and the main drains and connections are placed in subways so as to be easy of access and inspection. The drainage subway has been utilised to give access to the mortuary buildings. These are placed at the Causewayside entrance to the hospital grounds, and consist of a post-mortem room, mortuary, chapel and specimen-room, with a dark room for photographic purposes attached. The post-mortem room is equipped in the most modern fashion, and its walls, like those of the mortuary, are lined to the ceiling with glazed tiles. The alterations have been designed and carried out by Mr. J. M. Dick-Peddie, architect.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C. from whom all particulars and information relating to Patents may be had gratuitously.*]

Applications for Patents

27339. Carl von Forell, for "Process for the production of cement from limestone and blast furnace slag."

27404. John Isaac Richards, for "Improved press for pressing bricks, tiles, pipes and the like."

27426. Charles Gordon, for "Improvements in or connected with means for introducing warmed fresh air into buildings or apartments."

27431. James Hastie and Joseph Gill, for "Improvements in the manufacture of cement."

27526. Joseph Matthias, for "Improvements in thermo-electrical building bricks or blocks."

27571. William Walter Bengough, for "Improvements in apparatus for fastening and securing scaffold poles together for building temporary stands, structures, bridges and the like."

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Messrs. R. NORMAN SHAW, R

13th 1899.

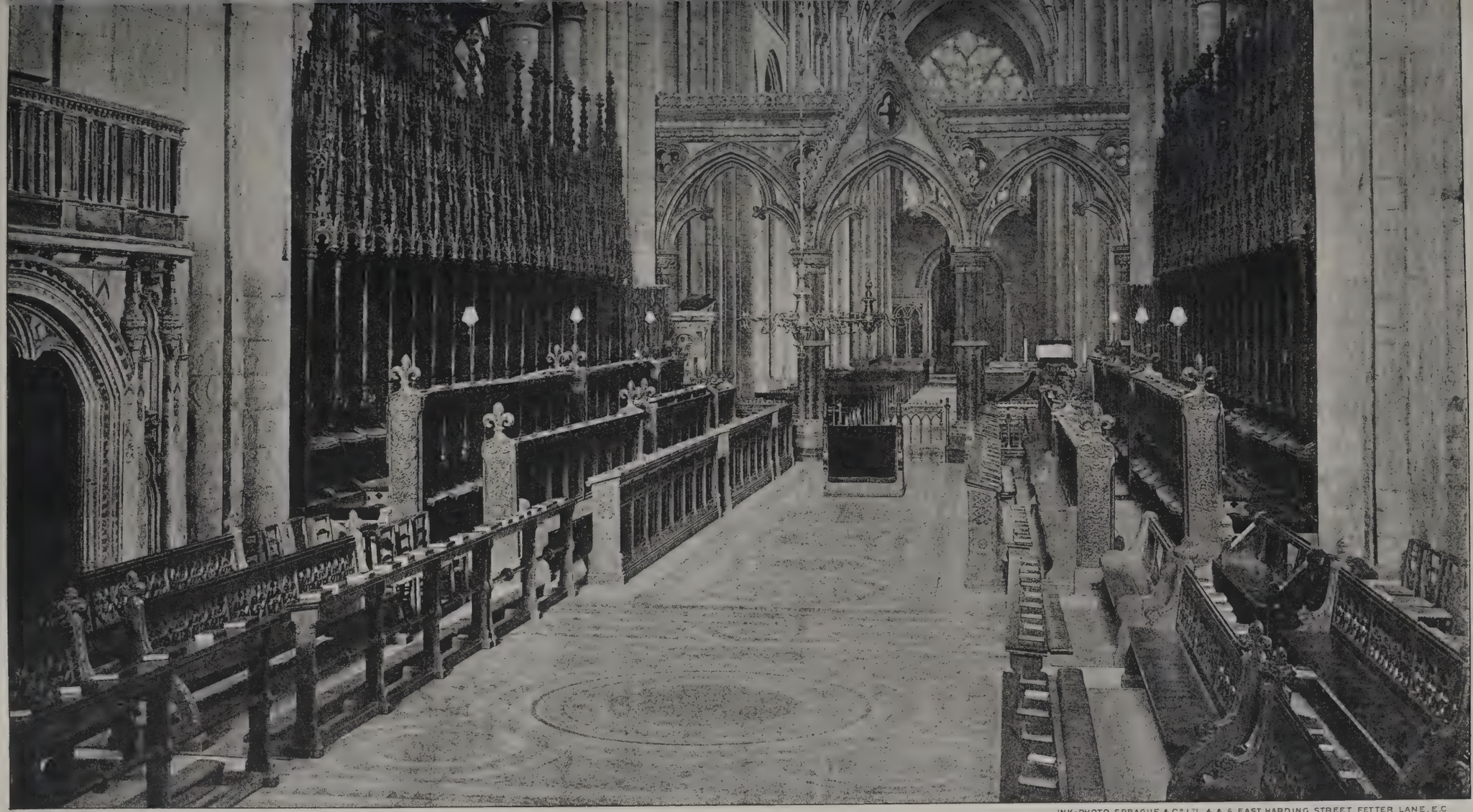


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FRANCIS DOYLE, Architects.

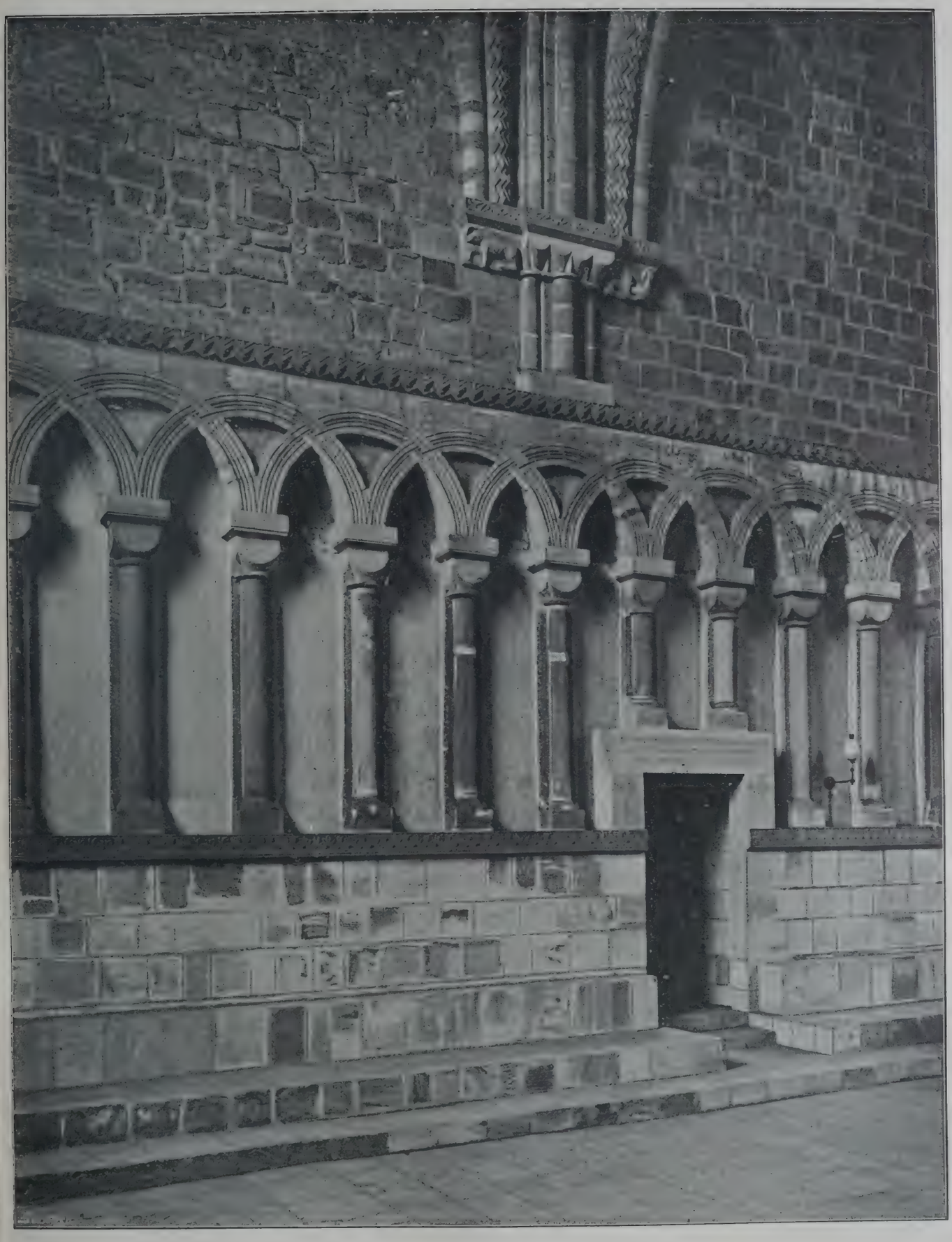




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CATHEDRAL SERIES, No. 186.—DURHAM: CHOIR, LOOKING WEST.



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CATHEDRAL SERIES, No. 188.—DURHAM: ARCADE, CHAPTER HOUSE.

The Architect.

THE WEEK.

Two decisions were given in the Court of Appeal on the 14th inst. which are of much importance in the interpretation of the Workmen's Compensation Act. In the first schedule of the Act the phrase "average weekly earnings" occurs more than once. What is an "average"? Income-tax commissioners or assurance societies would quickly supply an answer. The respondent was a workman who had earned 70*l.* 7*s.* 9*d.* in the course of a year. That was equivalent to 27*s.* weekly, counting fifty-two weeks in a year. The legal compensation would then be 13*s.* 6*d.* a week. The county court judge who first heard the case considered that the number of days a man was absent through sickness or other cause should be taken into account and a lower divisor than fifty-two employed. In that way the weekly earnings rose to 1*l.* 9*s.* a week, and the compensation would be 14*s.* 6*d.* weekly. The employers appealed. The Court of Appeal however held that the total amount of a year's earnings should be divided by fifty-two and not by a less number. The definition of average may therefore be considered settled. In fact, the Act itself indicates how averages are to be arrived at, for it says, "If the period of the workman's employment by the same employer has been less than the said three years, then the amount of his earnings during the said three years shall be deemed to be 156 times his average weekly earnings during the period of his actual employment." The second case arose out of the stipulation about a building having to be 30 feet high in order that accidents could be brought under the Act. The workman was employed on a wall in Liverpool which was not raised to that height at the time of the accident, but the county court judge decided in his favour. The builders appealed. Their lordships considered that in Section 7 of the Act the words "which exceeds 30 feet in height" were only coupled with the words "and is being constructed or repaired by means of a scaffolding, or being demolished"; and that the antecedent to the following words, "or on which machinery driven by steam, water or other mechanical power is being used," was the word "building" simply, and not the words "building which exceeds 30 feet in height." Therefore, if the building was one on which machinery driven by mechanical power was being used, it was not necessary, in order to bring the case within the Act, that it should also be 30 feet high. Builders will not be easily convinced of the justice of the decision. The words of the Act are:—"This Act shall apply only to employment by the undertakers, as hereinafter defined, on or in or about a railway, factory, mine, quarry or engineering work, and to employment by the undertakers as hereinafter defined, on or in or about any building which exceeds 30 feet in height, and is either being constructed or repaired by means of a scaffolding, or being demolished, or on which machinery driven by steam, water or other mechanical power is being used for the purpose of the construction, repair or demolition thereof." An architect or builder would say there is no manifest exception in cases of buildings of less than 30 feet on account of the use of machinery. The reference to machinery is apparently in order to make the word "building" more comprehensive, but of course the definition of the Court must be accepted.

THE Court of Appeal has confirmed the decision of Mr. Justice NORTH, and the attempt of the Corporation of South Shields to take premises compulsorily which were not shown as within the limits of deviation on the Parliamentary plans is once more defeated. We hope the repeated breaches of privilege will be brought under the notice of the House of Commons, for if the contention of the Corporation were accepted Parliamentary plans would become artifices to deceive people, and railway and other companies would employ them for that purpose. It may be well to repeat the circumstances of a case that must amaze Parliamentary agents and engineers. In 1896 the Corporation obtained an Act authorising the construction of a new street. The most important section ran as follows:—"The Corporation may enter upon, take and use all or any part of the lands following shown on the deposited plans and described in the deposited book of reference—that is to say, for the purpose of street works the lands shown on the deposited plans in connection therewith and which they may require for the purposes thereof respectively." It is well known that "the lands shown" refer to those comprised within the limits of deviation. If parts outside the limits are drawn it is with the object of enabling people to judge what extent of a field or other premises is likely to be required. The Master of the Rolls and the other Lords Justices do not apparently realise that the only parts which come within the purview of an Act must be within the marked limits. The Master of the Rolls said:—"Whether the Corporation could for any purpose take any land outside the limits of deviation, it was not necessary to decide. He was not satisfied that they could not take land shown on the deposited plans outside the limit of deviation for purposes he could suggest, such as to make an approach—engineering purposes he might call them." If land for an approach to a bridge or crossing is required it has to be indicated on the Parliamentary plans, and in many cases the limits of deviation are extended in order to comprise such approaches. It is not an academic question for discussion but one of procedure, and the Courts have no power to interfere with standing orders. But judges do not wish to announce that they also have to keep within fixed limits. The land which it was intended to take or seize could not be described as required for an approach; it was simply a piece of land the value of which would be increased by the proximity to the new street. The Corporation considered the ratepayers ought to have any benefit which arose, and in one sense that was a reasonable conclusion; but it should have been determined on before the plans were lodged. It is plain, however, that the requirements of Parliament in such cases are not fully understood in the Courts, and on that account the case should receive attention from both Houses.

THE declaration of the Chairman of the London County Council that architecture was, of all the arts, the one which was nearly related to municipal functions, if it stood, would be considered as promising well for the future. The words would indicate that the authorities had awakened and were able to realise their responsibilities. But when immediately afterwards it was announced that the County Council would keep the control of the architecture of the new thoroughfare from the Strand to Holborn in their own hands, the whole character of the relation between architecture and the Council is altered. Does Mr. MCKINNON WOOD imagine that the ordinary County Councillor is competent to judge an architectural design? Can he point to any action of the Council which reveals the existence of the qualities required in those who set up as arbiters of taste? May we not assume that designs will be treated in the same way as the candidates for the office of superintending architect, and suitability will be passed over? The Council cannot be too careful about the character of the buildings to be erected, but for the sake of the new street we hope the members will control their ambition to pose as judges of architecture.

MESOPOTAMIA, although its name may be considered blessed, does not bring much joy to the archæologist. It has not been explored by experts, and it is too generally supposed to be a region that was always in possession of nomadic tribes, and they do not leave many things to employ archæologists. The German EMPEROR has apparently resolved to apply tests in order to discover whether Mesopotamia is as uninteresting as Europeans suppose. An architectural expedition is about to be sent there under the guidance of Dr. KOLDEWEY, of the Görlitz School of Building. It is anticipated that all that is necessary is to dig in order to discover sculpture that will be as interesting as any derived from Nineveh, and the collection will raise one section of the Berlin Museum to the level of the Louvre or the British Museum. The authorities also expect that knowledge of Assyrian inscriptions will be increased by the expedition. As no rigid limit has been fixed for the excavations, they are likely to be also carried out in Assyria and Babylonia.

AN ARCHÆOLOGICAL PUZZLE.

ONE of the advantages of controversy is the more clear understanding which is attained of the points of dispute. Before a contest of wits begins there ought to be no doubt about the positions of the parties who engage in it, but so long as men are men we suppose there will be vagueness in ideas and a want of precision in words, and from them the majority of controversies arise. At one time archæology was kept alive by means of the ardour of opponents and supporters of theories which the smallest object could inspire. It was rare to find either side acknowledging defeat, and the battle could never be considered at an end, but that difficulty had the advantage of suggesting the uncertainty of knowledge, and of demonstrating the necessity for further investigations. Of late years there has been little seen of that pugnacity which was once a distinguishing characteristic of the true archæologist. It cannot be said that the science has gained by the profound peace. Indifference has followed, and if that is long continued it may lead to decay and other consequences which are not advantageous.

For the sake of archæology we are therefore glad to see indications of a controversy of the old-fashioned healthy character in Scotland. So far as they have gone the preliminary skirmishes are most promising. It is not to be expected that champions after a period of quietude can use their weapons freely, but with a little practice the stiffness will wear off, and then we may hope to behold some satisfactory passes between the parties. The subject of the contest is interesting in itself, but as in the old days it is likely to be set aside and something more personal substituted. The lists ought then to be longer than the columns of the largest newspaper—

> Such combat should be made on horse,
> On foaming steed, in full career,
> With brand to aid, when as the spear
> Should shiver in the course.

But let us turn to particulars. Our readers may remember that we have referred from time to time to the discovery of a primitive settlement, somewhat resembling a crannog in character, which Mr. W. A. DONNELLY, an artist, discovered at a place called Dumbuck, near the Clyde. That class of remains is always difficult to investigate, and requires a liberal expenditure of money as well as of time. At Zürich FERDINAND KELLER was able to command the services of many enthusiastic archæologists, and the State was not backward in giving its support. But in this country a discoverer must mainly rely on his own exertions. Apparently Mr. DONNELLY accepted the inevitable. It was not his first discovery. About three years ago at Dunbuie, which is not far from Dumbuck, he found a primitive fort, which was explored by the Helensburgh Naturalist and Antiquarian Society. The relics met with in the fort were not of a commonplace character. The ornamentation on some of the objects was described as pre-Celtic, and without any indication of Roman or other known influence. In Dumbuck, however, the objects found were, in an archæological sense, of less importance than the structure which contained them. Mr. DONNELLY naturally was anxious to have the opinion of men who were recognised authorities about the value of his discovery. Accordingly he sought out Dr. ROBERT MUNRO, who has made a special study of primitive remains, and invited him to Dumbuck. That gentleman has given an account of his visit in the *Glasgow Herald*. He says :—

> When I first visited the so-called crannog, by arrangement with Mr. Donelly, shortly after its discovery, I had no hesitation in recommending its exploration on the ground of the rarity of such structures in marine estuaries. Mr. Donnelly was very anxious that I should there and then pronounce it a real crannog ; but I pointed out that we had very little experience of marine crannogs in Scotland, that crannogs were habitations in fresh-water lakes or bogs, and that, although the wooden structures were disposed like those of the ordinary crannogs, we had as yet no evidence that they formed a place of habitation at all. The only analogous structure hitherto investigated was a cairn or mound of wood and stones near the island of Eriska, of which, however, though present at its excavation, I could not give any rational explanation. ("Proc. S.A. Scot." vol. xix, p. 192.) On my return home I sent Mr. Donnelly some literature on crannogs, and took the opportunity by letter of cautioning him against saying much about his discovery until its nature would be more clearly revealed by practical research. I was then leaving home to fulfil an engagement in England, and on my return, some three weeks later, the Dumbuck crannog was already famous. Descriptions and illustrations of the woodwork, the canoe, and a remarkable series of objects, were published in numerous journals. For some weeks I heard nothing more on the subject beyond second-hand rumours of extraordinary discoveries, till Mr. John Honeyman intimated a desire to have a consultation with Dr. Joseph Anderson and myself regarding the possibility of constructing a model of the Dumbuck crannog, for the purpose of being shown at the forthcoming exhibition at Glasgow. He was rather astonished to find that we had no information on the subject. Mr. Honeyman very kindly agreed to make arrangements for another visit to Dumbuck, in conjunction with some members of the Glasgow Archæological Society. Accordingly, a few days later I had the pleasure of joining a party of gentlemen who, like myself, were anxious to see the famous crannog ; and among the party were Mr. Adam Millar, F.S.A.Scot., and Mr. John Bruce, F.S.A.Scot., who along with Mr. Donnelly superintended the excavations. Mr. Millar had in his possession a case containing some of the exceptional relics already discovered, including a large spearhead like a winged arrow point, made of slate, a rudely-formed human figure manufactured out of a piece of shale, and a number of other objects of stone or shale perforated and ornamented with incised patterns, small cup-marks, concentric circles, &c. The discussion in the railway carriage on our way to Bowling centred on the theory that these objects were the relics of a pre-Celtic civilisation. Readers may fancy the astonishment of the party when I unceremoniously suggested an alternative theory, viz. that they were products of the nineteenth-century civilisation.

Much is said in railway carriages which is merely intended to while away the tedium of travelling, and the speakers would not care to repeat the conversation elsewhere. But Dr. MUNRO in this case put forth his theory in all seriousness as the most rational solution of a problem. On visiting the crannog he examined with care the objects discovered, and the impression they made on him can be judged from what he says:—"I pointed out that the osseous remains were the most important of the finds, as it was to them we had especially to look for evidence of the age of the dwelling, and recommended that a selection of them be at once sent to a specialist to be reported on. As for the stone weapons and the other relics in the case I ignored them altogether, stating that in my opinion they were not productions of the people who constructed and inhabited this strange place."

It was no wonder Mr. DONNELLY was depressed by the words he heard. But Dr. MUNRO, while giving him due credit for the judicious way in which the excavations were conducted, said he was convinced there was some mystification at work which it was his duty to explain, and suggested that a committee of experts be appointed to inquire into the matter, &c.

A committee of that kind is not easily organised, and that may explain why the suggestion has yet to be adopted. Dr. MUNRO, however, apparently considers there is now less need for the appointment, since further evidence is forthcoming which supports his theory of the modern origin of the relics found in the crannog. The relics which were obtained in the hill fort at Dunbuie are now in the Edinburgh Museum, and the doctor says the merest tyro in archæology must recognise their similarity and parallelism in form, style and ornamentation if compared with those found at Dumbuck. They are not only, he says, products of the same civilisation, but of the same artists. For the artistic character of the humblest things cannot be overlooked. Dr. MUNRO is sarcastic about that quality. "For these pre-Celtic folks," he says, "were very artistic in their ways, ornamenting everything, even their spearheads. But artistic genius is not a new element in archæology, for long before the pre-Celtic period in Scotland the caves of the Dordogne were inhabited by a race of hunters whose carved works on ivory and bone excel even those of the shale workers of the Clyde. But perhaps, as both are pre-Celtic, the latter may have been descendants of the former, and may thus have acquired their artistic tastes and skill through heredity." The spearheads being made of slate or shale could not have been intended for use as weapons, and were probably employed for decorative purposes, as were the figurines, amulets, playthings, &c. Dr. MUNRO's conclusion therefore is that "either these objects are what the investigators

assert them to be, the genuine relics of the inhabitants of the fort and crannog, or they are not. On the former hypothesis we have before us the most remarkable collection of archæological remains ever found in Scotland. On the latter, they are the productions of some idle, practical joker."

That a great many forgeries have found their way into museums as genuine antiques is notorious. They range from flint weapons to bijouterie by CELLINI. The nineteenth century, as a consequence of its method of education, idolises the past, and has become the most imitative of all ages. But the question must arise, Would the forgery of such objects as were found at Dumbuck and Dunbuie be worth the necessary trouble? The famous "Jim the Flintman," who found so much favour with students of the Stone Age, with all his ingenuity was never able to rise above the condition of a tramp. Celts became so abundant the supply exceeded the demand, and it was far more profitable to break stones at the roadside than to manufacture primitive weapons. The market for crannogs and their débris is a very restricted one, and the buyers are not wealthy. For those objects there are no ROTHSCHILDS. To make archæologists the victims of a practical joke is an old device. We hear of one in "Martinus Scriblerius," in "The Antiquary," and in "Pickwick." But when the jokes require much labour, as would be the case at Dumbuck and Dunbuie, the perpetrator becomes more absurd than the intended victim. On the other hand, the mere novelty of relics is not an argument against their genuineness. It would be absurd to suppose we are thoroughly acquainted with antiquity. The figures of reindeer which were found at Dordogne and elsewhere were treated as forgeries, and that sort of judgment was to be excused, for the rude sketches confounded many learned theories about the origin of art and its derivation from conventional lines. The same experience was repeated when the trinkets from Hissarlik were unearthed. To say then that because there is some novelty about the Dumbuck and Dunbuie objects they are necessarily pseudo-antiques is hardly warranted. They may be what Dr. MUNRO describes, but archæology has no infallible rules to settle the difficulty.

Mr. DONNELLY is not able to fence with so nimble-wristed an opponent as the doctor, but there is no reason to suspect his sincerity throughout. In his reply, which appeared in the *Glasgow Herald*, he described his position in the case as follows :—

I do not put myself forth as an authority. I never have done so. I have tried as an artist, not as an antiquary, to give a faithful record of all I saw with both pen and pencil, to protect at all cost the discoveries and finds from destruction and to carry out the valuable and kindly suggestion of Dr. Anderson, of the Edinburgh Antiquarian Museum, "to carefully keep and produce all finds, even though at the time they might be the subject of adverse criticism and appear of little value; the time might come when their value would be assured." This advice I have done my best to carry out. From the very first I have given every attention and afforded every facility in my power to those ladies and gentlemen who have expressed a desire to visit and examine the crannog. In many cases they had the excavations in their own hands whilst they were there. Dr. Munro was no exception to the rule. I am courting the strongest search-light that can be flashed upon the crannog, and the fullest disinterested investigation of all points in dispute.

Other correspondents have taken part in the fray, such as Mr. ANDREW LANG, Mr. MILLAR, &c., and, of course, the personal element could not be excluded. But no individual, however angry or supercilious be may become, can get over the difficulty. It is one which is worth an inquiry before several representatives of archæology, or let us say a Court of Cassation for the science. If after much labour the relics were found to be shams, the process of investigation which led to that result would be beneficial in other divisions of archæology. One class of objects found in the crannog is, however, outside the knowledge of the majority of archæologists. We refer to the organic remains. Some fragments of bone are believed to have belonged to the horns of the fallow deer. According to Professor BOYD DAWKINS that kind of deer was introduced in this country about 55 B.C. It seems hardly credible that at so late a period crannogs were in use, but a decision about the character of the antlers would help to settle the doubts.

EXHIBITION OF LITHOGRAPHS: ENGLAND.

A PICTURE-DEALER would say the exhibition of the loan collection of lithographs in one of the sheds of the Science and Arts Department at South Kensington exemplified the necessity of having a suitable gallery whenever works of art are to be seen. If the lithographs were transferred to one of the Bond Street galleries their interest would be augmented. At present few visitors who wander from the gallery of models of machinery into the bleak annexe containing the lithographs care to remain there; a glance at a few examples appears to be sufficient, and they go elsewhere in search of instruction or amusement. Yet there can be no question of the importance of the collection. There are over 2,300 plates, and hardly one among them is without some claim on our attention. Since about seven hundred artists belonging to Great Britain, France, Germany, Italy, Spain and America are represented, it is needless to say there is not only a great variety of subjects, but of modes of treatment. With all the liberality shown by lenders, not one scrap has however been obtained which was produced by the hand of the inventor of the process, ALOYS SENEFELDER.

It was in 1796 that his first sheet of lithographic music was printed, and in 1800 he took out a patent. Whether the "polyautographic" process which was employed in England in 1802 was an independent invention is not clear. The prints exemplifying it at South Kensington appear to have been produced from drawings made on paper, whilst SENEFELDER drew directly on the stone. It is certain that able artists were attracted by the polyautographic process. BENJAMIN WEST, P.R.A. (the catalogue-maker with characteristic Departmental ignorance styles him "Sir BENJAMIN"), JAMES BARRY, R.A., HENRY FUSELI, R.A., T. STOTHARD, R.A., Sir R. K. PORTER, SINGLETON, the CHALONS, W. H. PYNE, T. BARKER made drawings which were reproduced. But it is worth noting they were all by the pen, and consequently we may suppose chalk or coloured drawings were beyond the power of polyautography, which apparently resembled some of the processes still employed in offices for manifold copies.

VARLEY'S fishing-boats and cottages, dated 1809, also appear to be taken from drawings with a coarse pen, and so is JOSHUA CRISTALL'S "Apollo and the Muses," a large plate in the French style of the Empire. But the portrait drawn by B. R. HAYDON in 1816 is more like a chalk drawing. It has a fineness of touch which is not common in the small sketches or big paintings of that unhappy artist. By CHARLES HULLMANDEL, whose family name is closely connected with English lithography, there are several views, dated 1818, which were evidently chalked on stone. HENRY CORBOULD'S drawing of CHANTREY'S Monument of the Sleeping Children in Lichfield Cathedral (the designer was T. STOTHARD) shows the uncertainty of handling which is to be expected with a novel process. For the majority of people the most pleasing print of that remote time will be the invitation "card," measuring 16 inches by 12½ inches, for an exhibition at a girls' school. It recalls the grand days at Miss PINKERTON'S Academy for Young Ladies in Chiswick Mall, an institution immortalised by the patronage of Dr. JOHNSON, Mrs. CHAPONE and Miss BECKY SHARP. The figures of the children engaged in the study of globes, maps and other scientific objects might have been drawn by STOTHARD. The card is suggestive of the early connection between business and lithography, which was not always serviceable to art. A plate by E. BLORE, "The Strangers' Hall, Canterbury," which in reality represents the beautiful little Norman staircase, shows shafts much more attenuated than those which are now to be seen. A view of Hanover Terrace is attributed to no less an artist than JOHN FLAXMAN, R.A., but it is unlike all his known drawings. WILLIAM WESTALL, A.R.A., who was a great traveller, and who had produced many illustrated works, appears to have taken up lithography, and his plates suggest the suitability of the process to his style. There are also excellent portraits of MALIBRAN and SYDNEY SMITH by WILLIAM SHARP.

A portrait of Miss CHESTER in the character of BEATRICE, by A. E. CHALON, R.A., dated 1823, is the earliest example of the Anglo-Swiss artist whose sketches of actresses and opera-singers were at one time among the delights of Bond Street loungers. This drawing is by himself, and shows a

conscientious treatment which was afterwards abandoned when he prepared sketches for R. J. LANE to put on stone. The later examples are suggestive of evanescent celebrities, and are more in the modern French manner. LANE was the only lithographer who was able to force his way into the Academy, for he was elected an associate engraver in 1827. He was an admirable translator of other men's work into black and white, and suggested the styles of a great variety of artists—LAWRENCE, WILKIE, LANDSEER, WINTERHALTER, MULREADY, LESLIE, JOHN MARTIN, &c. His plates were generally small, and for that purpose the stones were "fine grained." From the smoothness it might be assumed LANE wanted vigour. What he sought was to avoid apparent coarseness, which was not in favour with his patrons; they would only look at superfine plates, and he supplied them. A year or two earlier than LANE lithography was taken up by SAMUEL PROUT. It was exactly the art for which he was adapted. He had made drawings to be engraved under BRITTON'S direction, but copperplate work was not suited to PROUT, and he was dismissed. The engravings from PROUT'S drawings in "Annuals" want the "go" of his lithographs. He was a forerunner of the Impressionists, and his views are not to be superseded by photography. Where a difference has to be admitted between the two, judgment is grudgingly given in favour of the sun pictures. It must, however, be owned he was indifferent to detail. An exhibition of all PROUT'S lithographs would leave little room for those of other artists, and at South Kensington we must be satisfied with fifteen plates.

There is double that number of J. D. HARDING'S plates. He was more versatile than PROUT, and he could draw trees and boats as vigorously as buildings. But his drawings have not as much individuality as PROUT'S; in style they resembled those of the ordinary drawing master, only they displayed more practised skill. HARDING lithographed a few of R. P. BONINGTON'S drawings, and some Frenchmen were employed on others. But the painter also drew on stone, and the examples in the loan collection have the simplicity and charm which are found in his water-colours. THOMAS BEWICK for once tried his hand in lithography, and the plate showing a rider on a rainy day is more curious than successful. T. S. COOPER, now the veteran Academician, sixty years ago was not too proud to lithograph the drawings of amateurs such as J. R. PLANCHÉ, who was herald and dramatist. WILLIAM WYLD, like BONINGTON, was more at home in France than in England, and his plates of views in Paris are the most satisfactory representation of the city as it appeared in the thirties. JOSEPH NASH'S "Mansions of England"—especially the copies which were hand coloured—gained attention on the first appearance of the work. It was not perhaps acknowledged how much the old architects were entitled to a share of the success. Not many of the plates are exhibited, but they will serve to suggest the style of NASH, who was uniform to a remarkable degree in the quality of his work. A couple of plates of the Alhambra show the delight of J. F. LEWIS in treating the details of Eastern art. FREDERICK TAYLER, the animal painter, was another successful lithographer, and his plates are sure to excite more interest than those from LANDSEER'S pictures. Lithography is not much favoured by sculptors, but ALFRED STEVENS'S "Sculptured Pediment of St. George's Hospital" could not be surpassed by the most dexterous draughtsman on stone.

Although painters can produce plates which are beyond the efforts of men who restrict themselves to lithography, yet the latter are not to be overlooked in any survey of the art. PROUT, LEWIS and BONINGTON were to be excused if at times they grew wearied and were unable to concentrate attention on all parts of a large plate. Hence it is that so few copies of pictures are to be found drawn on stone by painters. THOMAS FAIRLAND, who died in great poverty about 1852, was an example of a draughtsman who performed excellent work as a copyist. Several of the lithographs after WILLIAM HUNT'S rustic figures were produced by him. He was no less successful with portraits after WINTERHALTER. His work is throughout of an uniform finish. But he never gained a tithe of the reputation for his portraits which was obtained by CHARLES BAUGNIET, for the latter preferred to drawn from life on stone. People like original work, and the most successful lithographs are those which are not derived from pictures. GEORGE CATTERMOLE was one of the artists who when he copied kept to his own drawings, and the eleven plates in the exhibition thus become genuine examples of his handiwork. The numerous and excellent plates by Mr. J. A. VINTER, on the other hand, hardly secure him the position he merits, for they are all taken from portraits, the majority from WINTERHALTER. There are, in addition, two of large size of plays in which CHARLES KEAN was the principal actor, but there never was a less heroic figure on the English stage, and the scenes therefore appear more comic than tragic. T. H. MAGUIRE and J. H. LYNCH were also excellent copyists.

If judged by the number of plates bearing his name, LOUIS HAGHE appears to be the most important representative of the English school. A jury of lithographic draughtsmen would, if the question were submitted to them, be sure to decide in his favour. He could not be considered as superior in figure-work, although a couple of early prints indicate some skill, for he avoided that class of work, but for buildings of all styles he was unmatched. He had the knack of producing effects which can only be obtained by study in printing offices. LOUIS HAGHE preferred to work from his own drawings, but such plates as those in DAVID ROBERTS'S "Holy Land" are evidence of his loyalty as an intermediary between an artist and the public. There are no better exemplars of thoroughness in the exhibition than his plates. The skilful hand of JOHN GILBERT can be discerned in some of the figure-pieces attributed to others, but his name is attached only to the ten plates he prepared to illustrate English history. The aim was to give a sheet to the events of each reign. The figures had therefore to be on a small scale, and if the artist trusted to chalk alone would appear flat. GILBERT therefore employed pen strokes in order to gain definiteness. The combination of two modes of treatment is not altogether warranted, but no doubt he supposed he could exercise as much liberty when working on stone as when combining opaque and transparent colours in a water-colour drawing.

The largest plate in the exhibition is the portrait of the QUEEN in coronation robes, by C. FÜHR, which measures 73 inches by 46½ inches. It was not printed apparently from one stone, or on one sheet of paper, but the difficulty of "matching" and joining the different parts makes the *tour de force* more extraordinary. Although it dates from 1856, it may be considered as the climax of a class of lithography. The new school has renounced the principles which inspired FÜHR'S portrait and many earlier works. It is no longer considered imperative to work up to the margin or squaring lines. CHALON, as we have already pointed out, anticipated a departure from the old system. The change which has taken place is due to several causes, but the most important is one of material. The old lithographers worked on stone; a plate could therefore be kept in hands for a long period. FÜHR'S portrait must have required several months for completion. But as transfer-paper is now substituted for stone, the drawing has to be executed with more expedition. As a consequence such plates as Mr. VINTER'S scenes from "King John" and "The Corsican Brothers," or HAGHE'S "Destruction of Jerusalem," are no longer to be obtained, for before so much elaborate work was completed on paper a part would be defaced. Lithography, therefore, is now assumed to be a process for quickly producing several copies of a sketch. That theory was adopted long ago by "H. B." when he devised his political caricatures, for their point depended on appearing, as it were, on the spur of the moment. No other process would have answered so well. The Department of Science and Art have ignored JOHN DOYLE'S work, although admitting the sketches of French caricaturists.

The principal representative of the new school in this country is Mr. WHISTLER. There is no living artist who can more skilfully adapt his treatment to material, and if he were asked to prepare a sand picture, like those to be seen in the old-fashioned taverns of seaports, he would, we are sure, produce one which would be not only novel but appropriate. His twenty lithographs were manifestly drawn on paper, and not on stone. There are no deep shadows, no pre-Raphaelite detail. Each suggests what was seen at a glance, and recorded with expedition. To the artist him-

self the lines may recall more than is shown in the sketch, but how far the lines affect a stranger who has to depend on the sketch as evidence will, of course, depend on the aptitude of the individual.

We can observe a great many of the efforts to catch the CYNTHIA of the minute which were made at sketching clubs and elsewhere. Mr. G. F. WATT, Mr. STOREY, Mr. SOLOMON, Mr. A. PARSONS, Sir J. D. LINTON and several other artists have found pleasure in a multiplication of their sketches. M. LEGROS has several of his fine portraits, which would deserve attention if it were only on account of the absence from them of all pretence of having been drawn in a hurry. But is it quite fair to treat the artist as English? It is the French section which should have the credit of his work and of some other artists as well. The portraits of Mr. W. STRANG are less severe, but their realism must be commended. Mr. W. ROTHENSTEIN is another of the portraitists who find lithography is adapted to their manner of representation, and although the drawings show no indication of labour, they are truthful as likenesses. Mr. SHANNON has a light hand, and in his lithographs he does not confine himself to portraits. Most of the examples of the modern school, it should be remarked, appear to have been produced for the gratification of the artists. They do not pretend to be marketable, and if so, there is less necessity to impart to them those qualities which are supposed to be needed in all pictorial art. In other words, the plates are reproductions of studies which used to be kept for the artist's own use. Any one who is able to draw on prepared paper can have several plates produced which bear his or her name, and can claim to be a lithographer. Whether the value of the art is enhanced or diminished by the facility which can now be enjoyed by all who are able to hold a crayon we need not discuss.

SYSTEMS OF DISTRIBUTING AND GENERATING ELECTRICITY.

By F. J. WARDEN-STEVENS.

IN describing the systems of distribution it will be well to first call attention to the fact that electric lamps must be supplied at a constant pressure. If the pressure falls below that for which the lamps are made, the light falls off much more rapidly than does the energy used. If the pressure is increased above the standard the lamps soon fail. It is therefore essential that there shall be as little variation as possible in the pressure at which electricity is supplied.

In this connection the exact conditions affecting a cable may be stated.

The loss of pressure increases with the current passing and with the length, and it decreases as the area is increased. In other words, the loss of pressure is proportional to the resistance of the cable multiplied by the current.

The drop of pressure is, however, not the only question to consider; there has also to be taken into account the loss of energy. The loss of energy is proportional to the current multiplied by the drop of pressure. As the drop of pressure is proportional to the current, the electrical power wasted is proportional to the resistance of the cable multiplied by the current squared; thus if the current is doubled and the cable is kept the same the loss of power will be increased four times. Therefore, bearing in mind that the resistance of a cable is proportional to its area, that copper is expensive and that the loss in a cable is often as much as 20 per cent. of the total energy, it is obviously advantageous to reduce the current while increasing the pressure to as great an extent as possible, but the insulation of the cables becomes less reliable and more expensive as the pressure is increased.

Any system of distribution, as may be remembered from the previously considered question of mains, consists of distributors and feeders, and the length of the distributors from the source of supply must be as short as possible in order that the pressure is even. The length of distributing cable is reduced by supplying it at several central points from the generating works, so the length of the cable in which the drop of pressure occurs, instead of being the distance from the works, is the distance from the nearest feeding point.

The feeders are cables laid direct from the works to various points on the distributing mains. One feeder goes to each feeding point, and no current is taken from it except at that point. The pressure at which the current is generated at the works is above the pressure of supply to allow for the drop in the feeder, and the increase is equal to the loss; therefore at the feeding point the pressure is always kept constant.

It will be noted that the drop or fall of pressure is the important consideration in a distributor, and the loss of energy or power is of importance in a feeder.

Distribution.—The first system of distribution used was that known as the two-wire. With the two-wire system it is evident that the current will only be transmitted a certain distance in a given cable without a serious drop of pressure, and it is essential that in a distributor the drop shall be negligible. Therefore, the distributor must be either supplied at frequent intervals or the cables must be thick, or the current must be reduced by increasing the pressure, as the drop of pressure is proportional to the current.

Now by the Board of Trade regulations the greatest pressure supplied to any consumer is under 250 volts, and it is found impracticable for many reasons to go even as high as this.

The three-wire system was introduced with the object of doubling the pressure at which the current is generated and distributed, thus saving in capital outlay on the mains, while the pressure at which the consumers receive the supply is the same as with the two-wire system.

In this system three cables are used instead of two. The pressure between the middle one and each of the two outer ones is the standard, and that between the two outer cables is double the standard. On any group of lamps in the system the total number which may be switched on at once is divided so that approximately one-half of them are connected between one outer cable and the middle, and the other half between the other outer and the middle; this division of lamps is called "balancing," the middle cable being taken back to the generating works. The current will naturally go along the positive cable through the first group of lamps to the middle cable, and the middle cable becomes the negative. The middle cable is however also made the positive for the current leaving the works for the other group of lamps, the remaining cable being the negative. The result is that if the currents required on the two sides of the system are equal, the currents in the middle cable neutralise each other, and thus the middle cable carries no current. It will be seen that as the supply required on the one side of the system will as a rule approximately equal that required on the other, the middle cable needs only to take the slight difference between the two. Thus the two outer cables can be of the same size as if they were supplying at double the lamp pressure, as they only carry half the current, and the middle cable may be much smaller. The current being half that on a two-wire system, the pressure being double, the cables need be only quarter the area, allowing the same loss of energy. As the loss is proportional to the current squared, and therefore with the same percentage loss allowable, a given number of lamps can be supplied at four times the distance, using the same size cable, with the extra cost per mile of the thinner middle cable.

The feeders in a three-wire system consist of two cables only, connected to the outers of the distributing mains, the middle or balancing cable of the distributing mains being brought back to the works.

Instead, however, of bringing the middle cable back to the works, it is sometimes convenient to place a "balancing" arrangement in a sub-station. This balancer consists of two dynamos coupled together, one running on each side of the system, and they are placed at the feeding points, thus obviating the necessity of running the third cable back to the works. The effect of this balancing is to equalise the current, taking the surplus of current from one side and transforming it over to the other side of the system, making

the current in the positive cable equal to that in the negative, and the current in the middle cable nothing. The feeders in a three-wire system may be designed for 440 volts say, and so be small, while the lamps are supplied at 220 volts. As before explained, a great saving in cost of mains is effected, while the lamp-pressure is not increased.

The five-wire system is similar to the three-wire, except that there are three balancing cables instead of one, and four groups of lamps instead of two. It is, however, seldom used, as it was designed at a time when 150 volts was the highest pressure allowed on consumers' premises.

A 100-volt five-wire system would have 400 volts total pressure, and the cables would be arranged for this. A 200-volt five-wire system would not be allowed, as the total pressure would be 800 volts, and 500 is the highest allowed. It is evident that a three-wire 200-volt system is the same as a five-wire 100-volt system, except that higher pressure lamps must be used and it is simpler.

It can thus be seen that the usual course is to adopt a two or three-wire system with electric lighting for distribution, keeping the feeders two-wire in every case.

High and Low Pressure.—There are two general systems of supply—the high and low pressure.

The low-pressure system may be described as that in which the current is generated at the works and supplied direct to the consumer. The Board of Trade limit, with a low-pressure system, is 500 volts on the mains and 250 volts on consumers' premises. In the case of this system the cables must be kept large, as previously explained, or the drop of pressure will be serious. As the loss of energy is proportional to the resistance, there is a limit to the extent to which the system can be used, as outside a certain radius either the cost of mains becomes prohibitive, or the loss of energy is excessive.

The high-pressure system is one in which the current is generated at a pressure higher than can be used in consumers' premises with safety, and it has, therefore, to be transformed down to within the limit allowed by the Board of Trade. As the cost of the transforming apparatus is a considerable proportion of the total cost in this system, it is evident that, for supplying electricity a short distance, the cost of the transformers alone might be more than that of the low-pressure mains for the same distance, while for supplying a long distance the cost of transformers would be quite small compared with that of the mains. There is a certain distance in which the cost of the high-pressure mains and transformers equals that of the low-pressure mains. The question of the distance of the generating works from the area of supply here presents itself, and although it affects the feeders only it is of great importance.

It is always preferable that the site should be as near to the centre of the area of supply as possible, as the cost of cables is reduced and the efficiency increased; but to obtain this it is often necessary to use expensive land and to sacrifice convenience. As to exactly how much it is advisable to sacrifice capital outlay and convenience to the condition of a central situation, this can only be settled by the engineer for each particular case.

With a high-pressure system of distribution, the transforming apparatus may be arranged in several ways, and the standard arrangements are :—

(*a*) The transformers may be placed at the feeding points, in which case the distributing mains will be low-pressure and the feeders high-pressure. This is called the sub-station system.

(*b*) There may be high-pressure feeders and distributing cables feeding a low-pressure network at many points, usually by isolated transformers in small chambers underground. This is known as the street-box system.

(*c*) Also there is a system in which each consumer is supplied direct by means of a transformer, all the mains being high-pressure. This is called the house-transformer system.

These systems are arranged in the order of their efficiency, the first cost being left out of consideration.

Any system in which transformers are used involves a constant loss of energy, whether current is being used or not, and for this reason it is often economical in the end to incur a greater capital expenditure on mains and generate electricity at the same pressure as that at which it is to be supplied. Large transformers are more efficient, and proportionately cost less than small ones, and this is the chief reason why the house-transformer system inevitably develops into the street-box or the sub-station system. Larger and fewer transformers can be used, and greater economy can be obtained.

(*To be continued.*)

DURAZZO.

A CORRESPONDENT of the *Glasgow Herala* gives the following description of the ancient town of Durazzo in Albania :—

Durazzo consists of one long, narrow street, extending from the Porta Marina to another gate opening into the bazaar and the country, and of many side streets running up to the citadel and to the walls which circle the town. The walls and towers are fast crumbling away. They are in the Venetian style of long, hard brick finely cemented, with dressed stone on the battlements. So great is the dilapidation that one would think avalanches of brick and lime had fallen at several places. Outside the walls landward the ground is occupied by cottages, clinging to the sides of glens, and cemeteries with turbehs (saints' tombs) and fountains. The plain beyond is very marshy, often overflowed by the sea, and many acres of it are divided into salt-pans. Great heaps of rejected salt look like white pillars at a distance, gleaming in the sun—so many remembrancers of Lot's wife. But little is left to tell how great an antiquity was here. Several large marble pillars, solid round blocks from 4 feet to 10 feet high, stand or lie in the bazaar, before the Dogana on the quay and elsewhere, and many pure white marble slabs are built into walls or on staircases. At the top of the main tower by the sea some beautiful capitals lie about, and one stone in particular stuck into the masonry of an embrasure arrested my attention. It is broken at one end and worn with age, leaving only these letters traceable—

RISSIMA LVCILA AVRELIVS

Doubtless we should read Carissima Lucilla, Aurelius Antoninus. What an insight may not this fragment give into the deep heart of the "philosopher" emperor, Marcus Aurelius Antoninus. Lucilla was the name of his mother, and also of that wayward beauty his daughter (whom he had to sacrifice to that brute Lucius Verus, Emperor of the East), and this may well be part of a memorial of woe for one or the other of them erected in some tender mood when starting on one of his Pannonian campaigns and thinking out his beautiful "Meditations." Perhaps the two most remarkable stones (if the above one be only conjecturally read) are those built in at the foot of the left jamb of the ancient gateway (where the great Via Egnatia began, the other end being Constantinople)—one showing a centaur, and the other a cuirass, quiver, a headless man prostrate, an angel, and a man with averted face—evidently some Christian idea grafted on to mythology. Occasionally a marble capital, beautifully flowered, is unearthed deep in the ground (for earthquakes and sieges innumerable have been changing the surface every other century). A head in a wall, a torso lying on the ground, a pillar here and there, their pure whiteness contrasting with the surrounding sordid meanness and measuring ages of degeneracy, show the former greatness, Roman or Greek, that once was here. The thin red bricks, the yellow cement, the towers, the crenelles, the moat, the guns lying among the ruins, beside boxes and barrels of modern use, and under the walls where they have been thrown over centuries ago a large defaced winged lion, show another greatness, more recent, but likewise vanished, that of Venice. Normans, Serbs, Venetians, Franks and Turks have manned these lofty walls, over which now the noisy jackdaws wheel in flocks, the wild fig trails its branches, or some modern house rears its ignoble front. Along this mole facing the Adriatic, where now the tall, slender canes wave in the breeze, Cicero in his exile may have paced, homesick for Rome and the Forum, composing those excruciatingly broken-hearted letters of his to his wife Terentia and his friend Atticus. Through this hollow courtyard (where among the lumber one of those fine deep wells that Venice loved to make and the Turks to imitate still raises intact its cup-shaped marble top) the men-at-arms must have often crowded under the gloom of this archway, up these winding stairs to the ramparts of the tower, to meet the head of the assault from the sea. Here an uninterrupted view is obtained south and west and north over the Adriatic. The great molten globe of the setting sun was glittering and glowing and dancing tremulously on the waters as it sank rapidly lower and lower—*Splendet tremulo sub lumine pontus*—growing darker and darker red, until suddenly, before one could speak of the fact, the last bit of arc vanished below the horizon, setting the clouds around it on fire, and throwing reflections, long iridescent lines, like streets in heaven, across the far eastern sky. They faded one by one, but for awhile hovered in deeper lurid streaks above the Khimara, as if lingering to light up the

gloom, "thrice darker than night," that enshrouds the entrance to Tartarus somewhere there among its thunder-haunted clefts. Standing on that tower above the sea till the stars came out, rich and liquid, hanging like lamps, and reflecting themselves so as to make another celestial vault of the bay, I began to appreciate the mood that made wise and sensible men of old believe in the positive reality of those glowing old legends and myths founded on nature's processes.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at 9 Conduit Street, Mr. E. A. Gruning, vice-president, in the chair. Messrs. G. Hornblower and H. H. Fox were elected fellows. The chairman read the following awards of prizes and studentships for 1898-99:—

The Institute silver medal and twenty-five guineas for the best essay on "The Use and Value of Colour in Architecture," awarded to Mr. H. C. Corlette.

The Institute silver medal and ten guineas: Subject, measured drawings of ancient buildings in the United Kingdom or abroad, to Mr. Henry Ernest Kirby. Medals of merit and five guineas awarded to Mr. Heaton Comyn and E. F. Knight.

The Soane medallion and 100*l.* (for continental travel), for the best design for a concert hall to seat 2,500 persons, was secured by Mr. William A. Mellon, who submitted eight strainers.

The Pugin Studentship: Silver medal and 40*l.*, for the promotion of the study of the Mediæval architecture of Great Britain and Ireland, attracted the largest and finest number of drawings on record. Mr. J. Hervey Rutherford gained the first medal. Mr. E. H. Bennett was awarded a medal of merit and ten guineas; Mr. Ramsay Traquair, of Edinburgh, medal and five guineas; and Mr. Albert Herbert certificate of honourable mention.

The Owen Jones Studentship: Certificate and 100*l.*, founded for the encouragement of the study of architecture, more particularly in respect to ornament and coloured decoration, was gained by Mr. John Stewart, of Bridge of Allan, N.B.

The Godwin Bursary: Silver medal and 40*l.* Mr. E. W. N. Wonnacott, the only applicant, received the award.

The Tite Prize: A certificate and 30*l.* Subject, design for a royal mausoleum. This award for the younger members of the profession attracted but eight competitors. The four strainers by Mr. James B. Fulton gained the award, a medal of merit and five guineas to A. J. Gardner, and a certificate of honourable mention to Mr. E. T. Jago.

The Grissell gold medal and ten guineas, open to British subjects who had not been in professional practice longer than ten years. The subject was a design for a fruit, flower and vegetable market for a small provincial town. The award was gained by Mr. G. Gardner Wallace, who sent in three strainers; a certificate of honourable mention was granted to Mr. C. A. Daubney.

The Ashpitel Prize.—The board of examiners (architecture) reported that none of the successful candidates in the final examinations of 1898 had distinguished themselves sufficiently to deserve the prize, value ten guineas, but the Council awarded a prize of five guineas to Mr. Charles Riddey and Mr. John Kirkland respectively.

The Arthur Cates Prizes.—Books to the value of 10 guineas, offered by Mr. Arthur Cates, ex-chairman of the board of examiners, to the students whose testimonies of study for admission to the final examination were considered by the board to best merit the prizes provided they passed the examination for which the said testimonies were submitted, were awarded to Mr. Albert Herbert, of Leicester, for the June examination, and to Mr. H. Inigo Triggs, of London, for the November examination. An extra prize of 5 guineas was awarded to Mr. Henry Tanner, jun., of London, for his testimonies of study submitted for the latter examination.

At the conclusion of the awards Mr. Lacy W. Ridge moved the following resolutions with regard to building by-laws:—

1. That the administration of local building by-laws in rural districts is a matter calling for the action of the Royal Institute.

2. That the Council be requested to communicate with the Local Government Board on the subject, and to appoint a special committee to consider and take action thereon.

Mr. Ridge suggested that the Local Government Board should be approached on the matter, their consent being necessary to any local by-laws. The Council might then persuade the Local Government Board to draw up a series of by-laws applicable in the one case to towns and rural districts.

Mr. William Woodward seconded the proposition, and was supported by Messrs. J. Douglass Mathews, Owen Fleming, E. Woodthorpe, E. G. Dawber.

Mr. Gordon Smith said he was sure the Local Government Board would receive any recommendation that might be suggested with the utmost consideration.

On a show of hands the resolutions were carried unanimously.

The meeting, which was poorly attended, then terminated.

THE SITE OF THE OLD STAR CHAMBER.

THE task upon which Sir Reginald Palgrave has been engaged for several years, of localising for the benefit of visitors historical memories associated with the Palace of Westminster, will be brought to a conclusion next week, when a tablet indicating the site of the old Star Chamber is to be placed in position in the arcade connecting the Houses of Parliament with the Westminster Station of the District Railway Company. The tablet, which will be affixed to one of the wall-piers of Sir Reginald Palgrave's residence midway between the two archways giving access to the Speaker's Courtyard, bears the following inscription:—

"This tablet marks the position of the outer doorway, leading to the room, built during the year 1602, wherein the Court of Law constituted by Statute, 3 Hen. VII. c. 1, known as the Star Chamber Court, held session during the reigns of James I. and Charles I. until August 1, 1641, when the Court was closed by Statute, 16 Car. I. c. 10.

"The position of the doorway was ascertained by measurements based upon ancient plans of the Palace of Westminster. The frontage of the Star Chamber building extended about 30 feet northward and southward from this spot. The Star Chamber was upon the first floor, and was lighted by windows looking towards New Palace Yard."

In determining the location of the Star Chamber, which, it may be recalled, survived the great fire of October 1834, but was pulled down in 1836 to make way for the present building, Sir Reginald Palgrave, according to the *Times*, drew his inspiration from three sources—first, a view of the interior of the Star Chamber contained in Brayley and Britton's "History of Westminster Palace," plate XX.; secondly, a drawing by Mr. W. Capon, published in a report from a select committee on Westminster Hall Restoration; and, thirdly, a drawing of the exterior of the Star Chamber, made in 1832 by Mrs. Lefroy, the daughter of Mr. Rickman, who, as clerk assistant of the House of Commons, occupied the adjoining residence. The exact position of the doorway was ascertained by Mr. Jones, the clerk of the works to the Houses of Parliament, by measurements starting from the eastern tower of Westminster Hall upon the lines of two old plans of the Palace of Westminster, one made by Mr. Capon between 1793 and 1823 (now in the British Museum), and the other published by Mr. Smith in 1807 in his "Antiquities of Westminster." The Star Chamber itself was on the first floor, almost exactly in the position now filled by Sir Reginald Palgrave's drawing-room.

SCOTTISH MANSIONS.

ON Monday night Mr. James Chalmers, I.A., read a paper entitled "The Mansions of Scotland" at a meeting of the architectural section of the Philosophical Society of Glasgow. Mr. P. Macgregor Chalmers presided. The lecturer dealt more particularly with the works of the late David Bryce, R.S.A., Edinburgh, who erected about fifty of our Scottish mansions. The work of Bryce, he said, contained all that was good in that of Adams and his other contemporaries, and in the opinion of Mr. Chalmers none of the mansions erected since Bryce's death excelled, if they even equalled, that of Ballikinrain and Castlemilk, which represented possibly the finest Scottish baronial buildings; or Langton Grange, near Duns, which illustrated his Elizabethan mansions. Mr. Chalmers then gave illustrations of the castles and mansions from which Bryce received much of his inspiration, and gave many interesting reminiscences of his life and character. He concluded by making a comparison between Ballikinrain and Bute House, the latter of which might be considered not only one of the most modern, but one of the most pretentious of our recent mansion houses. At the conclusion of the lecture Mr. Chalmers receiced a hearty vote of thanks.

A Meeting of the Metropolitan Asylums Board was held on Saturday, when a discussion took place on an adjourned motion brought forward by Mr. Brass at the meeting of the Board on June 18 last to the effect that the works committee be instructed to consider and report if it would not be advisable to appoint an architect to the Board. Ultimately an amendment was agreed to referring the matter to the works committee, "with instructions to consider and report whether it is desirable for the Managers to appoint an architect or surveyor, or architect and surveyor, and, if so, on what terms and conditions, and for the performance of what definite duties."

NOTES AND COMMENTS.

M. ALPHAND, the director of works in Paris, had charge of nearly all the undertakings on which the rates were expended. On his death his responsibilities were divided. Everything connected with the supply or employment of water eventually came under the charge of M. HUMBLOT. On Friday last he died rather suddenly, and the municipality of Paris has lost in him one of its ablest engineers. It was under his direction a new supply of water was obtained, and arrangements were in progress to obtain another. He was ever ready to give his aid to the city. When there was a difficulty about the construction of the Metropolitan Railway, he offered to undertake the work, and if he had there could be no doubt about his success. In preparing Paris for the coming of strangers in 1900 M. HUMBLOT'S assistance would be invaluable.

THE Rue de la Colombe is one of the streets on the north of Notre Dame, Paris. The name is supposed to be derived from a signboard. The street is ancient, and up to 1792 contained a chapel which was founded in the twelfth century. It is, however, connected with a far more remote time. That fact was demonstrated in the course of the excavations for a large building which is in progress. It was found that remains of a wall constructed of immense stones still existed, and as similar blocks were found while laying sewers, it was concluded that the parts belonged to the same wall. In fact, the workmen had come upon the fortification of the original Cité. Some of the stones bore letters which were parts of inscriptions, while others displayed fragments of sculpture in relief. The conclusion is therefore warranted that the stones of a Roman building were used for the wall which was probably constructed in the third century. It is impossible to say with any certainty in what direction the wall ran after leaving the part now known as the Rue de la Colombe. In the garden of Notre Dame an excavation has revealed a wall at a depth of 16 feet below the surface, but the character of the masonry is different, and must belong to a later age. Scanty as is the knowledge afforded by the inquiry, it brings credit to the Municipal Council that is always on the alert in order to utilise every new foundation as a means towards a revelation of the ancient conditions.

ALTHOUGH there was often a display of littleness on the part of NAPOLEON I., as an individual he appears to have exercised an influence over officials which made them aspire to grandiose effects. The foundation memorial of the building on the Quai d'Orsay, Paris, which was known as the Cour des Comptes, is an instance of the spirit that animated so many things at the beginning of the century. A bed of hard wood was found in which twenty-nine hollows were formed to receive medals and coins. In the midst was placed a portrait of the Emperor in enamel. Around were medals commemorative of the following events among others :—The Treaty of Peace at Tilsit, the erection of the Arc du Carrousel, the marriage of NAPOLEON and MARIE LOUISE, the Confederation of the Rhine, the erection of the Vendôme Column, the Establishment of the Civil Code, &c., with various examples of the coinage of the Empire. It was not anticipated that the memorial would be revealed within so brief a period as ninety years when the medals and coins had not ceased to be familiar, but we can at least imagine the effect they would produce after a few centuries had elapsed. The building was originally intended by NAPOLEON to be the French foreign office, but he did not witness its completion, which was delayed until 1841.

A PAPER was read by Dr. RENAUD before the Lancashire and Cheshire Antiquarian Society on "Biddulph Hall," which is about the finest example in Staffordshire of a semi-fortified manor-house without a moat, built for comfort rather than for prolonged defence against organised opposition. Although in ruin, its *tout ensemble* showed a stately example of the sixteenth-century Renaissance architecture. When the Saxon thanes were dispossessed and WILLIAM I. proceeded to parcel out their landed possessions to his Norman followers, that district of Staffordshire was allotted to ORME DE GUIDON, otherwise known as "The Forester," of whom little practically was made manifest save that he acquired the ten manors of which Biddulph and Knipersley were two, and that he left four sons, whose names were given. The hall was built in the reign of ELIZABETH by FRANCIS BIDDULPH, grandfather of JOHN, who was its occupant and possessor at the time of the Civil War in the seventeenth century, when the Parliamentary forces under Sir WILLIAM BRERETON besieged and destroyed the house. An account of the church and its monuments was also read.

THE last number of the Journal of the Sanitary Institute recalls the services of the late Professor HAYTER LEWIS to the Institute. In 1882, it is said, he became a member of the Parkes Museum; he was shortly after elected on the council upon the incorporation of the Sanitary Institute and Parkes Museum; he remained on the council until 1892, when his failing health prevented his attendance. As a member of the Board of Examiners his services were much appreciated, as the council felt the importance of the architectural profession in connection with sanitation. Professor LEWIS lectured for the Institute, and contributed several papers to the Transactions. All who knew him will remember his kindly and genial disposition and ready helpfulness in all undertakings with which he was connected.

PSYCHOLOGISTS might well occupy themselves in an attempt to discover why the plasterers of London should be distinguished from the workmen of the other building trades by their obstreperousness, combativeness and other qualities which cause delays in building. For years past building firms have considered the plasterers to be a doubtful element which might explode at any time, and a danger to the most perfect organisation. There is consequently not much surprise at the threatened general strike of the plasterers. Three firms have already had to commence that ordeal because they would not compel some of their managers to join the plasterers' union. It is understood that the attack does not receive the approval of the other unions, and they would not show much common sense if they sided with so ill-advised and inopportune an effort to interfere with the course of business.

THE building regulations of New York were sharply criticised at a recent meeting of the American Society of Civil Engineers. Professor BURR pointed out the imperfect column formula used, which gives twice the strength the columns can possess. He would have cast-iron columns absolutely excluded from buildings, for if cast-iron and steel columns were made with the same factor of safety the steel would be found cheaper in every way. There were innumerable imperfections incident to cast-iron columns. The absence of supervision over details was the cause of dangerous and fantastic constructions. Mr. CUST said the building laws of New York originated when steel and wrought-iron members were unknown and cast-iron was considerably used for columns and girders. The law was intended to apply to five or six storey buildings, with a unit frontage of 25 feet or its multiple, and really answered very well for them and for speculative tenements, although entirely inadequate for modern high buildings. Mr. O'ROURKE considered a more perfect law could not have made the high buildings better. But the requirements for foundations did not sufficiently recognise the difference between soils, for there was no allowance in cases where the excavations were carried down to the rock. Mr. WAIT said he was in favour of entrusting the details of a design to the engineers and architects, without subjecting them to any more supervision than is exercised on physicians' prescriptions or the actions of other professional men. The effect of the discussion could not be said to help the cause of those who are seeking to amend the building laws of New York.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: WEST TOWER, FROM CLOISTERS. CRYPT UNDER DORMITORY. TRIFORIUM. NAVE, NORTH SIDE.

SOUTH STREET, BERKELEY SQUARE.

ROYAL CAMBRIDGE HALL, SHOREDITCH.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

By the Author of "Ecclesiologia Germanica," &c.

(*Continued from page* 35.)

IX.

Tours—Bourges.

EARLY in the morning of Friday, August 11, we paid an enraptured and somewhat lengthy visit to the magnificent, but as yet unfinished, basilica of St. Martin. All that remains of this once far-famed abbey are the clock and Charlemagne towers. These noble towers, which formerly stood at the north-east and south-west angles of the nave, are now separated by one of the principal and busiest streets of Tours, which traverses the entire site of the nave. Beyond these steeples not a trace remains of this large and time-honoured church, which for the alleged reason of superfluity and needless expense was ruthlessly destroyed during the early years of the present century, having survived the shock of the Revolution.

In 1861 the rock-hewn tomb, believed to have been that of St. Martin, was discovered under a house which occupied the site of the high altar. Over this a chapel, and subsequently the present noble church, in the style of Angevine and Auvergnat Romanesque, have been raised. With the exception perhaps of the great church of Sacré Cœur which crowns the hill of Montmartre at Paris, this is perhaps the finest and costliest modern basilica France possesses. It is built in the form of a cross, the transeptal and eastern limbs being, however, very short, from which rises a dome surmounted by a figure of St. Martin.

The drum of this dome is lighted by a succession of small round-headed windows within pilastered arcades, and is enriched internally by a figure of the soldier bishop vested in a chasuble, and seated against a background of gold mosaic. At present only three bays of the nave have been completed. This portion of the church has a wooden roof gabled, but not very acutely, a clerestory of small, coupled, round-headed arches, and an arcade, also round, upon tall cylindrical columns of grey marble, with somewhat Corinthianising capitals. The workmanship here suggests the chancel which Sir Arthur Blomfield added to St. Peter's, Eaton Square, nearly thirty years since. At the east end of the nave a noble sweep of balustraded steps leads up into the transeptal portion beneath the dome. This space is chaired, and screened beneath the north and south transept arches by parcloses with pillars of grey marble, forming an arcade on either side a square-headed door. Some delicate stained-glass in the small round-headed windows of the transepts especially engaged our attention. Just under the eastern arch of the crossing are the Epistle and Gospel ambones, formed of the costliest materials, while in the simple but grandly sweeping apse, whose conch exclaims for pictorial enrichment is placed the high altar, its mensa resting on four marble shafts, and its predella exquisitely worked in mosaic, the pattern presenting vine leaves and birds on a gold ground. The six candlesticks stand in front of this predella, which supports a baldachin—a cusped and gilt arch on banded Corinthian pillars. Each transept opens eastward into a chapel, that to the north being dedicated to the Blessed Virgin, that to the south to St. Joseph. Altars of an equally costly description grace both these chapels, similar in many respects to the high altar. The pulpit, on the motif of the celebrated marble one at Messina, stands against one of the nave piers on the north side. Right and left of the steps leading up to the transepts from the nave is a short flight conducting down to the crypt, whose roof is sustained by thick red granite piers. Here is the great object of veneration—the tomb of St. Martin. The shrine, a species of twin-gable temple, with two rows of four columns, is raised on a lofty plinth inlaid with mosaics in bands. At the north and south ends gratings give a view of the tomb, before which a lamp is burning. Altogether, new St. Martin's is a superb piece of work, and one that atones, in some measure, for the loss of the Mediæval abbey.

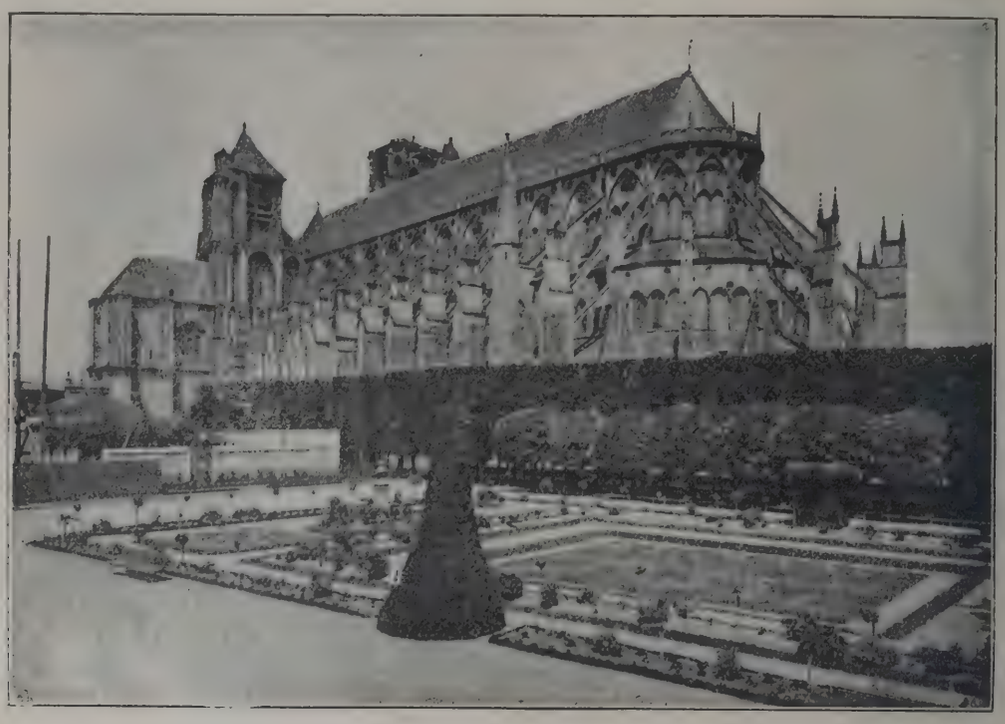


Tours: Basilica of St. Martin and Tower of Abbey.

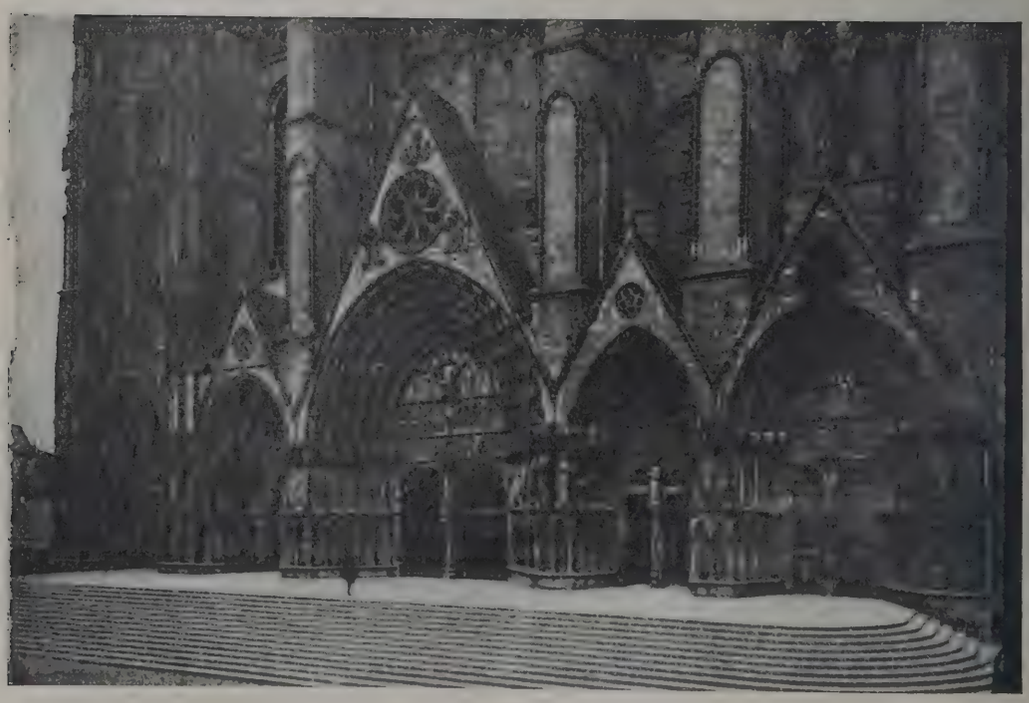
We have said good-bye to some pelicans, who had constituted an interesting item in the wonders of a Fair being held on the quais during our visit to Tours, and to an old magpie whose friendship we had secured by some fruit while taking the air in his wicker cage outside the toll-taker's lodge on one of the bridges; we have attended the chapter offices at St. Gatien's; we have transacted a little business at the bank, *i.e.* the changing of some of the coin of this realm of England into that of France; and now we are off by train to Bourges.

Beyond a slight altercation respecting the value of a small silver piece in exchange for a glass of—never mind what—with the proprietress of a café just outside the station of St. Aignan, where there is a halt of fifteen minutes while the engine goes off on some unknown errand, the journey as far as Vierzon (where you change carriages for Bourges) passes without incident. In this part of France the long, open third-class carriages are far superior to those of the rabbit-hutch kind with which we had become so familiar on the northern railways. The seats are cushioned, there is the additional luxury of a window on either side the door, and people hang their "baggages" on pegs from the roof all down the long open carriages, where they present at times some very odd combinations. A polite youth in a blouse assists us with our knapsack into the carriage at Vierzon, for, if you are equipped with one of those useful articles, the doors of French third-class compartments

being somewhat contracted, a crab-like mode of entering is requisite, unless you wish to stick fast *in limine*. The aforesaid polite youth, his *compagnon de voyage* and two ladies of an uncertain age, whose tongues, it is no exaggeration to say, never stopped once from their entry into the carriage at Vierzon until the debarkation of one of them at some village station a little further on, constitute our party. In the next compartment an old peasant woman, with a couple of fowls in a basket, has put up her umbrella to protect them from the afternoon sun.



Bourges Cathedral from the S.E.



Bourges Cathedral : Western Portals.

This is thought an exquisite piece of drollery, and as nobody can do anything in France without half a dozen others proffering their opinion upon it, everybody else leans over the partition of his or her compartment and puts in a remark. The polite youth and his mamma, or his aunt, or whoever she may be, then proceed to partake of some refreshment, whereupon he aforesaid garrulous lady, who has said good-bye to her companion, opens fire upon them, peradventure with the view of being asked to assist at the demolition of the savoury viands, but not being invited to do so becomes less communicative, subsiding by degrees into dignified silence. It is about half-past two when we catch our first glimpse of the great transeptless cathedral of Bourges rising at the summit of its city, seen athwart a rich tract of pastoral country intersected by willow-bordered streams inviting a dip, and of which we make a mental note.

At the Hôtel Jacques Cœur, where, on account of its historic appellation, we had decided upon taking up our quarters, we find ourselves to be the only guest, so that there is no lack of attention from host and hostess, who, with their two sons, evince the greatest interest in Monsieur l'Anglais and everything pertaining to him. The younger of the sons, one of Thomas Ingoldsby's "sharp little boys about twelve years of

age," is elated at the no distant prospect of being permitted to conduct Monsieur to the Musée and other "lions" of Bourges.

Under the guidance of this vivacious juvenile—who, not thinking his scholastic costume of blouse, &c., sufficiently *soignée*, comes out attired for the walk, to use the slang of the day, quite "up to date"—we "do" these "lions," of which we shall make casual mention as we go on.

The earlier part of the afternoon having been spent in the commodious apartment—half salon, half chambre à coucher—allotted to us answering sundry letters awaiting our arrival, we stroll through the hilly streets towards the archiepiscopal gardens on the south side of the cathedral, where the tasteful laying-out of the flower-beds—a border of ageratum enclosing a pêle-mêle of geraniums, roses and heliotrope—does not fail to elicit our admiration. Next morning we are up betimes, and after an invigorating plunge in one of the willow-bordered streamlets, followed by a brisk walk, do ample justice to a déjeuner à la fourchette at 8 A.M., and then, armed with note-book and pencil, repair for a long morning's work at St. Etienne. We have, however, some little time to wait ere we can commence operations, as the canons are reciting their morning offices in choir. Their rising altogether as the clock strikes nine is very impressive. In the north aisle two girls with market baskets are eating their premier déjeuner, thus, we suppose, gratifying their organs of admiration and alimentiveness simultaneously. Although the Mass is not sung the officiating canon is served by several red-cassocked and cotta'd boys, who, having been shod with the slippers of silence for the sanctuary, emerge from the sacristy when all is over, very sublunary mortals indeed, in hobnailed boots, making a tremendous clatter, and with no collars or wristbands to speak of. Each kneels for a short space at the choir gate as he passes, and is understood to go through a prayer. Then the Blessed Sacrament is carried down the aisle and out at the south porch, preceded by a boy in cassock and surplice bearing a Gothic candle-illumined lantern on a pole, and very picturesque the little procession looks as it descends one of the narrow streets near the cathedral in the bright sunshine, and halts before the door whence the "sick call" has come.

"Though one of the finest and largest in France, covering 73,170 square feet, the cathedral of Bourges," says Fergusson, "is still one of the shortest, being only 405 feet in extreme length; yet owing to the central aisle being wholly unbroken it appears one of the longest, as it certainly is one of the most majestic of all." After some rather disparaging remarks about the five unequally graduated aisles, the writer continues:—"It is singularly beautiful in its details and happy in its main proportions, for owing to the omission of the transept the length is exquisitely adapted to the other dimensions. Had a transept been added, at least 100 feet of additional length would have been required to restore the harmony, and though externally it would, no doubt, have gained by such an adjunct, this gain would not have been adequate to the additional expense incurred.



BOURGES CATHEDRAL: NAVE LOOKING EAST.



BOURGES CATHEDRAL: SOUTH PORCH.

"The greater part of the western façade of this cathedral is of a later date than the building itself, and is extended beyond the proportions required for effect so as to overpower the rest of the building, so that it is only from the sides or the eastern end that all the beauty of this church can be appreciated."

There are five great western portals at Bourges which, viewed by themselves, are truly noble. The spirit with which the historical sculptures are designed is admirable, and even in the most serious subjects there peeps forth that grotesque slyness which the Mediæval artists knew so well how to render telling in subordination to their grand design. We spent quite an hour in deciphering the wonderful sculptured groups portrayed in these porches. In that of the Expulsion from Paradise, the serpent—or rather dragon—is seen hurrying out before Adam and Eve with a look of most intense disgust; but a little further on in one of the recessed orders is the Deluge, with miserable creatures struggling in the agonies of suffocation, while the serpent peeps round the corner truculently

joyful. It is in the tympana of these five great western portals at Bourges that the chief beauty of their sculpture resides. Here the various groups remind one of a delicate ivory triptych. The varied expression of the countenances, the elevated character of many, the easy flow of the drapery, and the good execution of the whole, bespeak the work of an eminent sculptor, but his name, as well as that of the architect of the cathedral, is unknown. The Last Judgment, in the central portal's tympanum, is fearfully and wonderfully portrayed. Unfortunately only five of the full-length figures lining the sides have as yet been restored. These are on the right of the central door, above which is a large six-light window of early Flamboyant character. And here our praise of the façade of Bourges must cease, an incompleteness in detail and absence of accompaniments from the upper stages precluding it from ranking with those of Amiens, Paris or Rheims.

Of the towers flanking the façade that on the south is First Pointed and does not rise above the apex of the great central gable, with its patriarchal cross, yet it is very beautiful and harmonious in its parts. The northern one is entirely a lofty late Gothic erection (1508-38), and, like the great south-western tower of Rouen, is called "Tour du Beurre," from its having been erected with the money raised from indulgences to eat butter in Lent. It is best viewed from the north-east, on which side of the cathedral the rapid slope of the ground from west to east is most marked. There is likewise a declivity from south to north, so that you enter the building by a porch opposite the archiepiscopal gardens without ascending or descending steps, while on the northern side there is a considerable flight.

The view of the cathedral from the north-east is undoubtedly a noble one. We do not seem to feel the want of transepts, the eye dwelling contentedly on the fine range of clerestory windows and flying buttresses, while the aisles are agreeably broken up by the numerous projecting chapels and the porches. These have for outer doors a couple of beautiful thirteenth-century cusped arches, but the inner doors are Romanesque, and resembling those in the west front of Chartres, a doorway in St. Benigne, at Dijon, and that on the south side of the nave at Le Mans, date from about the middle of the twelfth century, being formed of fragments of sculpture belonging to the former cathedral. "They are remarkable," says the late Mr. G. E. Street, "not only for the really astounding skill of the mechanics who wrought the curious sculptures with which their columns and other members are covered, but for the remarkable fact that, among the branches of foliage, in which the utmost skill of Byzantine artists is rivalled, nude figures and animals are represented with a feeling for nature which is all the more surprising when compared with the stiff and conventional representations of life-sized human figures in the same work."

Entering by the southern of these portals, we are perfectly overwhelmed with the breadth and majesty of this cathedral of Bourges. Its enormously lofty nave (123 feet); its grand unbroken range of columns (huge cylinders, round which several slender ones cluster); its double aisles continued right round the choir in one sweep, the inner one (71 feet high) furnished with its own triforium and clerestory, as at Coutances and Le Mans; the lovely glimpses of stained-glass seen dimly athwart the great thick-clustered columns dividing these two aisles—all this bursts upon us in such a manner that we are quite unable for some time to turn to the actual details of the building. The first feeling of wonder having subsided, one of slight disappointment arises in the mind of the true artist at the somewhat slovenly and coarsely-designed triforium, and the too small clerestory, compared, that is to say, with the great arcades, where, by the way, we miss the grand deep series of mouldings our English arches of the same date have. The triforia consist only of five or more trefoiled and slender-shafted arcades, and in the earlier portion of the church—the choir—the tympana of the arch in which they are pierced is left plain. One cannot help wishing that these triforia had been dispensed with altogether, as at Coutances and Mans, and greater height given to the clerestory windows. In the apse the windows in that stage are of the plate-traceried kind, and composed of two unfoliated lights with a large sexfoiled rose in the head, a type of window of which a singularly felicitous modern example may be seen in the apse of the successful red-brick church of St. Mary the Virgin, Primrose Hill. In the sides of the choir and nave the clerestory windows, still plate-traceried, take a three-light form, increasing in richness, together with the triforium, as they progress westward. There is a noble array of saintly figures in the choir windows of this range; while a simple grisaille, with, however, a subject in the circle, fills those of the nave. It is almost needless to say that this glass, taken into view with that of the inner aisle's clerestory and with that in the encircling chapels, presents a *coup d'œil* of combined solemnity and magnificence surpassed only by Chartres.

(To be continued.)

HOUSE-PLANNING FROM THE ÆSTHETIC POINT OF VIEW.*

(Concluded from last week.)

THE quadrangle system of plan is no doubt one of the best for combining a considerable degree of architectural effect with a certain degree of retirement and domestic feeling. It is not the most effective for an exterior view, as in most cases one only gets the architectural impression of the front; nor is it the most wholesome form of plan in a sanitary sense. The E plan, with or without the centre shank to the E, gets over two of these objections, and, especially with a low screen or colonnade across the fourth side, is highly effective architecturally; but it introduces the new objection for internal convenience, that each end of the returns is a *cul de sac*. Hatfield is a good example, and contains also a fine interior point in the long and wide gallery running from end to end of the principal mass and connecting the two largest rooms, with the added dignity of a colonnaded screen at each end. As a contrast to this grandiose arrangement, it is curious to observe that in one wing the only means of reaching the bedrooms is through the gallery of the chapel, though this may be defended as a pious arrangement to induce the guests to say their prayers before going to bed. Before long, however, the quadrangle plan was destined to give way almost entirely before the favourite scheme of the later Renaissance—that of the centre block and wings—and as a system of house-planning on a great scale, nothing so grandiose has ever been devised. Vanbrugh, though he did not actually invent it, was the great high priest of this movement, the leading motive of which was, instead of hiding the offices away, as Bacon suggests, to make them contribute to the show. If we have to cover so much land with building, the architects seemed to think, let us make the most of it in the architectural result; let our stable wing on the one hand, and our kitchen or laundry wing on the other, serve to extend the effect and act as architectural supports to the central mass. Mr. Blomfield, in his admirable book on the English Renaissance, quotes the words of Reynolds in admiration of this treatment as used by Vanbrugh:—

> To support his principal object he produced his second or third groups or masses; he perfectly understood in his art what is the most difficult in ours, the conduct of the background . . . and no architect took greater care than he did that his work should not appear crude and hard, that is, it should not abruptly start out of the ground without preparation.

In fact, Vanbrugh had a great deal of the feeling of those who have been called sculptor-architects. Observe, in the case of Castle Howard, how the lines of the balustrade fence on each side of the courtyard are, as it were, modelled in and out in breaks and curves, to escape what Reynolds calls the "hardness" of straight lines. This same modelling of wall lines is a point also with Wren, as is shown, inter alia, in the admirably designed plan of the boundary walls between the street and the courtyard of the old Trinity almshouses, which we have lately just managed to save, and of which Mr. Thackeray Turner remarked with truth that those walls alone were enough to indicate the hand of Wren. Vanbrugh's great work is, of course, Blenheim, a plan of the grandest type, with its great terraced and cloistered forecourt 350 feet long by 300 feet wide, and the kitchen and stable courts, each (with their surrounding buildings) about 250 feet by 200 feet, opening from it to right and left. The plan is absolutely axial in both directions, two great longitudinal corridors running in parallel lines from wing to wing. Among other points it may be observed that the use of internal courts to light the corridors, which is sometimes regarded as a very modern expedient, is used here for the principal corridor at all events. The quadrant treatment connecting the wings with the centre is another example of Vanbrugh's modelling. The use of quadrant corridors to connect the house with the separate outbuildings became a constant feature of the later Renaissance plans; in this case it is not a corridor, but a portion of the main building

* A paper by Mr. H. H. Statham, read at the last meeting of the Architectural Association.

treated in this shape; it looks very fine in effect, but there is always this objection, that it involves the existence of odd-shaped triangular rooms in its rear. In this case these irregular spaces are utilised as dressing-rooms in connection with rectangular bedrooms. It is one defect in the plan that the extreme right wing is one great gallery (180 feet long), and the corresponding left wing is divided up into rooms, though the exterior architectural treatment is identical in both cases. The great gallery should certainly have been a special feature; that is one of the pitfalls of absolute symmetry. Vanbrugh has been laughed at, too, for having made the chapel and the kitchen balance in the angles of the outlying blocks, but this is not so illogical as it is said to be. Man was philosophically regarded in those days as a being composed of two elements, body and soul, neither of which could in this world exist apart from the other. The needs of the soul were provided for in the chapel on one side, and those of the body in the kitchen on the other side; both were equally necessary to a complete mundane existence, and Vanbrugh treated them accordingly, with architectural correctness.* The principal defect of Blenheim in an architectural sense is the want of a grand staircase appropriate to the general grandeur of the plan. The main staircases in two side halls on each side of the great hall are convenient enough, but these halls are only 11 feet wide, leaving only about 5 feet for the width of each flight; a miserable proportion for so great a house. At Castle Howard the staircases are planned in just the same way and of the same size. The staircase, alone in these plans, seems to be treated in a purely utilitarian manner; regarded as a means of ascent only. The architectural glory of a great staircase does not seem to have dawned on the mind of Vanbrugh.

We may compare with Blenheim the magnificent plan of Charleval given by Du Cerceau, which, with its series of colonnaded courts, the great one in the centre and smaller ones on each side, the great square central block flanked by gardens and the surrounding canals, is really sublime, and seems more like a castle in the air or a château on paper than a design seriously intended for execution. Across the canal at the back is a great formal garden as large as the whole of the rest of the plan. Turning to the less magnificent but most interesting and varied English Renaissance plans collected in the "Vitruvius Britannicus," we find all kinds of variations played on the idea of outstanding wings connected with the centre by colonnaded quadrants. At Roehampton House, by Archer, the quadrants are convex, and it will be noticed that the front walls of the forecourt show that same kind of modelling in curves which seems to come naturally from Wren's pupil. In the plan of Eaton Hall the general square lines of Seaton Delaval predominate, the stables and other offices flanking the courtyard without even being masked by arcades; but the great semicircular sweep of the wall of the outer court is fine. At Beaconsfield (Millner), where the concave quadrant is again employed, the stable openings are round on the outer side, not towards the courtyard. In that remarkably stately modern plan, Mentmore, we see how in like manner the kitchen wing fronts away from the house, and the back walls of kitchen and conservatory blocks, facing each other at each side of the forecourt, are made use of as decorative screens with niches for sculpture, so that they form part of the architectural pomp of the entrance. The quadrant connection at Beaconsfield is badly managed, as it does not butt against the house block, but returns on itself, leaving an open end. At Hopeton House, Scotland (Sir William Bruce—"justly esteemed the best architect of his time in that kingdom"), the convex quadrant is again employed, this time better managed in its connections; the staircase occupies a fine position in an octagon hall in the centre of the house. At Lowther House, Westmorland (no architect's name) we have an entirely original arrangement, the advanced wings ending each in an elliptical hall (the chapel on one side, the library on the other), the forecourt slightly raised and protected by a balustrade, and reached by a semicircular range of steps projecting outward at a 40-feet radius; the whole embraced, as it were, by a range of arcaded cloisters on each flank, projecting beyond the forecourt. Braman Hall, one of Colin Campbell's own designs, shows a square block with two small wings connected on each side to the house by a lofty colonnade of three bays, with very bold effect; here, as at Blenheim, the outer blocks are the chapel and kitchen, treated identically. Castle Ashby, a courtyard plan by Inigo Jones, takes us back a generation and illustrates one point in Bacon's plan, the staircases being placed in projecting turrets at the re-entering angles of the courtyard. Eastbury, by Vanbrugh, is very much on the same lines as Seaton Delaval, with the square forecourt with arcades down each side to mask the stable and kitchen wings, and the same vast rusticated order to the house. Here Vanbrugh again uses his favourite arrangement of the two staircases one on each side of the central hall, but in this case he is more liberal to the stairs; the central hall or vestibule, about 12 feet wide, is here only a connection between the great hall in front and the "salon" at the back, while the stairs have an ample space 20 feet wide on each side, but shut off from the vestibule. At Seaton Delaval the stairs are provided in a projecting tower at each end of the main longitudinal corridor (which crosses the end of the great hall), the towers being square externally but the stairs elliptical on plan. At Grimsthorpe Vanbrugh goes back to the quadrangle plan, and for once aims at a fine effect with his staircases, which are 8 feet 6 inches wide in the lower flights and 7 feet in the upper, and placed within a double screen of columns at each end of a hall 125 feet long, the staircases visible through the columns and not shut away out of sight. At Burlington House the stable and kitchen wings occupied the middle portion of each flank of the courtyard, where the buildings of the learned societies now are, and the court was closed by the two quadrant colonnades at the end opposite the house—that colonnade which was so stupidly removed and allowed to go to pieces. At Houghton (Colin Campbell) the kitchen and laundry wings, connected by the habitual quadrant, are set back into the rear instead of being brought to the front, and the same is the case with the stable and offices wings at Duncombe Park (W. Wakefield), in which the quadrant is dispensed with, and the outlying blocks more conveniently connected with the house than usual. In Mereworth, Campbell contrives a square house with a portico on each face and a central domed hall, which might be capable of charming treatment; unfortunately he has found nothing better to do with his staircases than to make them corkscrews in the piers of the dome, a very mean treatment for a house of this class.

The plan of Kedlestone with its outlying pavilions connected by quadrants is well known, it has been in so many books; it is a kind of plan which looks more effective on paper than it ever can look in reality, as you can never see it all at once; moreover, the quadrants are badly managed; instead of butting into the wings they terminate in a blank end and you have to make a right-angled turn to get any further. The treatment of the centre block of the house, with its great columned hall leading into the square salon and thence to the garden steps, is really fine; on the other hand, the staircase is ignominiously packed out of sight in a side recess. The quadrants at Kedlestone, it may be observed, are closed and with windows, not colonnaded. At Nostel (Paine) the same idea is better carried out, though the interior plan of the house is very commonplace compared with Kedlestone. At Nostel we find a recognition of one of the drawbacks to the use of the colonnaded quadrant; the colonnade looked very pretty in itself, but the servants passed visibly to and fro along it, which must have looked out of place sometimes. So at Nostel the quadrant consists of a walled passage for the traffic, with the colonnade in front and concentric with it for effect, thus making the best of both worlds. The same contrivance was carried out at Fonthill and in some others of the houses of this type. At Holkham Hall (by Kent) the pavilions at the angles are rectangular and more closely connected with the house, but the main idea is the same as at Kedlestone. The treatment of the staircase at the end of the hall, with its wide lower flight of steps, is more dignified and stately than in most of these examples. A remarkable plan, standing quite alone in character, is that of Buckland, by Wood, of Bath. It has, indeed, more of the character of a kind of State villa than a mansion, but it is a very fine plan for internal effect. In this case the two end octagons are the chapel and the library, representing architecturally, shall we say, the soul and the intellect; the body is cared for in the basements under them, which are respectively wine and beer cellars, like Mr. Sherrick's vaults under Lady Whittlesea's chapel in "The Newcomes." Stanlinch, which is also by Wood, shows somewhat the same general idea, but the arrangement of the doors in the central portion of the house is such as lose the vista from end to end; this was probably intentional, as the right-hand wing is a very spaciously planned State bedroom suite, and privacy of approach to it would probably be consulted. In the left-hand wing is the principal room—the dining-room; in this less religious plan the chapel is wanting. The staircase, unfortunately, is very poorly treated. Lastly, Moor Park (Thornhill) is a remarkable example of a stately approach, in which the quadrant colonnades instead of being merely connections with the wings, are extended so as to form a mask to them entirely, leaving the planning behind them rather inconvenient, but the fine effect in front may be said to atone for this. The idea was probably suggested by Bernini's colonnades at St. Peter's.

There are few things to my mind more fascinating than the study of this collection of plans, so full of fine suggestions of effect, so uniformly stately and dignified in their variety; one cannot help thinking again and again what one could do with them in actual architectural treatment. It is true that our enthusiasm in a sense is damped on turning to the elevations, except those of Vanbrugh and one or two others. The

* The symmetrical treatment of chapel and kitchen occurs in other plans in the "Vitruvius Britannicus"; it is not confined to Vanbrugh.

mechanical manner of the engraving and shading does not assist them; but apart from that one cannot help wondering that men who had such fine ideas of the basis of architectural design in plan should have had such lame and formal ideas of their decorative treatment. But what of that? That only shows that there is something left for us to do. Now that we have shaken off the deadening influence of architectural scholasticism and red tape, what splendid things we could do (couldn't we?) if we could only get the chance of treating some such mansion plans as these with the freedom and the richness of detail which we could impart to their treatment in the present. Surely we could make something finer of this type of plan than of the irregular and so-called "picturesque" plan.

But then there is the question of convenience—a question which will not be shirked. Mr. Blomfield remarks on this head:—

> It is, of course, necessary to isolate the kitchen and servants' quarters from the big rooms of a house, but such a total disregard of convenience and economy as is shown in these eighteenth-century plans would not be tolerated for an instant in modern house-planning. The point of view has shifted.

True enough, but has it not shifted a little too far? Let us continue Mr. Blomfield's sentence:—

> Vanbrugh and his successors were permitted to subordinate the comfort of the house to its external architecture. They began from without and worked inwards; the entire design was handled with a view to the realisation of a certain composition, without regard to convenience of arrangement, and the consequence is that there is always a distinct architectonic conception running through the whole of any one of their designs, which is necessarily absent in the heterogeneous assemblage of buildings which compose most modern country houses.

I think the latter half of Mr. Blomfield's paragraph rather gives away the first half. "A distinct architectonic conception." Is not that worth sacrificing something for, unless we are to return to the "two sticks and a mat," in principle at all events? Let us consider that for a moment. What does the inconvenience really amount to? It lies mainly in one point—the position of the kitchen. That is what you will find again and again in architectural books—the kitchen was 100 feet, 150 feet, 200 feet, from the dining-room, &c. Even in the modern example, Mentmore, before referred to, the distance from the kitchen door to the dining-room door, taking the line along the passages, is 147 feet (I measured it on the plan). One could hardly in such case say with Milton (referring to the meal in Paradise), "no fear lest dinner cool." That is a real inconvenience, but there is no occasion to revive that. In these days of lifts the kitchen might be in the basement or it may even be in the attic—perhaps with greater advantage to the avoidance of possible smells. All the provisions can soar up there in the lift with the greatest ease, and when prepared, by the same means descend to the serving-room. Apart from that kitchen question, the wing system of plan may retain all its architectural attractions, not only without any sacrifice of convenience, but even a certain convenience and suitability. In most houses of the largest class there is now a bachelors' stair and a bachelors' suite of rooms for visitors who are of that persuasion. Why not a bachelors' wing as a separate block, with a smoking-room on the ground floor and bedrooms above? And then, if one were to match that at the opposite angle by a young ladies' wing, with a charming drawing-room or boudoir on the ground floor. Then what opportunities for a delicate and appropriate contrast in the design of detail and ornament in the two wings, suggesting their opposite characters—sturdy strength symbolised in the one, beauty and grace in the other, at the same time keeping the general mass and outline of both sufficiently alike for architectural symmetry; a kind of symmetry far more interesting and eloquent than that frigid mechanical symmetry of the Renaissance, each pilaster and each urn on one side answering to a precisely similar one on the other side. I declare one's imagination is quite stimulated by the thought of the artistic opportunities that such an arrangement would afford. Nor is there any inconvenience in the arrangement of a laundry wing, and some other offices perhaps, connected with the main house by corridors, and yet separate, and turning their backs on it, the back walls being treated, as at Mentmore, in a decorative manner. The stable wing, it is to be feared, will hardly be accepted, unless where, as at Blenheim, the scale is so great that it is really a long way from the house.

There is no occasion, however, that we should imitate the favourite form of plan of the Renaissance architects. I would only urge that it is not necessarily inconvenient, and that its architectural capabilities have not been exhausted. But let us summarise the problem from the present point of view. In a mansion of the largest class we have to provide for two distinct departments, very different in their architectural requirements, and yet which must be in tolerably close relation with each other. We have the owners and their family and visitors on the one hand, with the rooms in which their life is to be lived, and on the other hand the servants and the rooms in which the work and supply of the house have to be carried on. Granting the principle that the mansion should be treated architecturally in a symmetrical manner (because no other treatment is so dignified), how are we to treat these two departments? The Georgian system was to have one great parallelogram of building and divide it up as convenient without any reference to the exterior design, which can hardly be called an architectural method. But if you wish for one great block it is possible to divide the two departments vertically and not horizontally, to have a lofty two-storeyed basement, with a very wide sunken area for the lower windows, and place the State rooms and living rooms on the first floor, with a great staircase up to their level. That is the old system of the Italian Renaissance palaces; it has been little if at all tried in England, but it naturally suggests an architectural treatment which would be very fine and effective indeed, and is worth thinking of. On the same principle of vertical division the servants' bedrooms could all be collected in the highest storey, occupying what in a Classical building would be called the attic; and, as before observed, in these days of lifts there is no difficulty in such vertical division. Another method is the favourite one of the Renaissance architects, of the wings connected to the house by corridor buildings, which has the merit of making the subsidiary departments subserve the general architectural effect, and the inconvenience of which, as I have ventured to suggest, is, if it is properly managed, more imaginary than real. Then we may have what is the more favourite scheme now, the servants' quarters and offices rather more closely attached to one angle of the main building, forming a second parallelogram placed *en échelon*, or a long wing stretching away to the rear. But in this case it is difficult to make it in any way part of the main architectural design; it must be retired and planted off out of sight. A central connection of the offices with the back of the main building may sometimes be possible—it depends on the plan of the house and the direction in which the garden is laid out; but in the most stately type of house, as a general rule, it is desirable to have the garden entrance on the central axis line and opposite to the main entrance, as it it is in nearly all the great Renaissance plans.

In regard to the house itself, there are three main points to consider, the approach and entrance, the hall and staircase, and the entertaining rooms. A forecourt of some kind, if possible flanked by something in the way of a colonnade or cloister on each side, always adds to the dignity of the house, more than the conventional sweep drive up to the door or a wretched landscape-gardener's substitute. And for the access to the house there is nothing so fine as a flight of steps—still more a double flight, in two curves, provided the basement is high enough to afford opportunity for it. We have had no greater loss than that of these beautiful flights of steps up to the doors of the old mansions, for which, in our modern anxiety for comfort, we have substituted that odious excrescence called the porte-cochère. Certainly, were I a millionaire and could build a mansion to suit my own tastes, I would revive the flight of steps; but people coddle themselves so now that they are quite afraid of walking up an outdoor flight of steps; they must forsooth be set down under cover, and for the sake of their vile bodies they sacrifice architectural dignity. If you must have a porte-cochère, better to have a central projecting tower or pavilion and make the ground storey an open arcade or colonnade; then you may have a fine effect, then it appears as part of the architectural design, while the mere porte-cochère never looks like anything but an excrescence. Inside the house, you must have a large central hall, lighted from above, unless it goes right through the house with a great window at each end; and you must have above all things a spacious and noble staircase, not hidden away out of sight. A flight of stairs well designed is one of the finest objects in architecture, and on a reception night with a crowd of guests it is a fine part of the show; like Jacob's ladder, angels ascend and descend upon it. Where there is a very large hall, the stateliest staircase will probably be one which is in the hall and forms as it were part of it; one may even commence it with a flight of half a dozen steps extending right across the hall. The difficulty in such a case is to plan it so that it will not interfere above with the integrity of the gallery or loggia which you will certainly have round the hall on the upper level. In the case of Bridgewater House, Barry, as Professor Kerr mentions in his book, intended at first to have the stair in the midst of the cortile, where the dotted lines are shown; on second thoughts he took it out of the cortile and made it a separate staircase at the end; the cortile may have gained, but the stair lost in dignity. Delicately modelled curves of the edges of the steps, in the wide lower flights especially, add much to the beauty of a staircase; on a small scale this is very well done in the charming staircase designed by the late Mr. Cockerell for the Society of Water-Colours' rooms, which I recommend students to look at. The weak point in a staircase to my mind is the raking soffit, and it is well where it can be designed so that this is hidden and only the steps them-

selves visible. This is very well done in the grand staircase of the Paris Hôtel de Ville, where two broad flights between marble-lined retaining walls start right and left from the lower hall, and this kind of staircase may be also applicable to a private mansion on a large scale, where the upper plan was such as to admit of landing the staircases at two widely removed points. At the same time it may be said that the double staircase has more affinity with the idea of a public hall than of a private house. Where the general plan allows of it a flight of stairs on a long curve is nearly always fine, not a circular stair—that looks too utilitarian as if it were done to save space—and the curve is too quick; but an elliptical hall, for instance, with a stair following its curves up on each side, is a noble scheme. But there is no end to the beautiful things that may be done with stairs where there is space enough; they are the poetry of internal architecture.

As for the entertaining rooms, the great desideratum for them is that which applies also to the whole ground-plan of the house, viz. that they should represent an architectonic conception in the configuration of each room and in their relation to each other. Systems or ideas in planning are endless; the great thing is that there should be an idea, and not merely a space divided into rooms by walls. Another point that will almost always be right (though there may be exceptions in special cases) is that the principal dining-room should be on the opposite side of the hall from the drawing-rooms. Another is that the principal rooms should be planned on an axis, and should be capable when desired of opening out a vista through the greatest length of this portion of the house; remembering, as before suggested, that mystery is not the attribute of a great house so much as grandeur. Then as to the question of intercommunication, a corridor, of the ordinary proportion of width, is not the best suited to such a house; it is a feature more characteristic of a public building; if there is a long apartment of communication, it should be rather of such proportionate width as may remove it from the category of corridors to what is more properly called a "gallery"; not a mere passage, but a long room which is also a passage. And in a State suite of rooms it is a question whether some of the rooms of ordinary proportions may not quite fitly be planned to open one out of another, and one be used as the passage to another. Upstairs, of course, we must have corridors—we cannot in the present day walk through each other's bedrooms in the nonchalant manner in which the inhabitants of many Elizabethan and Stuart mansions must have done; but in a suite of entertaining rooms on a great scale there is no objection to walking out of one into another, and there is even a certain added dignity in the arrangement, as if the house were on too grand a scheme to stoop to the mere utilitarianism of corridors.

In conclusion, I would encourage those who have the chance of building large houses to endeavour to revive in them some of the old stately character which, as it seems to me, has been sadly lost during the present century, through a mistaken craving after what is called the picturesque, and not to be afraid of trying new and original dispositions of plan merely because they are new and original. Why is a form of plan which promises a fine effect to be shirked merely because it is unlike what people are used to? You would perhaps say, or your clients would say, that this plan of Du Cerceau's (one of his numerous suggestions) was a very outré idea for a house; and it must be admitted that as it is shown by Du Cerceau it is a very bald suggestion—merely a kind of skeleton plan; but what a beautiful thing, both internally and externally, might be made out of that idea if it were worked out in a more complete and architectural manner. As an example of a modern plan of great originality and beauty we may take that of "Chesters," by Mr. Norman Shaw; also a plan, as you see, with an idea, and which is a fine example of the novelty and effectiveness in house-planning which is within our reach if we will give our minds to it. There is far more to be done in the way of invention and fine effect in the planning of the higher class of mansions than has yet been done; while we can emulate, in new forms, the stateliness combined with variety of the Renaissance plans, we can clothe them with detail much more free and expressive than the dead scholasticism of the Orders with which our able Renaissance predecessors were fettered. But we must begin with the plan.

The Chairman said they felt the value of Mr. Statham's coming amongst them, and it was because of his knowledge that the committee had thought proper to leave the subject to be treated to his own suggestion. From what the members had heard that night, the committee could not regret that they had left the title of the paper to Mr. Statham himself.

Professor Aitchison, R.A., who proposed a vote of thanks to the author of the paper, said he was not there to teach but to learn. He could only re-echo the author's remarks. Regarding the importance of a good staircase, he (the speaker) found that in the larger mansions the reception-rooms and principal galleries were on the first floor. The approach to them should suggest therefore some of their magnificence, as well as being a feature of the hall. Although unacquainted with many of the large London houses, he believed some had grand staircases. Ashburnham House had a staircase after the designs of Inigo Jones. Although Mr. Statham did not approve of circular staircases, he could not agree with such views. Circular staircases could easily be made beautiful, although their treatment was more difficult. Like many features in architecture, it required special study to excel in the design of staircases. Perhaps the Italian palaces offered the best examples in this work.

Mr. Halsey Ricardo, who seconded the vote, said the paper showed an enthusiasm for the plans of the old buildings, and seemed to suggest that they were good material for the present day. These buildings were interesting and pathetic as things of the past, but their spirit belonged to a different age than ours, and it would be making false the spirit of the age if introduced into modern work. Many of these old buildings were ingenious and perhaps interesting to the student because of the difficulties that had been overcome, but that was all. If they were to build for posterity their work must be more in accord with the general feeling—a more humane feeling than was to be found in the people of the past.

Mr. Beresford Pite thought it was very difficult to find the real spirit of the age in which they lived. If a man could ever do so, his success was assured. The art of planning depended much on the ability of the architect to be interesting. They could not forget that Mr. Norman Shaw had fascinated the whole world with his Gothic planning and the hundred and one things which he imported into a modern building. There was an art and a charm in his rambling planning as well as in his methodical. The real art of architecture was the investing with beauty of the ordinary arrangements of everyday life. Every arrangement of planning was interesting, and when they came to artistic planning they would find that the modern ideas of comfort would settle the plan.

Mr. Francis Hooper also joined in the discussion.

Mr. Statham briefly returned thanks.

THE WADDESDON BEQUEST.

ON Saturday the Trustees of the British Museum resolved to accept the bequest of the late Baron Ferdinand Rothschild on the condition stipulated, that the collection should be kept by itself in a room to be designated "Waddesdon Bequest Room." According to the *Times* the number of objects comprised in the bequest is not very great—about 260, exclusive of the illuminated manuscripts—and of these only a limited number are of any size. The whole collection was contained in the smoking-room at Waddesdon—a room of no great dimensions—and it is well to say at once that it is essentially a "cabinet" collection, where almost every piece will require minute examination before its beauty and interest can be fully appreciated. There are no suits of armour, no large pieces of Renaissance furniture, no sculpture, except on a Lilliputian scale. Waddesdon contains endless treasures in the way of furniture and pictures, but with these we have at present no concern.

The collection comprised in the bequest comprises plate, jewellery, enamels, carvings in boxwood and hone stone, Italian majolica and glass, a few important pieces of arms and armour, and bronzes. A great proportion of the specimens are such as only the very few can afford to possess, and among these few the competition is so keen that the sums paid for the objects reach remarkable proportions. Some of the more important pieces in Baron Ferdinand's collection are from well-known sales—the Fountaine, Hamilton Palace, Londesborough, Magniac, Spitzer and others—and these, of course, are more or less known to the interested public, who have had an opportunity of seeing them in the sale rooms. But a great number have passed quietly and directly from the possession of their former owners into that of Baron Ferdinand, and these will have for connoisseurs the added interest of novelty.

The word plate scarcely conveys to the ear the impression made by seeing the fine array of richly chased cups, tazzas, spoons and other objects which the princes and wealthy merchants of the sixteenth century used to garnish their tables, and of which there is here a goodly number. Nor are the precious metals alone brought into play; ostrich eggs, the "griffin's eggs" of Mediæval times, the iridescent shell of the nautilus, rare and curious stones from the East are all found, enriched with gold or silver mountings on which the graceful fancy of the French or Italian goldsmiths of the Renaissance has been allowed full play. A favourite device was to make the whole cup in the form of a bird or animal, perhaps the armorial bearing of the owner, and the collection contains a number of figures of unicorns, boars, stags and bears, as well as occasional figures of the huntsman. An odd fancy of the time was to make two cups so fit together at their rims that one formed the cover of the other, and of these there are two good examples in Baron Ferdinand's collection.

The section of jewellery and jewelled objects contains, how-

ever, some of the truly priceless objects; it may safely be said that some few of them are not surpassed by any cabinet in Europe. Those who had the opportunity of visiting the fine exhibition of European enamels at the Burlington Fine Arts Club eighteen months ago will not fail to have noticed a series of five small vases of Oriental onyx, chalcedony and lapis lazuli, interesting enough in themselves, but rendered of immensely greater importance and value by their gold mountings, enriched with delicate translucent and other enamels in the most perfect style of the ripest Italian art. The principal piece of these is an oviform vase of chalcedony, about 9 inches in height, carved in cameo with vine branches and grapes, with two projecting handles cut from the solid stone. Thus far it is of good Classical work, and the cunning craftsman of Imperial Rome who fashioned it would most surely appreciate the refined skill with which another artist of his native Italy has enriched it 1,500 years later. The mounting is throughout of solid gold, partly covered with delicate enamelling in brilliant colours, every detail of which is perfect of its kind and carried out in the fullest harmony with the design of the vase itself. The second is of somewhat smaller size, but scarcely, if at all, of inferior importance. It is in the form of a ewer, the body being of bloodstone, slightly carved, but of singularly graceful outline; the gold mountings are of the same richly-jewelled style as those of its companion, and are perhaps the work of the same skilful hand. The handle, which is in the form of a snakelike animal, is thickly set with emeralds and rubies, and upon the upper curve is perched a dainty figure of Cupid, of gold enamelled white, with his arrow raised in his hand ready to strike. The spout is modelled in the same style to represent a dragon, and equally studded with jewels. The other pieces of this fine set are of the same brilliant decorative character, and if separated from the two vases just described would easily take a first place in any collection. One of them is carved from a single block of lapis lazuli, and, like the first, is of antique Roman work, mounted in gold by an Italian artist of the sixteenth century, who has placed on the cover a delicate little group of Venus and Cupid; the other two are of jasper, a tazza and a covered vase, the latter surmounted by a large uncut crystal of ruby.

It is not an easy task to give an idea of the variety to be found among the articles for personal adornment without adopting the style of a descriptive catalogue. Some of the finer pieces were shown at the Jewellery Exhibition at South Kensington in 1872 by their then owner, and are in the catalogue under Nos. 206, 207, 211 and 212. One of them is a singularly charming pendent jewel, with figures of Venus and Cupid in enamel in the centre; it may very probably be by the same hand as another, similar in general design, but with the subject of the rebuke of St. Thomas, now in the collection of Sir Richard Wallace. These and a large proportion of the others in Baron Ferdinand's collection are executed in the style that is usually attributed to Cellini, and are, at any rate, almost uniformly classed as Italian work. Baron Ferdinand himself took this view, and was strongly of opinion that this particular class of work was all of Italian origin. There is, however, good ground for thinking that a number of these richly-jewelled pendants with graceful figures in enamel are rather German than Italian. The intimate trade relations between the principal cities of Southern Germany and Italy had a marked effect on the art products of the former, and in many directions this is readily admitted. An examination of the work of the Bavarian goldsmith, Hans Mielich, in the Reiche Kapelle in Munich and in the Bavarian National Museum, would show that this Italian influence was fully as strong in the direction of enamelled jewellery as in silversmiths' work. The Limoges enamels include some brilliant pieces, and, with one exception, they belong to the painted enamels of the sixteenth century. The exception is an important chasse or reliquary of champlevé enamel, dating from the thirteenth century. The subjects are from the lives of St. Martial and St. Valerie, the former of whom was the patron saint of Limoges, the city where it was made. This is an unusual specimen both in size and execution, and the peculiar style of which it is a good example is not well represented in the Museum. The later enamels include three caskets, all of fine quality. One is from the Bernal collection (lot 1,565), ornamented with figures of the Sybils painted in grisaille and mounted in silver-gilt. The enamels have the well-known signature J.P., which are usually attributed to Jean Penicaud, but in this instance it has been thought possible that they may represent Jean Poillevé, enameller and goldsmith. The second casket is also painted in grisaille, with Biblical scenes in small panels, and is believed to be from the hand of Pierre Reymond, while the third is a characteristic example of Susanne Court. By Pierre Reymond there are also a plaque with the Judgment of Paris in colours on a blue ground, and a second with a pleasure party in a boat—both good examples of his coloured work. The collection includes three fine portraits; one from the Spitzer collection represents Catherine of Lorraine, Duchesse de Montpensier, and is a splendid specimen of the Limoges style of portraiture, important both from its size and from the historical interest of the portrait. The second is a small circular medallion with a half length of the short-lived Charles IX. of France. Both of these are painted by Leonard Limousin, while the third, a fanciful representation of Diane de Poitiers, bears the F.L. of François Limousin. An important piece in the pictorial style is a framed series of fifteen panels painted with subjects after Raphael; the central plaque, representing Neptune stilling the winds, is an unusually fine example of Leonard Limousin. This also is from the Spitzer collection. Of the large dishes which form such splendid decorative objects the collection contains three, and a fourth has a ewer belonging to it. All are of that brilliant school of colouring where a backing of foil was used to enhance the transparent tints, of which Martial Courtois is one of the best exponents. From his hand is a large circular dish decorated impartially with Biblical and mythological subjects, and an unusually fine oval salver bearing the subject of the Scarlet Woman of the Apocalypse, in which the artist has done his best to reproduce in colour the glowing imagery of Revelation; a third is by Jean Courtois, and represents the Destruction of Pharaoh's host.

A few special objects must be mentioned in the remaining sections. The carvings in boxwood and hone stone are of the highest quality, but some of the former are so minute in their execution that even when held in the hand a magnifying-glass is necessary to show the inconceivably intricate detail of the carving. The principal objects of this class are the beautiful busts of Charles the Bold and his wife Margaret of York, examples of the highest style of sculpture "in little" of the time. Their story is curious; they are said to have formed part of the collection of Rudolph II. at Prague, and there, in a fortunate moment, they were bought by the father of the late Sir Edgar Boehm for the sum of 4*s*. Such chances rarely occur more than once in a lifetime. Another interesting relic of even earlier times is an oval glass cup of the same style and work of the well-known luck of Eden Hall. This curious vessel, which is an attractive thing in itself, has been mounted in silver-gilt and embossed with fleur-de-lis, and the family story accounts for the cup and its mounting by recording that it was won by an ancestor at the Crusades in a game of cards with the King of France.

Such is the general character of the bequest, and enough has been said to show that the nation has reason to be grateful, though there are many pieces of great interest that have not even been mentioned.

GENERAL.

Mr. George Simonds will deliver lectures on sculpture to the members of the Royal Dublin Society on the 24th, 25th and 26th inst. The subjects will be "Modelled Work," "Carved Work" and "Cast Work."

M. Carl Jacobsen, who has enriched Copenhagen with several examples of modern sculpture, has offered to present his collection of works of art to the city, which is worth a quarter of a million sterling, on condition that a special building will be erected to contain it.

An Exhibition of the works of the late C. N. Kennedy is being organised at the Carlton Gallery. The Manchester Coporation have lent his *Fair-haired Slave* for the purpose.

The Council of the Royal Society of Painter-Etchers and Engravers have elected the following gentlemen as members of the Society:—Messrs. Meyer, Milner, Newbolt, Tomkins and Wright.

Mr. John Tweed, whose studio in Chelsea Mr. Rhodes has promised to visit, was the sculptor of the colossal statue of Van Riebeck, the first Dutch Governor of the Cape, which Mr. Rhodes has had erected in Cape Town. The statue is designed from portraits at The Hague.

Herr Rudolf Kempf, the director of the local technical school for building construction, has brought out a folio work on the architecture of Augsburg with the title "Alt-Augsburg." It contains 100 plates.

Mr. Frank Baker, C.E., F.G.S., borough engineer of Middlesbrough, member of the Oxford University Brass Rubbing Society, and member of the Monumental Brass Society, will read a paper on "Monumental Brasses" on Wednesday next before the Northern Architectural Association.

The Vacant burgh surveyorship of Ayr has been sought by eighty-six competitors. Out of that number twelve applications are under consideration.

The Rose Window in the north transept of Chartres Cathedral has suffered during the recent storms.

The First Sitting of the Prussian Diet in the new building was a failure, as the speeches were inaudible. Some temporary remedy is to be provided before the next sitting on to-morrow.

THE

Architect and Contract Reporter.

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," 175 Strand, London, W.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, 175 Strand, London, W.C., not later than 2 P.M. on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, 175 Strand, W.C.

For Advertisement Scale, see page xv.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

ASHTON-UNDER-LYNE.—For erection of a pair of villas situate in George Mellor Road. Messrs. George & Son, architects, Old Square, Ashton-under-Lyne.

ANGLESEY.—Feb. 6.—For extensions to the Welsh C. M. chapel at Benllech. Mrs. Jos. Owen, architect, Menai Bridge.

BAKEWELL.—Jan. 28.—For erection of infirmary, female tramp wards, porter's lodge and the alteration of the present receiving wards at the workhouse. Mr. E. M. Longsdon, architect, Town Hall, Bakewell.

BARNARD CASTLE.—Jan. 26.—For erection of science buildings at the North-Eastern County School. Messrs. Clark & Moscrop, architects, Darlington.

BATLEY.—Jan. 23.—For internal fitting of the Warwick Road branch of the Batley Co-operative Society. Mr. H. B. Buckley, architect, Old Vicarage, Batley.

BERWICK-UPON-TWEED.—Jan. 31.—For erection of lock-up and police station in Church Street. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-upon-Tyne.

BIRMINGHAM.—Jan. 30.—For erection of nurses' messroom and other accommodation at the workhouse infirmary. Mr. R. H. Ward, architect, Paradise Street, Birmingham.

BIRMINGHAM.—Jan. 25.—For erection of boundary walls, piers, &c., at the site of the proposed small-pox hospital at Upper Witton. Mr. H. Richardson, engineer, Council House, Aston Manor.

BIRMINGHAM.—Jan. 28.—For construction of four additional slipper baths, water-closet, storeroom, &c., at the Public Baths, Victoria Road, Aston Manor. Mr. H. Richardson, engineer, Council House, Aston Manor.

BLACKPOOL.—Jan. 25.—For alterations and additions to station buildings at Central Station, Blackpool, for the Lancashire and Yorkshire and London and North-Western Joint Railways. Mr. C. W. Bayley, secretary, Hunt's Bank, Manchester.

BOOTLE.—Feb. 1.—For erection of a technical school in Balliol Road. Mr. Edward Reid, surveyor, 7 Westminster Chambers, Crosshall Street, Liverpool.

BRACKENTHWAITE.—Feb. 3.—For erection of two bridges over Hope Beck. Mr. J. B. Wilson, Court Buildings, Cockermouth.

BREDBURY.—Jan. 24.—For erection of a dwelling-house, with a water-meter chamber in the basement, at the corner of Two Trees Lane and Haughton Green Road. Mr. J. W. Bain, clerk, School Brow, Bradbury.

BURNLEY.—Feb. 1.—For extension of central stores, Hammerton Street. Mr. Thos. Bell, architect, 14 Grimshawe Street, Burnley.

BURTON-UPON-TRENT.—Feb. 1.—For widening the bridge crossing the Midland Railway, Horninglow Street, and alterations to existing buildings adjoining thereto. Mr. George T. Lynam, borough engineer.

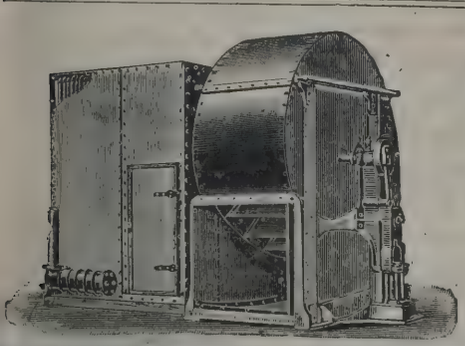
CAMBERWELL.—Jan. 31.—For construction of an underground convenience in Rye Lane. The Surveyor, Vestry Hall, Peckham Road.

CARDIFF.—For relaying the skittle and other joinery work, &c., for the Cathays Conservative Club. The Steward at the Club, Upper George Street.

CARDIFF.—Jan. 31.—For extensions to the electric-lighting station, Eldon Road. Mr. W. Harpur, borough engineer, Town Hall, Cardiff.

CHELTENHAM.—Jan. 23.—For reconstruction of retaining wall at No. 3 reservoir at Hewletts. Mr. E. T. Brydges, town clerk, Municipal Offices, Cheltenham.

CRANBROOK.—Jan. 25.—For erection of boiler-house and the supplying and fixing of two new vertical boilers and



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cooking apparatus and other works at the workhouse. Mr. T. H. Crampton, clerk, Cranbrook, Kent.

CROYDON.—Jan. 24.—For additions to the laundry buildings and for alterations to and refitting the steward's stores, at the infirmary, Mayday Road, Thornton Heath. Mr. F. West, 23 Coombe Road, Croydon.

DURHAM.—Jan. 25.—For erection and completion of a new station at Wingate, for the North-Eastern Railway Company. Mr. William Bell, architect, at the Central Station, Newcastle-on-Tyne

EGYPT. — For construction of an iron bridge on the Bagouriyah Canal, in the Province of Garbiyeh. Tenders will be received at the office of the "Chef du Service Administratif," Public Works Department, up to 11 A.M. on March 2, 1899. Further particulars may be obtained at the Commercial Department of the Foreign Office on any week-day, between the hours of 11 A.M. and 5 P.M.

GLASGOW —Jan. 26.—For erection of public baths and washhouses in Whitevale Street and East John Street. Mr. John Lindsay, clerk, City Chambers, Glasgow.

GLASGOW.—Jan. 30.—For erection of a new generating station at Pollokshaws Road. Mr. Andrew Myles, architect, 143 West Regent Street, Glasgow.

GUIDE BRIDGE.—Jan. 23.—For construction of refreshment rooms at Guide Bridge station, for the Great Central Railway Company. Mr. O. S. Holt, secretary, London Road Station, Manchester.

HALIFAX.—Jan. 30.—For erection of a pair of villa residences in Manor Heath Road. Mr. Arthur George Dalzell, architect, Albany Chambers, 15 Commercial Street, Halifax.

HALIFAX.—Feb. 3.—For erection of stabling and alterations and additions to Grove Brewery, Luddenden Foot. Mr. Joseph F. Walsh, architect, Lancashire and Yorkshire Bank Chambers, Halifax.

HARROGATE.—For an extension to the Lowther Arcade. Mr. G. E. Bolshaw, architect, 189 Lord Street, Southport.

HULL.—For alterations and additions to the Hull Church Institute, Albion Street. Messrs. Brodrick, Lowther & Walker, architects, York Chambers, 77 Lowgate, Hull.

HULL.—For erection of printing works in Chapel Lane. Messrs. Brodrick, Lowther & Walker, architects, York Chambers, 77 Lowgate, Hull.

HULL.—For erection of branch premises, for the London and Yorkshire Bank, in Witham. Messrs. Brodrick, Lowther & Walker, architects, York Chambers, 77 Lowgate, Hull.

ILKLEY.—Jan. 28.—For erection of four houses in Richmond Place, Ilkley. Mr. E. Barton Johnson, architect, Ilkley.

IRELAND.—Jan 25.—For erection of cable station, offices and dwellings for officials at Waterville, co. Kerry. Mr. J. F. Fuller, architect, Brunswick Chambers, Dublin.

IRELAND.—For erection of a lecture hall at Whitehead, co. Antrim. Mr. Herbert Sykes, architect, Whitehall Buildings, Ann Street, Belfast.

ISLE OF THANET.—Jan. 25.—For erecting cottage-home buildings at Manstone, for the Guardians of Isle of Thanet Union. Mr. Leonard Grant, architect, High Street, Sittingbourne.

KIDDERMINSTER.—For repairs to six houses in Paradise Row. Miss Page, 26 North Street, Rugby.

LEEDS.—For erection of the Southern higher-grade school, Burton Road, Hunslet, to the ground-floor level. Mr. J. Mitchell Bottomley, architect, York City and County Bank Chambers, Park Row, Leeds.

LEEDS.—Jan. 24.—For repairs to the various schools of the Board during ensuing year, for the Leeds School Board. Mr. W. Packer, clerk, School Board Offices, Leeds.

LEEDS.—Jan. 28.—For additions and alteration of Messrs. Wm. Wms. Brown & Co's old bank premises in Commercial Street into shops and suites of offices; alteration of shop premises and the Jubilee Hotel in Victoria Square; erection of printing warehouse, Cookridge Street; erection of shop premises and bakery, North Street; and settling tanks, Sheepscar Street. Mr. Thomas Winn, architect, 92 Albion Street, Leeds.

LEEDS.—Feb. 6.—For alteration and renovation of the public baths in Cookridge Street. Messrs. Walter Hanstock & Son, architects, Branch Road, Batley.

LEEDS.—Feb. 14.—For addition of an apse, clergy vestry, nave roof, new seating, &c, at St. George's Church. Mr. Henry Walker, architect, 8 Upper Fountaine Street, Leeds.

LITTLE ILFORD.—Jan. 25.—For erection of school buildings, out-buildings, caretaker's cottage, &c., in Bessborough Road. Mr. S. Jackson, architect, 65 Fenchurch Street, E.C.

LONDON.—For new floor to large schoolroom and two classrooms, with ventilating shafts, skirting and matchboarding

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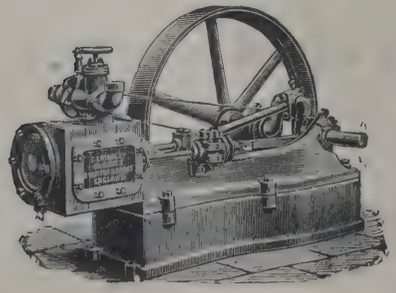
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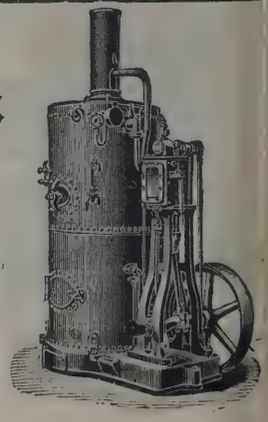
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MANCHESTER.—Jan. 28.—For erection of technical institute and public library, Stretford Road, Old Trafford. Mr. John Bowden, 14 Ridgefield, Manchester.

MANCHESTER.—Jan. 30.—For erection of Government offices, for the Commissioners of H.M.'s Works and Public Buildings. Messrs. J. S. Lee & Son, 35 Craven Street, Strand, London.

MIDDLESBROUGH.—For alterations to two shops, 22 and 24 Corporation Road. Mr. Robt. Moore, 27 Albert Road, Middlesbrough.

MORECAMBE.—For erection of bottling warehouse and stables off Curzon Road. Messrs. Rayner & Sager, Alfred Street, Blackpool.

NEWCASTLE-UPON-TYNE.—Feb. 6.—For alterations and additions to Spital Tongues School. Mr. W. Lister Newcombe, architect, 89 Pilgrim Street, Newcastle-upon-Tyne.

NEWTOWN CUNNINGHAM.—Jan. 23.—For erection of teacher's residence at Newtown Cunningham, co. Donegal. Mr. M. A. Robinson, architect, Richmond Street, Londonderry.

NORTHALLERTON.—Jan. 31.—For erection of bathroom, bath and hot and cold water supply at the workhouse, Northallerton. Messrs. Fairbank & Son, 13 Lendal, York.

NORMANTON-BY-DERBY.—Feb. 6.—For alterations and additions at the schools. Messrs. Naylor & Sale, architects, Iron Gate, Derby.

PETERBOROUGH.—For erection of house, Charles Street. Mr. J. G. Stallebrass, architect, North Street, Peterborough.

PRUDHOE-ON-TYNE.—Jan. 31.—For rebuilding the Dr. Syntax Hotel. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle.

RATCLIFF.—Jan. 26.—For certain alterations and additions at the workhouse, Salmon Lane. Mr. R. Banks Martin, architect, 103 Plashet Grove, East Ham.

RAWTENSTALL.—Jan. 23.—For erection of five cottages in Annie Street. Mr. F. J. Hobson, architect, King Street, Rawtenstall.

RIPPONDEN.—Jan. 31.—For erection of a fireproof mill adjoining the present mills at Ripponden. Messrs. Richard Horsfall & Son, architects, 22A Commercial Street, Halifax.

ROGERSTONE.—For erection of fourteen semi-detached houses. Messrs. Swalwell & Creighton, architects, Steam Packet Chambers, Dock Street, Newport, Mon.

SCOTLAND.—Jan. 25.—For alteration at Persie manse, Blairgowrie. Messrs. L. & J. Falconer, architects, Blairgowrie.

SCOTLAND.—Jan. 26.—For additions to and alterations to the steading and the erection of bothy on the farm of Nether Tulloch, and for repairs on the steading of Easter Tulloch, in the parish of Gavrock. Messrs. Scott & Gardner, solicitors, Stonehaven.

STALYBRIDGE.—Jan. 25.—For erection of a post office for the Commissioners of H.M. Works and Public Buildings. Mr. W. H. Strudwick, New Inn Chambers, London.

STEETON.—Jan. 23.—For erection of eighteen cottages at Steeton, Yorks. Messrs. John Judson & Moore, architects, Keighley.

STEETON.—For erection of institute. Messrs. John Judson & Moore, architects, Keighley.

SWINDON.—Feb. 11.—For pulling-down and rebuilding the Foresters' Arms inn and adjoining house in Fleet Street, New Swindon. Messrs. William Drew & Sons, architects, 22 Victoria Street, Swindon.

TUNBRIDGE WELLS.—Jan. 26.—For erection of a chimney shaft at the workhouse near Penbury. Mr. Frank Wm. Stone, clerk, 23 Church Road, Tunbridge Wells.

ULVERSTON.—Jan. 30.—For erection of a villa residence in Kilner's Park. Messrs. Settle & Farmers, architects, Ulverston.

WAKEFIELD.—For insertion of two new shop-fronts at Westgate End. Mr. Willie Wrigley, architect, 6 Westgate, Wakefield.

WALES.—Jan. 23.—For erection of schoolroom, classrooms and organ chamber, &c., Bethesda. Mr. G. S. Jones, 12 Gordon Terrace, Bethesda.

WALES.—Jan. 23.—For erection of an intermediate school and hostel at Hengoed to accommodate eighty girls. Messrs. James & Morgan, architects, Charles Street Chambers, Cardiff.

WALES.—Jan. 30.—For erection of an additional classroom (to accommodate fifty children) and other works at the Board Schools, Ynysddu, Mon. Messrs. Rosser & Roberts, architects, Abercarn.

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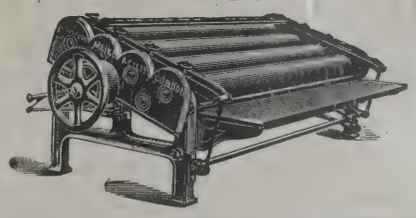
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WALES.—Jan. 25.—For additions and alterations to the Imperial Hotel, Porth. Mr. A. O. Evans, architect, Pontypridd.

WALES.—Jan. 27.—For repairing, painting, &c., of Nazareth Congregational Chapel, Pontyeats. Mr. D. Beynon, 12 West End, Llanelly.

WALES.—Feb. 3.—For rebuilding the Allen's Arms, Mountain Ash. Mr. Geo. Kenshole, Duffryn House, Ystrad Mynach.

WIMBLEDON.—Feb. 13.—For erection of isolation hospital, to include three ward blocks, administrative block, cottage, receiving and discharging block, laundry and disinfecting station and mortuary, on site off Gap Road. Mr. C. H. Cooper, surveyor, Council Offices, Broadway, Wimbledon.

WINGATE.—Jan. 28.—For erection of a shop near Trimdon Station. Apply to the Secretary.

YORK.—Feb. 2.—For erection of fire-escape staircases and other works in connection therewith at the workhouse. Messrs. Penty & Penty, architects, Lendal Chambers, York.

AT a meeting of the Kirkintilloch School Board Mr. John Cameron, the chairman, moved that plans for an extension of Townhead School be submitted for the Department's approval and estimates got from contractors. The overcrowded state of the school was complained of by H.M. inspector. The motion was carried by a majority of one. The plans as already prepared for the Board provide for a storey being added to the back of the school at an estimated expenditure of 1,500*l.*, giving accommodation for about 300 extra scholars.

A SERIOUS scaffold accident occurred on Monday at West Norwood, at the building works of Messrs. Perrins, situated in Durban Road, Auckland Hill, where a number of villas are being erected, and resulted in four men being severely injured. Just after the dinner hour several labourers were at work on the scaffolding some 25 feet from the ground, when, without the least warning, the poles gave way and the men were thrown to the ground. Four of them—D. Vallas, J. Smith, John Spooner and G. Sullivan—were injured, and Dr. Sharman, a local practitioner, who happened to be near at hand, ordered their immediate removal to the Cottage Hospital at Upper Norwood.

TENDERS.

BARNSLEY.

For painting the interior and exterior of the public-baths' buildings in York Street. Mr. J. HENRY TAYLOR, borough surveyor.

Beaumont Bros.	£110 0 0
L. Todd	110 0 0
G. Burnett & Sons	97 0 0
G. E. Fidler	95 0 0
E. R. Fletcher	84 0 0
T. L. STEPHENSON, Barnsley (*accepted*)	80 0 0

BASINGSTOKE.

For widening Victoria Street and the construction of a new street contiguous thereto. Mr. GEORGE FITTON, borough surveyor.

J. Ball	£1,093 15 0
Mussellwhite & Son	956 0 0
S. Kavanagh	799 0 0
J. THURNWOOD, Basingstoke (*accepted*)	689 0 0

BECKENHAM.

For making-up Border Crescent. Mr. JOHN A. ANGELL, surveyor.

T. Adams, Wood Green	£1,612 5 6
G. Wilson, Walthamstow	1,363 0 0
E. Iles, Mitcham Common	1,271 8 0
Mowlem & Co., Westminster	1,250 0 0

For paving Trinity, Arthur and Croydon roads. Mr. JOHN A. ANGELL, surveyor.

T. Adams	£361 12 6
G. Wilson	335 0 0
E. Iles	284 17 0
Mowlem & Co.	260 0 0

BRIDLINGTON QUAY.

For erection of business premises, Prince Street. Mr. SAMUEL DYER, architect, Bridlington Quay.

E. Corner	£1,525 0 0
W. Barnes	1,450 0 0
J. Rennard	1,355 17 10
A. Lyons	1,337 5 0
J. Jaram & Sons	1,275 0 0
Carr & Creaser	1,217 0 0
TAYLOR & CO., LIMITED, Guiseley (*accepted*)	1,086 17 6

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CANTERBURY.

For lowering and remaking portion of St. Stephen's Hill. Mr. H. T. SIDWELL, surveyor.

H. King	£286 10 0
L. ASHENDEN, Canterbury (*accepted*)	285 0 0
J. Perry	280 0 0

CORNWALL.

For construction of a small reservoir, laying of 3-inch iron pipes, &c., at Fowey. Mr. T. H. ANDREW, engineer, 1 Trevarrick Villas, St. Austell.

J. Shaddock	£900 0 0
J. P. Isbell	515 0 0
J. H. Mitchell	480 0 0
Brown & Son	475 0 0
Oliver & Minear	465 0 0
BLAMEY & HOSKING, Fowey (*accepted*)	424 0 0

DOVER.

For completing the construction of Beaconsfield Road. Mr. HENRY E. STILGOE, engineer, Town Hall, Dover.

Austen & Lewis	£616 1 2
H. Richardson	598 6 4
Engineer's estimate	547 0 0

Note.—Work will be carried out by the Corporation.

DURHAM.

For construction of 253 lineal yards of 8-inch and 6-inch pipe sewer, with manholes, lampholes, &c., at Framwellgate Moor. Mr. GEO. GREGSON, surveyor, Eastwood, Western Hill, Durham.

S. Walker	£70 10 6
F. C. Dixon	69 17 11
R. Oliver	64 9 7
H. Nicholson	63 0 0
J. CARRICK, Durham (*accepted*)	60 11 1

EXMOUTH.

For erection of a villa residence and workshops, Exeter Road. Mr. ERNEST E. ELLIS, architect, Market Street, Exmouth.

H. Dart	£703 0 0
W. S. Cooper & Son	669 0 0
W. H. Perry	608 0 0
R. C. COOPER, Exmouth (*accepted*)	595 0 0
R. B. Pons ford	542 0 0

EDMONTON.

For repairs, &c., at King's Head public-house. Mr. J. HAMILTON, architect.

Neal	£400 0 0
Connings	358 0 0
Woodcroft	355 0 0
Scarborough	345 0 0
Snewin Bros. & Co.	324 0 0

FARNHAM ROYAL.

For alterations and additions to The Lodge, Farnham Royal, Slough. Mr. WALTER EMDEN, architect.

H. Roffey	£2,080 0 0
Beer & Gash	1,867 0 0
Lancaster & Vaughan	1,856 0 0
J. Deverill	1,771 0 0
COX & SONS (*accepted*)	1,710 0 0

GILLINGHAM.

For erection of a school for 300 boys, 300 girls and 300 infants. Mr. F. SMITH, architect, Bank Chambers, High Street, New Brompton.

G. WOOLLARD, New Brompton (*accepted*) . £6,754 0 0

HORSHAM.

For erection of infirmary and administrative block to the workhouse. Mr. C. H. BURSTOW, architect, 6 West Street, Horsham.

J. Ockenden & Son	£7,685 0 0
R. Cook & Sons	7,628 0 0
Rowland Bros.	6,999 0 0
POTTER BROS., Horsham (*accepted*)	6,730 0 0

LEEDS.

For erection of ten houses, Tunstall Road. Mr. FRED. MITCHELL, architect, Safe Deposit Chambers, 71 Albion Street, Leeds.

Accepted tenders.

W. H. Jones & Co., brick and stonework.
G. H. Nettleton, joiner.
J. Watson, plumber.
W. H. Brunton, plasterer.
J. Atkinson & Son, slater.
A. Hoyle, painter.
Total, £2,007 5*s.* 7*d.*

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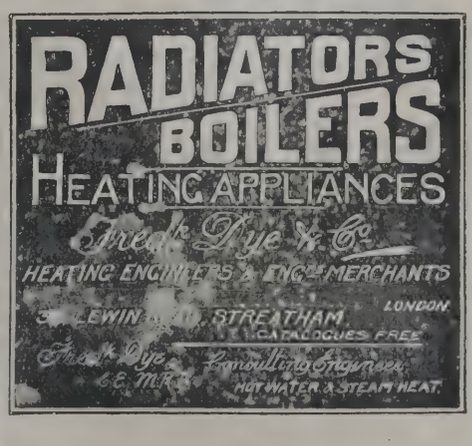
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LEAMINGTON.

For erection of an entrance lodge to Victoria Park. Mr FREDERICK G. CUNDALL, architect, 41 Parade, Leamington.

T. PRATT, Leamington (*accepted*)	£510	0	0

LONDON.

For construction of greenhouses at the Islington Cemetery, East Finchley.

G. T. Jeffery	£295	4	0
T. Story	295	0	0
A. Peel & Son	265	0	0
E. J. Harsant	257	0	0
Pearce & Co.	225	0	0
W. D. Tucker	205	2	0
F. W. Harris	197	0	0
R. Goodman & Sons	183	16	6
J. PAVEY, Wood Green (*accepted*)	146	0	0

For pulling-down and removal of certain buildings abutting on the site of the Vestry's electric lighting station, for the electric lighting committee of the Islington Vestry.

S. E. BONSALL, 8A Queen's Road, S.E. (*accepted*)	£85	10	0
W. Marshall	78	0	0
B. Barlow	52	10	0
J. Kelley	50	0	0
C. Jackson	43	0	0
N. Wise	39	0	0
T. Worm	30	0	0
E. Pickersgill	20	0	0
W. Rixon	20	0	0
Williamson & Son	20	0	0
J. Robinson & Son	15	10	0
W. Coker	10	10	0
Santer & Nash	6	10	0
Laplain & Sons	5	0	0

MORTLAKE.

For erection of a fire-station in the High Street. Mr. G. BRUCE TOMES, engineer, Mortlake.

R. T. Hughes & Co.	£650	0	0
Soole & Son	585	0	0
A. Hunt & Son	521	0	0
W. A. WALKER, Castelnau, Barnes (*accepted*)	471	6	6

MORECAMBE.

For erection of an arcade at Sandylands Heysham. Mr. A LANCELOT LANG, architect, 12A Pedder Street, Morecambe.

Whole tender.

J. Edmondson	£919	0	0

Excavator, bricklayer and mason.

E. Turner	589	0	0
D. Hinchcliffe & Co.	519	9	6
J. H. Dodgson	514	0	0
PARKINSON & SIDDLE, Edward Street (*accepted*)	448	0	0

Carpenter and joiner.

Schofield Bros.	230	0	0
J. Greenwood	189	10	0
R. D. Parkinson	178	0	0
Roberts & Ogden	160	0	0
HAINSWORTH & BLAND, Battery Sawmills (*accepted*)	157	10	0

Plumbing and glazing.

J. P. McNair	176	0	0
W. B. Hodgson	170	0	0
W. Watson	161	0	8
R. B. Abbott	159	0	0
S. H. Cross	136	12	9

Plasterer and Slater.

W. J. Cross	91	18	0
HILL & NELSON, Morecambe (*accepted*)	73	19	0

MOTHERWELL.

For erection of police buildings.

Accepted tenders.

T. Anderson, mason work	£3,943	5	0
T. Millar, joiner	1,676	0	0
A. Macdonald, plumber	566	7	8
Cormack & Sons, heating and ventilating	268	4	10
J. Bertram, slater	256	16	1
J. Currie, plaster	231	1	8
A. Kemp, painter	79	6	8

Total, £7,030 2*s*.

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NELSON.

For erection of brewery offices, &c., Sagar Street. Mr. THOS. BELL, architect, 14 Grimshaw Street, Burnley, and Nelson.

Accepted tenders.

T. Dent & Sons, Hibson Road, Nelson, excavator, mason and bricksetter.
Doulton & Co., Lambeth, London, terra-cotta.

PORTSLADE-BY-SEA.

For construction of stoneware and other sewers, with manholes, inspection shafts, flushing tanks, &c. Mr. CHARLES O. BLABER, engineer, 64 Ship Street, Brighton.

Pedrette & Co.	£13,450 0 0
J. Parsons & Son	7,291 0 0
G. Bell	5,721 0 0
B. COOKE & Co, Westminster (*accepted*)	5,584 0 0

PUTNEY.

For erection of stabling and coachman's cottage at Chartfield, Putney Hill. Mr. A. R. THORN, architect, Elm Park Estate Office, 263 Fulham Road, S.W.

E. Parsons & Co.	£1,300 0 0
H. Roffey	1,276 0 0
G. E. SELMAN (*accepted*)	1,000 0 0

SCOTLAND.

For construction of sewerage works at Comrie. Mr. W. R. COPLAND, engineer, 146 West Regent Street, Glasgow.

H. Blackburn	£3,898 13 10
G. Fraser	3,234 10 8
T. Munro	3,220 17 7
G. & T. McOmish	3,002 15 10
L. & W. Macdonald	2,828 6 7
T. Crawford & Son	2,692 16 1
R. C. Brebner & Co.	2,600 0 0
Blair & Whyte	2,526 19 0
G. M. Stirling	2,333 13 2
T. Kay	2,282 1 2
NIMMO & COUPER, Cowdenbeath (*accepted*)	2,233 13 11

SOMERSET.

For erection of church and school, Waterloo Road, Wellington. Mr. F. W. ROBERTS, architect, 2 Hammet Street, Taunton. Quantities by Mr. D. J. BERNARD, Bristol.

Chapel.

A. J. Spiller	£1,780 0 0
H. J. Spiller	1,707 0 0
F. W. Rowsell	1,694 10 0
J. Morse	1,658 0 0
T. Manning	1,630 0 0
H. W. Pollard	1,600 0 0
T. W. Sweet	1,597 0 0
W. FOLLETT, Wellington (*accepted*)	1,586 0 0

School.

A. J. Spiller	516 0 0
F. W. Rowsell	487 10 0
H. J. Spiller	482 0 0
J. Morse	470 0 0
T. Manning	454 0 0
H. W. Pollard	440 0 0
T. W. Sweet	430 0 0
W. FOLLETT (*accepted*)	422 0 0

TUNBRIDGE WELLS.

For construction of filter-beds and other works at the water-works, Pembury.

J. Holmes	£15,842 9 6
R. Ballard, Limited	14,485 19 3
W. J. Logan	13,127 0 0
T. J. Barden	12,800 0 0
S. Kavanagh	12,492 0 0
B. Cooke & Co.	11,782 0 0
Davis & Leaney	11,676 0 0
J. Jarvis	11,500 0 0
C. Ford	10,932 0 0
MERREDEW & WORT, Stevenage (*accepted*)	10,291 0 0

WALES.

For construction of refuse destructor, for the Barry Urban District Council.

BEAMAN & DEAS (*accepted*)	£2,460 0 0

WALSALL.

For erection of first section of surface-water drainage scheme.

J. MACKAY (*accepted*)	£1,452 10 0

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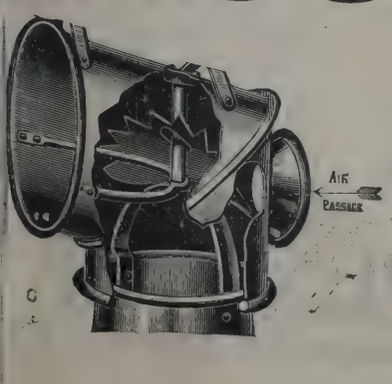
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WATFORD.

For alterations to the drainage system and sanitary arrangements generally at the schools, Leavesden. Mr. CHARLES P. AYRES, architect, 14A High Street, Watford. Quantities by architect.

Tonge	£2,239	0	0
Harris	2,167	0	0
Eames	1,968	0	0
Knight & Sons	1,947	0	0
Webster & Cannon	1,899	0	0
H. M. Dove	1,805	0	0
Dupont	1,767	0	0
Darvill	1,685	0	0
Watkins	1,670	0	0
Miskin	1,644	0	0
Waterman	1,640	0	0
Judge	1,608	0	0
Brightman	1,595	0	0
T. TURNER, Watford (*accepted*)	1,586	0	0
Architect's estimate	1,600	0	0

WEST HAM.

For enlargement of the Plaistow Hospital.

Gregar & Sons	£111,300	0	0
Foster & Dicksee	104,903	0	0
Symes	101,000	0	0
Shillitoe	98,000	0	0
Chessum & Son	91,078	0	0

Note.—Tenders referred to public health committee.

WOLVERHAMPTON.

For erection of premises at the Prince Albert Inn, Railway Street. Mr. GEORGE WORMAL, architect, Stafford.

J. Gethin	£3,177	0	0
R. Speake & Sons	2,992	0	0
J. Stringer	2,940	0	0
J. Herbert	2,790	0	0
T. SKETT, 1 Castle Street, Wolverhampton (*accepted*)	2,778	0	0
F. L. Jones	2,695	0	0

THE "CITY DIARY."

THE "City Diary," published by Messrs. W. H. & L. Collingridge, at the *City Press* Offices, has now reached its thirty-sixth year of publication, and is replete with information of a nature invaluable to the City man. Among the items may be mentioned a complete list of members of the Corporation, a list of the Livery companies, with the names of their clerks and the location of their halls or offices, the addresses of Corporators, a list of City officers, another of City schools, together with pars relating to the Freedom of the City, City loans, banking information, a list of clubs, institutions, associations, &c. All this in addition to a diary interleaved with blotting-paper and contained in a substantial cover, for the small price of one shilling.

BUILDING TRADES EXHIBITION, 1899.

THE Building Trades Exhibition of 1899 bids fair to rival in importance any of its predecessors. Already the whole of the spacious ground floor and one-half of the galleries have been let, although the exhibition does not open until April 26.

Many of the leading firms in the building trades will be represented, and among others we may mention such names as Doulton & Co., Limited, London; the Farnley Iron Co., Leeds; Gibbs & Canning, Tamworth; Jos. Wedgwood & Sons, Limited, Staffs; Jos. Sankey & Sons, Bilston; Oates & Green, Limited, Halifax; Yates, Haywood & Co., London; J. P. White, Bedford; Stiff & Sons, London; Moorwood & Sons, Sheffield; Jos. Cliff & Sons, London; J. Woodward & Co., Swadlincote; Hall & Boardman, Swadlincote; Ames & Crosta, Nottingham.

Owing to overtures made by several architects, the management has decided to devote the minor hall to a special exhibition of electrical appliances connected with the building trades, while one-half of the galleries will be set apart for an exhibition appertaining to municipal engineering.

The management, as before, is in the hands of Mr. H. Greville Montgomery, and the offices are at 43 Essex Street, Strand, W.C.

DURING the storm which visited Reading on the 12th inst., the spire of the ancient church of St. Lawrence was blown on to the roof of the church, causing considerable damage, and falling thence into the street.

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BUILDING AND BUILDERS.

THE prospectus for a new theatre for Perth has just been issued. The share capital is 5,000*l.* in 5,000 ordinary shares of 1*l.* each. The theatre is intended to seat about 950, and when crowded will hold about 1,300. It is estimated to cost 4,500*l.*

IT is proposed to build at Smethwick a mission church in the modern style at a cost of 4,000*l.*, and to seat 500 persons.

THE Wesleyan Methodists have decided to build a church at Fairhaven, a new district between St. Anne's and Lytham, Major Hincksman having promised to erect the church if the Wesleyan trustees would do the furnishing.

MUCH sympathy is felt in the building trade in York for Mr. John Plows, master mason and builder, whose wife died on the 9th at her residence, 18 Victoria Terrace, York. The deceased was sister to Mr. Thomas Prince, builder and contractor, Horbury and Wakefield.

THE health committee of the Southport Corporation have resolved to recommend the Council to add a new wing to the Corporation Hospital for Infectious Diseases in Moss Lane, at a cost of about 800*l.* The alteration would greatly increase the accommodation for the medical and nursing staff, an improvement which has for a considerable time been needed.

THE building regulations committee of the Glasgow Corporation had before them on the 13th inst. the question brought up at the last Council meeting by Councillor D. M. Stevenson with reference to unsightly gables. The committee found that they had no power to deal with the matter. It was agreed to ask the Town Council to remit to them with powers to prepare for submission to Parliament next session a Bill on the lines of that which was dropped last session, embracing a revisal of the whole of the buildings regulations, and such alterations as recent experience has shown to be desirable.

THE City lands' committee of the Corporation are making arrangements for the rebuilding of the Sessions House in the Old Bailey. They have consulted Professor Aitchison, R.A., the president of the Royal Institute of British Architects, who has suggested a competition among a limited number of architects to be nominated by the Council of the Institute. The committee, adopting this suggestion, have approved of six architects being nominated by the Council on the understanding that the acceptance of any of the designs submitted should not be binding upon the Corporation. In the preparation of the necessary conditions of the competition and the ultimate selection of a design, they have appointed Professor Aitchison as assessor, with the co-adjutorship of the City surveyor (Mr. Andrew Murray). Each unsuccessful candidate submitting a complete set of drawings, with estimates, will receive an honorarium of 200 guineas.

A MEETING of the Batley Town Council was held last week under the presidency of the Mayor. The general purposes committee's minutes contained a resolution authorising the building of a new town hall at a cost not exceeding 30,000*l.* In connection with this question a letter was read from Mr. George Sheard, of Batley, heartily supporting the scheme, but suggesting that the committee should not put a limit of 30,000*l.* upon the expenditure. He asked that no cheese-paring policy be entertained, but that a hall that would last for ages and be a credit to the town should be erected. Mr. Sheard also suggested that provision should be made for a free library within the same building. The Mayor proposed that the minutes be confirmed, Ald. Nettleton seconding, and their adoption was practically unanimous.

A NEW infant school is to be erected on the grounds of the High School, Inverness. Mr. William Mackintosh, Academy Street, Inverness, is the architect, and the building presents a plain but artistic appearance. It is to be one-storeyed. Two doors are to be provided—one for the boys and another for the girls—and these will lead into a large corridor. There will also be a corridor running up to the centre of the building, an infant-room for seating 150 children, four classrooms, two class-rooms for the use of Standards I. and II. of the juniors, a room for the headmistress and a room for the other teachers. Every attention is to be paid to the ventilation, sanitation and lighting of the new school.

A NEW nurses' home is to be erected at Inverness Infirmary from designs by Messrs. Ross & Macbeth, architects to the Northern Infirmary Board. The building will be situated on the vacant ground behind the porter's lodge, and, facing the south, will overlook the garden. It takes the shape of a pretty villa of two floors, designed in the Scottish baronial style, with crow-stepped gables, and an ornamental turret over the centre. The accommodation to be provided will include on the ground floor five bedrooms, a kitchen and a large dayroom, while on the upper floor there will be eight bedrooms, with bathroom and other up-to-date conveniences. The entrance to the villa home will be at the part next to the infirmary, and provision is made so that at any future time the home may be connected

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with the main building by means of a verandah, which, if found advisable, could be carried over the traffic road between the two buildings. According to the accepted contract, the cost of the home is 1,472*l.*

AT the Tunstall County Court on the 13th inst., before his Honour Judge Jordan, an action was brought under the Employers' Liability Act by John Taylor, of Temperance Place, Goldenhill, to recover 30*l.* 12*s.* 4*d.* as compensation for personal injuries from John Beckett, builder and contractor, of Goldenhill, in consequence of a defect in a run or way in a scaffolding. Mr. B. C. Brough appeared for the plaintiff, and Mr. John Knight for the defendant. The case for the plaintiff was that in July last he fell from a scaffolding which had been erected to carry out some work in connection with the building of some ovens for the Birchenwood Colliery Company, Limited, by the defendant, for whom Taylor worked. A day or two before the accident occurred a run or way was made on the scaffolding, under the supervision of the defendant. Two planks were used, one of which, the plaintiff pointed out to the defendant, was too short, and was not stout enough for the purpose. The defendant said the plank was strong enough, and used it. The planks were not fastened, and on July 20, as the plaintiff was passing over the run, the shorter plank slipped, and he fell, sustaining severe injuries. For four months he was unable to work at all, and even now he was only able to do light work. At first the plaintiff sent in a claim under the Workmen's Compensation Act, but the Birchenwood Colliery Company denied liability, and it was also pointed out that the building was less than 30 feet high. Applications were made to the defendant, but he disregarded them. The defence was that the run was perfectly safe, and that the accident was caused by the plaintiff's wilful neglect. While passing over the run he looked in the air and put his foot on the side of the plank, which naturally turned over. The Judge held that the plaintiff did not fall through his own neglect. The story about him looking in the air was nonsense. He gave judgment for the amount claimed and costs.

THE ordinary monthly meeting of the Sheffield Society of Architects and Surveyors was held at the School of Art on the 10th inst., Mr. J. Smith (vice-president) in the chair. Mr. Frank Baggallay, F.R I.B.A., of London, delivered a lecture on "Some Common Errors in Architectural Design."

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: WEST TOWER, FROM CLOISTERS. CRYPT UNDER DORMITORY. TRIFORIUM. NAVE, NORTH SIDE.

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TRADE NOTES.

THE new Court-house at Cookstown, Belfast, is being ventilated by means of Mackay's patent ventilators, supplied by the sole makers, Cousland & Mackay, 150 Hope Street, Glasgow.

THE new schools, Sandwich, are being warmed and ventilated by means of Shorland's patent Manchester grates, patent exhaust roof ventilators and special inlet tubes.

MR. S. A. GILLESPIE, land and estate agent and surveyor, of 45 Great Tower Street, has, owing to the rebuilding of the above premises, removed to temporary offices at 36, Great Tower Street.

MESSRS. PECKETT & SONS, Atlas Locomotive Works, Bristol, sent us a handsomely got up ornamental calendar of the "tear-off" description, but it did not reach us in time for inclusion in the list which we previously gave.

A LARGE clock has just been fixed in the parish church of Eccleston, Lancashire, by John Smith & Sons, Midland Clock Works, Derby. It has two dials and strikes the hours on a large bell.

MESSRS. MELLOWES & CO., of Corporation Street, Sheffield, write us that during the recent very severe storm they have not heard of a single instance of damage to their glazing, of which there are millions of feet fixed all over the country. This speaks well for the durability and strength of their work, as many of their roofs have been fixed for some sixteen years.

MESSRS. WM. POTTS & SONS, clock manufacturers, of Leeds and Newcastle-on-Tyne, have just completed in the grand arcade at Leeds a public clock with automaton figures, bells, &c. The dial is of polished copper, while the hands are symbolic of the sun and moon. On each side stands an armour-clad knight bearing a battle-axe, with which he strikes

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The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent"), having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

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the quarter hours upon a bell hung before him. These are the only two figures in view until the hour arrives, when after the quarters and the hour have been struck a door opens and from it emerges a procession of five figures representative of the British Empire. First comes a British soldier, who, on reaching the centre of the platform, faces to the front and makes a military salute. He is followed by a kilted Highlander, an Irishman carrying a threatening-looking shillelagh, a Canadian boatman and a turbaned Hindoo, each of whom in turn faces to the front, bows and marches off. This is not all, however; as soon as the last of the figures has retreated a life-size rooster perches above the dial, flaps his wings and crows three times, and the performance is over for another hour. Messrs. Potts & Sons have designed the clock specially, and have done all the work in connection with its construction. The approaches to the clock are visited by large and eager crowds of sightseers every hour. Messrs. Potts are also fixing a new illuminated quarter-chime clock in the tower of the Leeds parish church for the vicar and wardens.

MR. AND MRS. JAMES CRAIG'S GOLDEN WEDDING.

A VERY interesting entertainment took place at Kilmarnock on the 9th inst., the occasion being the celebration of the golden wedding of Mr. and Mrs. James Craig. Mr. Craig is the managing director of J. & M. Craig, Limited, one of the most flourishing industrial enterprises in the district, and he has been long and prominently identified with the public life of the town. He was a member of the Town Conncil for a considerable time, and acted for several years as a magistrate, his services in both capacities being highly appreciated by his colleagues and the community. He is a justice of the peace for the county. Mrs. Craig is a daughter of Captain Baird, who was one of the pioneers of political reform, and whose name appears honourably in the list of those to whose memory the monument is erected at Strawberry Bank. A large assembly met on the date in question at the Agricultural Hall, and upwards of 1,200 of the employés sat down to tea, during the progress of which numerous loyal and appreciative speeches were delivered, and a handsome gold casket and illuminated address were presented.

VARIETIES.

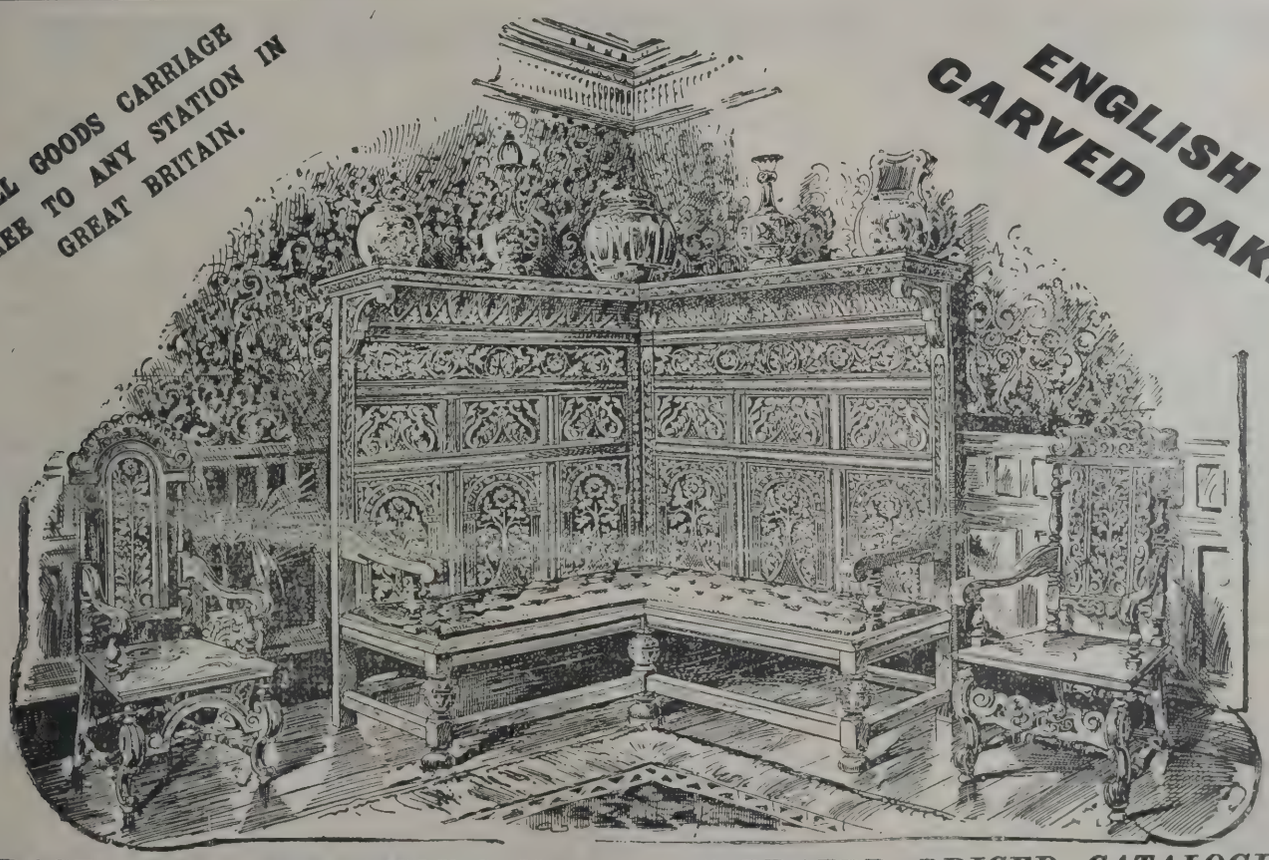
THE third members' meeting of the Liverpool Architectural Society will be held at the Law Library, 41 Castle Street, on Monday (the 23rd), when a paper on "Enamels" (with demonstration) will be given by Mr. Robert Hilton.

WITH the view of recognising the deep and active interest the Clark and Coats families have taken in Paisley Infirmary for so many years, and of their great munificence towards it in all its schemes, the directors have named the east and west pavilions after these families respectively, and the architect is preparing a design to be inserted in the buildings to perpetuate the honour. The Infirmary, which has been in process of erection for several years, is expected to be ready for occupancy in the course of the summer.

THE new workhouse infirmary at Ripon was formally opened on Friday last. Its site is elevated and healthy, and was formerly occupied by an old block of buildings used for the children's wards. The latter will, on the removal of the infirm people to their new building, be located in the old infirmary wards, which will be ample for their accommodation, and will afford them much better quarters. The new infirmary is two-storeyed, has been erected with local and Leeds bricks, with Pateley Bridge and Killinghall stone dressings. In the central portion, on the ground floor, are the head nurse's sitting-room, with bay window, commanding a view of the river Ure, medical officer's room, store-room, assistant nurse's bedroom, waiting lobby and conveniences. On this floor is a sick ward, 25 feet 6 inches by 23 feet, and 11 feet high, for eight beds, with bath-room. The first floor is reached by two substantial and easy stone staircases. The central portion of this floor contains the head nurse's bedroom, bath-room and lavatories, also labour-room and lying-in-room, while on either side are situated duty-room, special-case ward, sick ward for eight beds, day-room and bath-room. At each end of the building is a balcony, where the patients who are too infirm to get up and down stairs may sit in fine weather. The boilers for warming the building, and for heating the water for baths and lavatories, are in the basement, and a passage 6 feet 6 inches high and 3 feet wide runs from the boiler-house nearly the whole length of the building; along this all the main pipes are taken for the heating apparatus. Accommodation is provided for thirty-eight patients. The cost of the building, which is of a substantial description, is about 2,750*l.*, exclusive of furnishing. The general arrangements of the building have

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been well considered by the architect, Mr. F. H. Hargrave, of Ripon, the rooms being lofty, well lighted and ventilated, and admirably adapted for the purpose for which they have been prepared.

THE Alexandra Palace is to be rendered additionally attractive in the coming season, which will commence on April 1, by an important Exhibition of Commerce, Manufactures, Inventions and Art which Mr. Cecil Barth, the energetic general manager, is now busy organising, for which exhibits have been invited from all parts of the world and in which they will be placed in friendly rivalry in their respective sections. Applications accepted in each section will be limited in number in order to increase the variety of exhibits and the attractiveness of the exhibition. During the continuance of the exhibition, which it is expected will be one of the most interesting offered during recent years to the British public and our foreign and colonial visitors, there will be a constant flow of attractions to suit every variety of taste, promenade concerts by British and continental bands, chamber concerts by eminent instrumentalists and vocalists, dramatic performances, recitals on the grand organ (one of the finest in the world), refined variety entertainments, brass band contests, aerial shows by the most celebrated gymnasts, acrobats and wire-walkers of all countries, bicycle polo competitions, circuses, menageries, flower shows, bird shows and kindred exhibitions, as well as many side shows of novel and startling description. A great feature will be the performances of the Alexandra Palace Choral Society, under the direction of Mr. George Riseley, of Bristol, consisting of over 1,000 vocalists and instrumentalists. During the season a series of oratorios, commencing with the "Messiah" on Good Friday, March 31, 1899, will be given.

THE unusually high tides and the heavy gales have caused great anxiety as to the safety of Kew Bridge. The ancient structure is undoubtedly in a very shaky condition, and in several places in the buttresses large fissures are showing where the cement has been washed away, while some portions of the balustrades are so weak that no very great effort would be required to throw parts of them over into the river. It is stated that in view of the apprehension which exists, application was contemplated by the local authorities in order to get the bridge examined by the county surveyors of Middlesex and Surrey, as quite three years must elapse before the proposed new bridge could be available for traffic.

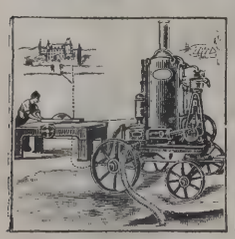
THE bridge which carries the Glasgow main road over the river Mennock at the village of that name, about a mile and a half south of Sanquhar, fell on Tuesday morning. A few years ago somewhat extensive repairs were executed on the bridge, but no fears were entertained as to its stability, and its fall yesterday morning came as a great surprise to every one. Fortunately the accident took place at seven o'clock in the morning, when there was practically no traffic, and no one was injured. It was the western side of the south abutment which gave way, and in rushing down to the bed of the river 30 feet below it carried the long wing wall with it. A considerable part of the arch, most of the parapet wall, and more than half of the roadway were precipitated into the river, and the other half so undermined as to make the bridge quite impassable for vehicular traffic. The bridge, indeed, is almost a complete ruin, and as the masonry left standing is of an antique and far from substantial type, a new structure will be necessary. Meanwhile the traffic has been diverted by other routes.

BOTHWELL OLD PARISH CHURCH.

THE old parish church of Bothwell, whose restoration has now been completed, was built in 1398 by Archibald, third Earl of Douglas. It was used as a church, says the *Glasgow Herald*, from that time till 1830, when it was closed and the present new church was built. During the time of the Roman Catholic Church the incumbents were a provost and eight prebendaries. The provosts nearly all rose to prominent positions in the Church and the State. Two of them became Keepers of the Privy Seal, and two were Lord High Treasurers of Scotland. One of them, James Beaton, was afterwards Archbishop of St. Andrews. Since the Reformation the Rev. William Hamilton, the great-grandfather of the late Sir William Hamilton, professor of logic in the University of Edinburgh, Dr. Baillie, the father of Joanna Baillie, and Dr. Gardner, who was moderator of the General Assembly, have been ministers.

The movement for the restoration was begun about two years ago. The first work was to clear away from 2 to 3 feet of earth which from the interments of centuries had accumulated round the walls. The floor had also to nearly the same depth been filled up to make it correspond with the exterior. It was lowered to its original level. When this work was completed it was found that the foundations and walls had a solidity and mouldings that had not been known for several generations.

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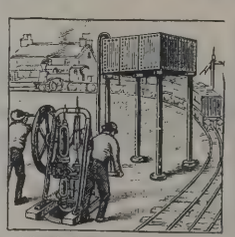

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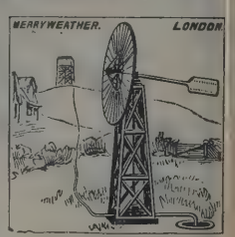


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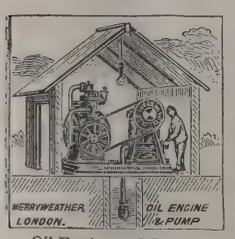

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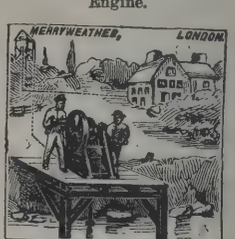
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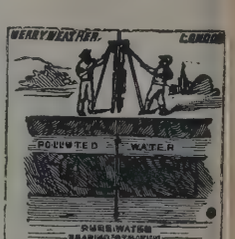
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The stone mullions of the windows, which had disappeared, were renewed. The carvings above the doorway, the sedilia and the piscina were restored. The stone roof has always been a special feature of the church. This has been carefully preserved and put into good order. There are several monuments in the church. One which occupies a prominent position is in memory of the third Duke of Hamilton. He took a leading part in the affairs of England and Scotland at the time of the Revolution. Two were erected to Earls of Forfar, a title held by the heads of the Douglas family at the beginning of last century. The last who bore the title was killed at the battle of Sheriffmuir, and was buried near the large east window of the church. There are also monuments commemorating several members of the family of the Campbells of Woodhall, who for nearly 150 years were the largest proprietors in the parish. A marble tablet of well-executed work commemorates Mrs. Douglas of Orbiston, who left valuable benefactions to the poor; and another is in memory of Dr. Stewart, who was a distinguished medical officer in the Crimean War and the Indian Mutiny. The representatives of these families have put their respective monuments into the best possible order, and by doing so have much enhanced the attractions of the church.

In connection with the restoration a large number of valuable gifts have been received. These include an organ and an excellently-carved case for it, a communion table, communion chair and two side chairs, two gas standards for the chancel and six sconces for the walls, a Bible and hymnary bound in tooled leather, with Scriptural symbols on the boards, and draping for the sedilia. The gifts to the sacristy include an arm and two side chairs, a table, a wardrobe for vestments and gas-brackets. The entire operations have been carried out under the direction of Dr. Rowand Anderson, and amply sustain his reputation in the work of church restoration.

In connection with the restoration movement two new entrances have been presented to the church. Hitherto the main entrance has been by a narrow unattractive lane. This has been closed and a new entrance formed direct from the street. Three blocks of houses have been removed and the ground so cleared away has been laid down for trees, shrubs and flowers, with intersecting walks. A house has been built for the church officer and a conservatory erected for providing flowers for the grounds. In the centre of the ground which has been acquired an exceedingly interesting monument has been erected to the memory of Joanna Baillie, who was born in the Manse of Bothwell. The monument is 16 feet in height. It rests on polished red granite. The material of the body of it is terra-cotta, supplied by Messrs. Doulton & Co., of London, with chastely-ornamented figures. The distinctive feature of the monument is the filling of the four panels with mosaics supplied by the Murano and Venice Glass Company. On the side fronting the street there is a portrait of Joanna Baillie. On another side there is a reproduction of Horatio M'Culloch's painting of Bothwell Castle. On the third there is a representation of the children of Bothwell in the early days of the poetess, and on the fourth the apple and plum trees of the valley of the Clyde. Below each of these descriptive letterpress is given in mosaics, including Sir Walter Scott's well-known reference to Joanna Baillie in "Marmion" and extracts from her writings recalling her early days in Bothwell. The other entrance also greatly enhances the attractions of the village, and secures that one of the best views of the old and new churches be permanently preserved. Old buildings have been cleared away, and a valuable piece of ground has been acquired. This has been planted with trees and shrubs.

THE PROGRESS OF ELECTRICITY.

"THE Progress of Electricity" was selected as the subject of discussion after the monthly dinner of the London Chamber of Commerce on Tuesday. Mr. T. F. Blackwell, the chairman, in introducing the subject, referred to the proposal for an all-British cable. The idea, he said, was worth the serious consideration, not only of business men, but of all Englishmen. It was evident that, in certain circumstances, it would be of the utmost importance that we should have full and entire control of our cables. The proposal would, no doubt, be carefully examined by the proper authorities, and, if it were decided to give effect to it, he was sure the unanimous support of the country might be relied upon. Discussing the question of telephony, he expressed the opinion that it was very desirable, in the interests both of commercial men and of the general public, that the telephone should be under the control and management of the State rather than of a private company. The London Chamber of Commerce had recently passed a resolution to this effect, and he hoped the day would come, and come quickly, when the Government would take over the whole service. Legislation, he thought, had very much hindered



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progress in the matter of electric lighting. It was a subject of regret that corporations and municipalities had not shown more courage in dealing with the question; at the same time, he could not but express the feeling that private companies had been very unfairly treated by the legislation which had been passed in recent years. He was glad to see that electric traction was coming rapidly to the front. Its general adoption would be an immense convenience to Londoners.

Mr. S. Morse, chairman of the Electrical Trades Section of the Chamber, said that electricity had not received fair play in the past. It seemed to be the opinion of successive Presidents of the Board of Trade and of Parliamentary committees that the science should not be encouraged, but scotched. He was afraid that, unless a great effort were made, still greater obstacles would be placed in the way of the progress and development of electricity, and the great object the London Chamber of Commerce had in view was to prevent so undesirable a purpose from being accomplished. There were now some 11,000,000*l.* invested in supply companies or in local authorities undertaking the supply of electric lighting throughout the country. This fact was an indication of the great progress that had been made in spite of all difficulties, and of the enormous proportions to which the enterprise had grown.

Major-General Webber said it was with the greatest regret that he had heard that the Chamber had adopted a resolution which, he was afraid, would be likely to kill the telephone industry in this country. He could not help feeling that this resolution was taken without the Chamber having the fullest knowledge on the subject before it. The telephone, he claimed, was essentially a local, and not a national industry. All the difficulties which the National Telephone Company had had to surmount, and which the Post Office would have to surmount if it undertook to telephone the country, were purely local, and he sincerely hoped that the Chamber would pause before finally and irrevocably committing itself to the idea of the State's controlling the service. In all those countries where nationalisation had taken place the progress had not been so great as in the countries where the telephone industry had been carried on and managed locally.

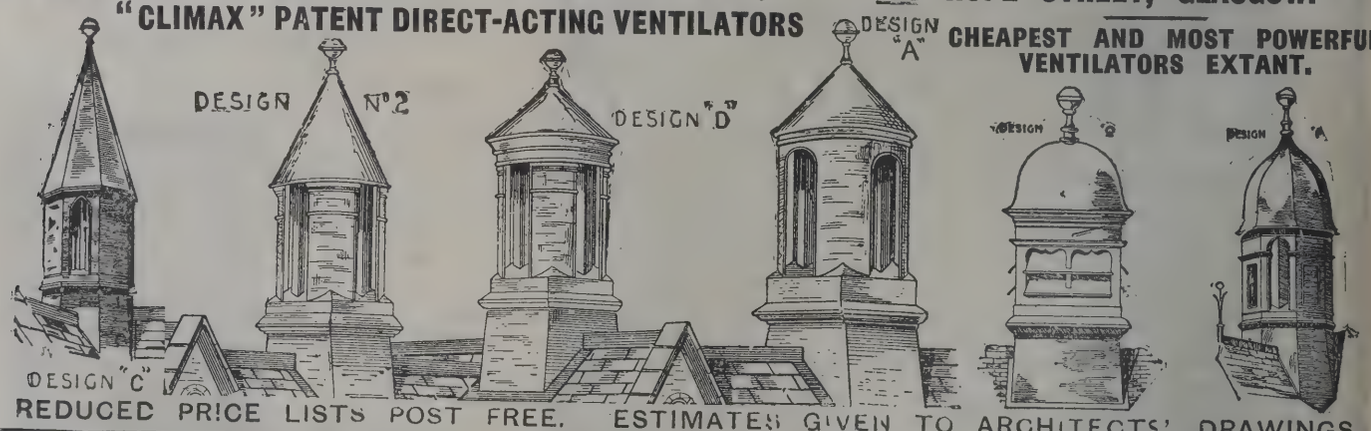
Mr. E. Garcke said it was no use, even after dinner, lulling themselves into the belief that they had cause to be satisfied with the progress of electricity in this country. If they compared the history and progress of the science here with its history and progress in other countries, they had to deplore the fact that they were even to-day many years behind almost every civilised nation of the world. He believed the primary cause of this was the tendency towards municipalisation which had been, he might almost say, rampant during the last twenty or thirty years. It was impossible for private enterprise under these conditions to make that headway which was absolutely necessary for the development of the industry. Almost every department of electricity had suffered from the same cause. He differed from many authorities in thinking that the telephone service in this country was quite as satisfactory as the service in America or on the Continent. It was true that the Continent had an advantage over them in the matter of price, but that disability had been inflicted upon them by the vacillating policy of successive British Governments. As to electric traction, he believed that if they made the mistake of encouraging the municipalisation of tramways they would retard the progress of an industry which had done, and was going to do, more for the development of other industries and for the progress of civilisation than anything else.

Other speakers also took part in the discussion, which closed with a vote of thanks to the chairman.

CHELSEA PHYSIC GARDEN.

THE corporate property, charities and endowments committee of the London County Council have recently had under their consideration a draft scheme prepared by the Charity Commissioners for the necessary modification of the existing scheme governing the City Parochial Foundation for the future regulation of the Chelsea Physic Garden, a charity established in 1721 by Sir Hans Sloane, who conveyed the fee of the land, about three acres, forming the site of the garden and buildings, to the Society of Apothecaries as trustees, reserving a nominal rent of 5*l.* per annum, and subject to the garden being maintained for the purpose of botanical and medicinal study, and for supplying the Royal Society with specimens of fresh plants every year. The scheme provides that the City Parochial Foundation, who are prepared to make a grant of a capital sum and a maximum yearly amount of 800*l.* for maintenance, shall be the trustees in lieu of the Society of Apothecaries, who, it is understood, desire to be relieved of their trust. It is proposed to provide a museum, a lecture theatre, a botanical laboratory and a biological laboratory, partly in the existing buildings and partly in new buildings, which, it is anticipated, will encroach on the garden to the extent of only one-eighth of an acre. The charity is to be

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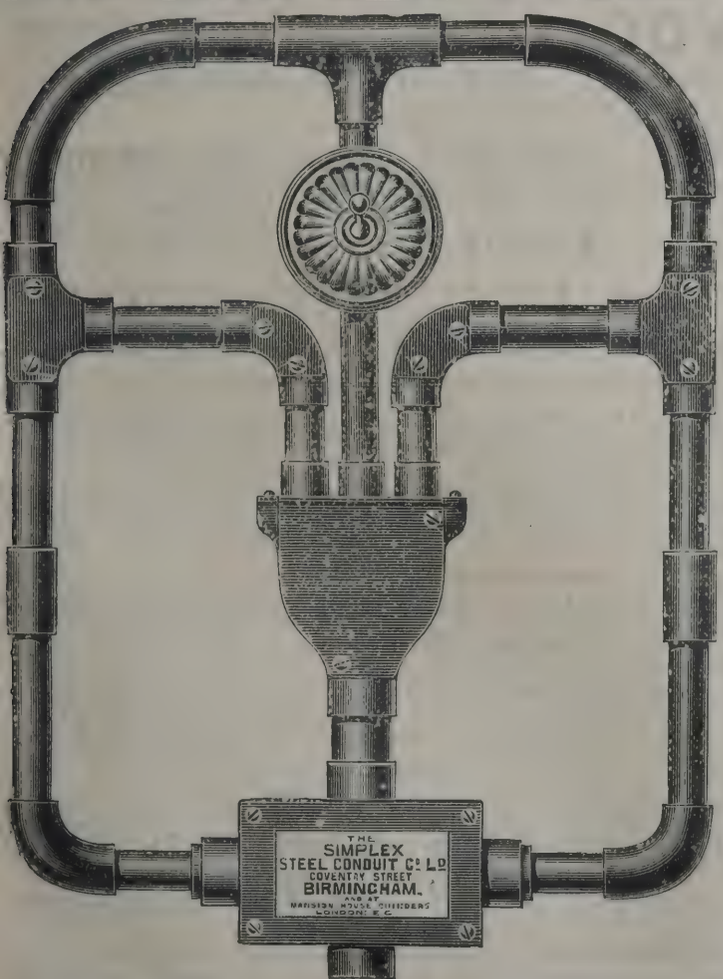
administered by the trustees and by a committee of management. The committee of management are entrusted with the direction of the garden and of the work of the garden. They are to be fifteen in number and appointed as follows:—Eight by the trustees of the London Parochial Charities (one-half of whom are to go out of office every two years); one by the Treasury, for five years; one by the Technical Education Board, for three years; one by the Royal Society, for four years; one by the Society of Apothecaries and the Royal College of Physicians in turn, for two years; one by the Pharmaceutical Society, for four years; and one by the University of London, for four years. Provision is made for the appointment of a curator and other officers. By Clauses 28 and 29 students of institutions aided by the City Parochial Foundation are eligible for admission to the garden without payment of fees, and, so long as a yearly payment of 150*l.* is made to the trustees out of moneys provided by Parliament, free admission is to be given to students and professors of the Royal College of Science. After a careful consideration of the scheme, the committee of the London County Council consider that certain modifications are desirable, and their observations on these questions have been transmitted to the Charity Commissioners. The committee think, among other things, that the name of the Council should be substituted for that of the Technical Education Board as the body to appoint one member of the committee of management, and that a special clause should be added providing for the appointment of additional governors under the Technical Instruction Act, 1889. They also notice that by Clause 27 "rules shall be made by or with the sanction of the Charity Commissioners for admission to the garden." This, they assume, is intended to cover the admission of the public on suitable occasions; if, however, this is not what is intended, they think it highly desirable that the Commissioners should be approached with a view to the clause being extended.

HOUSES FOR THE POOR.

THERE was a discussion of the subject of the housing of the poor in large towns at the meeting of the Manchester Statistical Society on the 11th inst.

Mr. B. F. C. Costelloe said the difficulties of urban life had been brought home to the London County Council with exceptional keenness, for the aggregation of human beings which formed the capital of the British Empire far exceeded in magnitude any such aggregation which existed or ever had existed since men began to live in society. The County Council area contained about as many people as Paris, Berlin, Vienna and Rome put together. Neither Imperial Rome at its greatest nor any modern civilised city had had half such a population. Again, one had to remember that of this vast aggregate of human beings the vast majority were poor. According to Mr. Booth, a million and a quarter of them—say a fourth of the whole—were living below what he called the line of poverty. Nowhere was it so difficult to estimate exactly the state of labour and wages and the real conditions of life of the poorer working class. In a district like Manchester and its area work was comparatively regular. There were staple trades, and hands whose skill in them was—saving periods of depression—a constant probability of good wages. That was not true of London. Wages were, in some relations, higher there than elsewhere, but work was wofully irregular. What, then, was the housing problem? It was not merely that at least a million of Londoners—say a fifth—were housed now in a way inconsistent with what we understand by civilisation. The census figures as to overcrowding alone were terrific. The medical officer lately reported, as the measure of "housing" required, 829,765 persons living in tenements of four rooms or less, occupied by more than two persons in a room, of which 214,843 persons lived in tenements of one room, and 330,238 in tenements of two rooms. The bulk of these, in his opinion, needed in reality to be rehoused. All municipalities, however, had experience of overcrowding and of insanitary slums In London they were the worse because the administrative chaos and the leasehold system had directly encouraged both these curses of the community. The metropolitan slum areas were of vast extent, taken as a whole, but they were the more unmanageable because they were scattered everywhere over the map of London. Why, it might be asked, were there in this way slums in all quarters of London? The answer was undoubtedly to be found in the bald political economy of supply and demand. The conditions of London life had been and were such that there were masses, large or small, of the very poor who were wanted in all these places, and who could not very well live anywhere else. There were numerous sections of the community who were compelled by the nature of their employment to dwell near the centre. They must live near their work. If we could abolish

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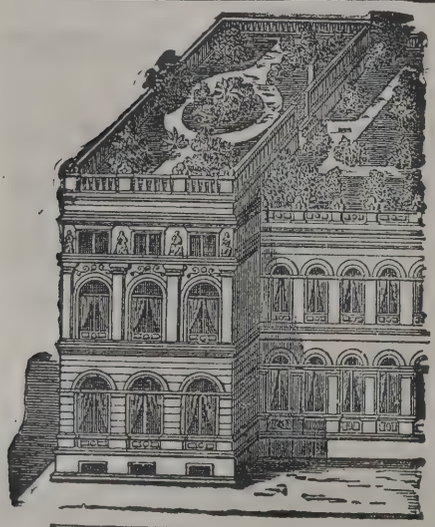
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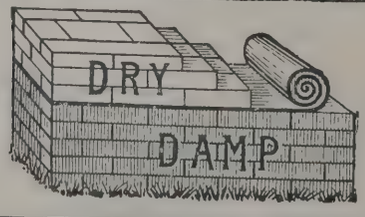
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all such casual labour, and have industry so well organised that all the workers should have practically regular work and should know just when and where to go for it; then the poor labourer might do what the aristocracy of labour did now—migrate to the suburbs, or to outside areas like Tottenham, where there were cottages to be had with gardens—of sorts—and where a whole city emptied itself every morning into London by rail, and flowed back again at night. If the whole of the million and a quarter who must be housed and who were "below the line of poverty" were at least living by organised and regular employment, the problem would be comparatively simple. It would then mean, in effect, the building of other outlying suburbs of workmen's homes outside the business area, and the provision of cheap and rapid transit for the workers in and out at all needful hours of day or night. But all talk about planting out the workers in the green fields and solving the problem by rapid transit was really an evasion of the true difficulty. The fact was that a large fraction of the poorer workers could not reasonably be expected to live ten miles, or even five or three, from their work. In modern wage-earning it was more than ever a case of "first come, first served." A multitude of poor workers' families must live near the centre, and the land near the centre has attained a value the equivalent of which they cannot conceivably pay, and it goes on increasing with fatal certainty. If Whitechapel, and Stepney, and Limehouse, and Mile End, and Bethnal Green, and Shoreditch and Spitalfields were all depopulated, as they may well be, where will these myriads go? This problem no one has seriously faced. To say that it should be left to settle itself seems to be one of those inhuman counsels which are the seed of revolutionary discontent, and bring on in the end more violent remedies than even the extremists would wish. To say that the community should buy up slum areas and re-erect on them an adequate number of workmen's dwellings under present conditions of cost is almost appalling. The Metropolitan Board of Works cleared 22 acres at a net loss of over a million and a half. Other towns, such as Glasgow and Birmingham, have turned these operations into speculations almost remunerative; but in London it is absurd to propose it. We must be prepared, if we go in for municipal housing of this kind, to face the fact that we will be sacrificing vast portions of the possible economic value of sites in the very centre of the world, and will be providing homes for certain needful servants of the community at wholly artificial rents. It ill b e said that to do this is to "pay rent out of the rates" for a favoured class. To that the London County Council will certainly not allow itself to be driven except in the last resort. Can the London County Council, or Parliament or anybody else avoid this necessity in the long run if we are really in earnest about the housing of the casual poor in London? A man may say, of course, that there ought to be no "casual" labour; and that if there were not, all workers could have lovely cottages in the country. If that is the view, then let us set about the colossal work it involves. Let us settle how this new province of cottages is to be built, so that it may not make new horrors as it too often does now, not only in London, but in provincial cities because it is beyond the boundary of strict supervision. Let us root up all the irregular employment and arrange hours everywhere so that it is possible for the workers to travel to and fro. Let us see that railways and fast trains, private or public, develop rapidly the zone of ten miles round the present London, with radial lines and convenient stations so that every workman cottager can get to a central point in about half an hour from his own door, at intervals of, say, a quarter of an hour, any time from 5 A.M. till 8 A.M., and return in like manner any time from 5 P.M. till 9 P.M., at rapid intervals, and any time until the next morning where the night-working trades are concerned. The thing can be done, though it is a colossal work, at which the existing companies have only nibbled as yet. Many say, and say truly, that much of the present shame and misery arises out of the abuses of the private ownership of land values. The community should be able to expropriate land for its necessary purposes on a very different system from any we have known as yet. Even if the community owned the land, the casual housing problem would be in its essence the same. For the real point of it is that this casual labour has to be housed at places where any bedroom may be worth 100*l.* a year. We may obscure that fact, but no jugglery will abolish it. "Paying rent out of rates" is discussed in the *Times* as if it were a question of Progressive extravagance or electoral corruption. But the whole scheme of the Housing Acts of Parliament is built on the principle that the rent of these slum workers, when they are rehoused, is to be largely "paid out of rates." From that result there is no escape so long as people must sleep near their work. If society cannot arrange that its industry shall be so organised as to abolish the difficulties of this casual labour, bound to the centre of a town, then society must be content to pay the rent of a sufficient corps of hangers-on. It is not a pleasant dilemma, and neither horn of it is easy. But all dilemmas are

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simpler after we have faced them, and all are capable—and certain—of a solution.

Alderman Walton Smith said it was with almost a sense of relief that he found that the difficulties encountered in Manchester in connection with the housing problem were small in comparison with those which the London County Council had to deal with. In Manchester the Corporation were seeking to get the railway companies to establish three zones, and to issue tickets at 1*d.* each for two miles, 2*d.* for six miles, and 4*d.* for those workers who lived within the ten miles zone. Tramways would, in some respects, be of greater benefit than railways, because they went around the city and intersected it in various ways. He hoped that when the electric system was established in Manchester still greater facilities would be afforded in this direction, and thus enable the working classes to find a home in the surrounding districts.

Mr. Pownall said it was obvious that these poor people could not help themselves. The question, then, was—From whence is the help to come? Private enterprise could only palliate the evil. The help must come, it seemed to him, from the State. Was the State prepared to make the sacrifices necessary to bring that comfort to the workers without which there could be no true contentment? It seemed to him that the first step towards a better state of things was to reform the laws affecting the tenure of land and secure effective building regulations.

Mr. A. H. Scott pointed out that the evil which everyone recognised and deplored would only be partially remedied if people were forced from the centre to the circumference of the city, and there allowed to recreate fresh areas of slums.

Mr. F. Brocklehurst said they were doing their best to provide houses for the working classes of Manchester. The improvement and building committee had either built, or were engaged in building, eighteen five-roomed cottages, 634 tenements and twenty-nine shops, besides a public lodging-house for men. The barrack buildings were gradually being abandoned. It was true those now in Manchester were full, but it was because the people had nowhere else to go. They were strongly disliked, and it was largely owing to the expression of public opinion on this question that barrack buildings were now being abandoned.

The Rev. J. E. Mercer said that many of the evils engendered by congestion in the centres of Manchester were rapidly developing in suburban districts like Gorton, where "jerry-building" was rampant, where there was a population of 40,000, and where the building by-laws, although thirty-five years old and intended for a rural district, were not acted up to, and where the population was increasing by ten or fifteen hundred every year.

Mr. T. Gregory suggested that if the local authorities provided houses at an abnormally cheap rate the benefit would pass, not to the occupant, but to the employer, who secured labour at a lower rate in consequence.

Professor Flux expressed his belief in the possibility of effecting such changes in industrial conditions as to make it no longer imperative for any large class of workers to live in close proximity to their work.

Mr. Plummer said that the building of workmen's dwellings and the purchase of sites by the Manchester Corporation, viewed as a commercial transaction, was an absolutely hopeless failure, and one they could not hope to repeat.

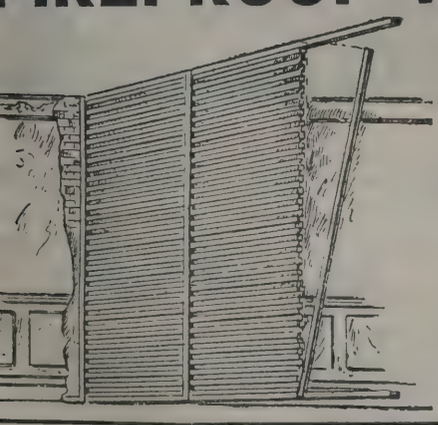
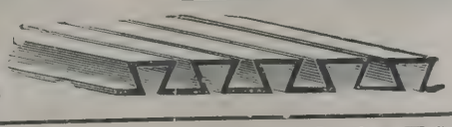
"DEAD ENDS" OF MAINS.

IN his last report to the Kensington Vestry, Dr. Dudfield, the medical officer of health, writes :—

The public analyst has had occasion recently to report unfavourably upon a sample of water taken from a house in St. James's Square, his report being to the effect that "the sample consisted of water polluted, and totally unfit for public supply and drinking purposes." The Grand Junction Waterworks Company, who supply the district, upon being communicated with took exception to the source from which the sample was taken, being of opinion that "a sample of water drawn from such a place and under such conditions would be very unlikely to be a fair sample of the water as delivered from the company's main." They stated that they had received no communication from their own analysts with reference to their water, which is analysed daily by those gentlemen—Sir William Crookes and Professor Dewar, chemists of the highest professional reputation. Other samples were subsequently taken from houses in the square and examined by the public analyst, who had again to make an unfavourable report. In the circumstances it appeared to your vestry desirable to apply to the Local Government Board to have reserve samples examined by Sir Edward Frankland, whose reputation as a water analyst is second to none. The Board's reply was to the effect that they "could not undertake to arrange for the analysis by Sir E. Frankland

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of samples of water supplied by the vestry." The special purposes committee have had an interview with the secretary and the engineer to the company, and have inspected the plan of the mains in the district, it being a statutory duty of the company to provide such plans, which are required to be open to the inspection of persons interested. Examination of the plan revealed the fact that, practically, though not actually, the main from which the samples had been taken terminates in a "dead end," a condition of things which tends to sluggishness of flow of the contained water, and favours the growth of organisms, unless the main is flushed and cleansed with sufficient frequency. The officers of the company stated that this is done, and no doubt proper instructions are given. But in the case in point these instructions may not have been carried out; in other words, the main may not have been flushed and cleansed with necessary frequency. The engineer admitted the necessity for this treatment, and promised that the matter should receive proper attention. The samples of water submitted for examination by the company's analysts are taken from a standpipe, and from a main in which the flow is active and practically incessant. The analyst's report for each day in the month of November was favourable, every sample being returned as "clear." But such a report upon samples of water taken under the prescribed conditions is not inconsistent with impurity of a supply derived from a main conditioned like that in St. James's Square. There can, I think, be no reasonable doubt that danger to the public health is involved in circumstances which tend to slow the flow of water, whether by actual dead-ends of mains or (as in the St. James's Square case) under conditions analogous. The engineer stated that the company were, and for some time past had been, engaged in abolishing dead ends; it is to be hoped that the recent stir will have the desired effect of stimulating their activity in this direction. Quite recently Sir Edward Frankland has had occasion to direct attention to the ill effects of dead ends of mains, in a report on the water supply at Paisley, where an epidemic of enteric fever was probably due to a gross defect in the apparatus for flushing dead ends.* The conclusions of this analyst with reference to dead ends, as set out in the report on the Paisley case, are as follows:—

"1. That chemical analysis has shown the water in the dead ends of the mains to be organically somewhat inferior to that circulating in the trunk mains, both of the high and low level services.

"2. That the bacteriological examination has shown the water in the dead ends of the mains to be, in almost every case, somewhat richer in bacterial life than the water circulating in the large mains of both supplies.

"3. That colon bacilli, and other forms more or less resembling the typhoid bacilli, have been found in six of the twelve samples collected from the taps in the affected area, whilst no suspicious forms were discoverable in the two samples taken from the trunk mains.

"4. That all the four samples taken from plugs inserted in the dead ends of mains in the affected area contained colon bacilli.

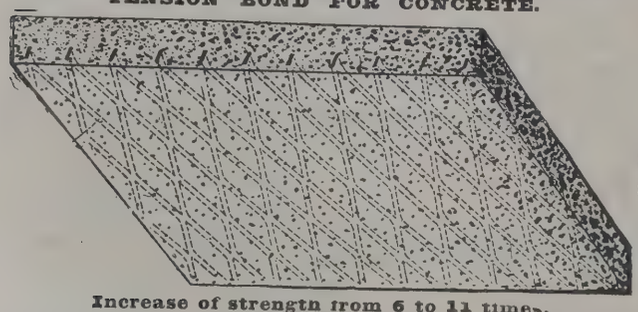
"5. That whilst the results referred to above do not actually prove a connection between the water supply and the recent epidemic, they are obviously quite in harmony with the existence of such a connection.

"6. That on general grounds the water in the dead ends of mains is most calculated to cause mischief, because in the event of any dangerous contamination of a water-supply having taken place, the morbific material (typhoid bacilli) will tend, not only to accumulate in such areas of sluggish circulation, but they will also remain there for a longer period of time than in any other part of the network of mains. The water consumer in such an area will, therefore, not only be more likely to receive typhoid bacilli, but will receive them in larger numbers and over a longer period of time, and there is thus a greater probability of his infection being secured. These considerations show the high importance of the regular and frequent flushing of all such dead ends being carried out, and the serious danger to the water consumer of any want of attention to this duty."

It is only fair to say that, so far as I know, typhoid bacilli have never been isolated from the water supplied by any Metropolitan company. None such were found in the samples reported on by the public analyst, nor were any discovered in the Paisley water; but the final observation by Sir Edward Frankland contains a warning as to the danger of dead ends which should be taken to heart, for whilst "unable to pronounce any authoritative judgment as to the origin of the recent epidemic," he is of opinion "that the remarkable restriction of

* The defect referred to consisted in the "system which prevails in Paisley of making a direct connection between the water mains and the sewers," described by Sir Edward Frankland as "one of the most serious breaches of the laws of hygiene" which he had met with in the whole course of his experience, "and which it is impossible to condemn in sufficiently strong terms."

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S. B. BOLAS & CO.,
MEDALLISTS, ROYAL PHOTOGRAPHIC SOCIETY, 1895—97,
ARCHITECTURAL PHOTOGRAPHERS,
77 OXFORD STREET, W.
PRICE LIST AND ESTIMATES ON APPLICATION

the epidemic to an area in which an extraordinary large number of dead ends of the water mains occur, points to the particular dangers attending such dead ends," to which he had referred in his report "as being a *causa sufficiens* of the mischief." The lesson to be learned from our recent experience, perhaps, is that water for examination by the public analyst should be collected from small mains and near to dead ends. If the water proves to be satisfactory in such localities, there will be no question of its fitness for potable use in trunk mains where the flow is active and constant.

SCHOOL FOR THE BLIND, LIVERPOOL.

THE new school for children at Wavertree in connection with the Liverpool School for the Indigent Blind was opened on the 12th inst. by the Lady Mayoress of Liverpool. The building is most pleasantly situated, the committee having secured one of the few remaining open spaces within a reasonable distance of the centre of the city. Standing well back (150 feet) from Church Road, and approached by a drive lined with shrubs, the building looks very well with its facing of grey brick, the windows, doors, gables, &c, dressed with red Ruabon brick, and the roofs covered with grey Velhinelli slates. Money has not been needlessly spent in external decorations—it is a mistake to use much of public subscriptions in outside architectural embellishments—yet the elevation and general appearance of the block are very satisfactory. As seen from the drive the building is flanked with two wings, one providing a gymnasium connected with the main building by a covered corridor, and the other providing the sick ward, dining-room and general kitchen accommodation. The principal entrance is in the centre of the main block, and opens into a vestibule and hall, in the former being a large showcase for the display of goods made by the blind in the school. Turning to the left we enter a large showroom and board-room, beyond which is the master's sitting-room. Beyond that is the boys' staircase and the corridor leading to the gymnasium. This hall is 40 feet by 25 feet, with a height from the floor to the boarded pitch-pine roof of 21 feet. Like the rest of the building it is lined with buff and red brick above a glazed brick dado. The flooring is also pitch-pine, laid on a sub-floor of concrete, and the large windows at each end are filled with lead glazing designed by the architects.

Returning to the main building, the rear of it is found to be occupied opposite the boys' staircase with a lavatory and cloak-room, and a range of six class-rooms, all well lighted and separated from each other by glazed screens, which admit of the complete supervision of the children. On the right of the main entrance is a waiting-room (with telephone), master's office and officers' dining-room. The girls' staircase, which is thus separated by 90 feet from that for the boys, is at the right end of the main block. But on the same floor in the right wing is the sick ward (facing the front), with suitable accommodation for the nurse and patients; in the middle of the wing girls' lavatory accommodation, while the rear part contains a dining-hall, 47 feet 6 inches by 18 feet 6 inches, communicating with a large serving-room and kitchens. The first floor is devoted to dormitories for the children and bedrooms for the officers and servants, the accommodation for the latter being in the wing immediately over the kitchen. The dormitories seem to be well arranged, and an excellent feature is the direct supervision which can be exercised from an officer's bedroom over each dormitory. The basement is extremely well lighted, nearly all the windows being above the level of the surrounding ground. The front part of the basement has a work-room 57 feet in length, while on the other side of the corridor are day-rooms and bath-rooms, the basement of the right wing containing wash-house and similar accommodation. A double lift is provided, and the building is fitted throughout with telephonic communication. The corridors and floors throughout are of concrete, with a granolithic surface; the staircases are of stone with glazed brick dados. The rear of the building looks upon a court in grass, with shrubs, and beyond it are separate playgrounds for the boys and girls.

The cost of the building (exclusive of site and furnishing) slightly exceeds 14,000*l.* The design and general architectural work were supplied by Messrs. H. & A. P. Fry, architects, Hackinshey. The general contractors were Messrs. Morrison & Sons, Wavertree; Mr. Wm. Hughes was clerk of works, and the various tradesmen employed were:—Ironfounders, Guy & Hunter; plumbers, A. C. Wilby & Son; glazing, Williams & Watson; heating and hot-water service, Killick & Cochran; gas service and fittings, the Liverpool Gasfittings Company; electric bells, telephones and lightning conductor, H. G. Riddell; roof ventilators, Braby & Co.; service lifts, Waygood & Co.; locks, College & Bridgen; grates and chimney-pieces, Yates, Heywood & Co.; wrought-iron work, Cunliffe & Dean; trough closets, Doulton & Co.

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FACTORY STAIRCASES.

THE negotiations between the manufacturers' section of the London Chamber of Commerce and the London County Council respecting the "County Council Staircase" have, says the *City Press*, been brought to a fairly satisfactory conclusion. The difficulty which gave rise to them, however, ought never to have occurred. The Factory Act of 1891 made it obligatory on owners and occupiers of factories to provide efficient means of escape for employés in the event of an outbreak of fire; but it expressly stated that they should be such as could "reasonably be required under the circumstances of each case." The words are clear enough, and occupiers of premises coming under the Act were therefore not prepared for the action of the County Council in demanding in every case the construction of a costly fireproof staircase without any regard to special circumstances. It was not alone the excessive cost that was complained of, the loss of valuable space caused by making extra staircases, or enclosing existing ones, and the general interference with business accommodation were still more serious. In many cases—in the City especially—compliance with the demand was well nigh impossible. The matter was finally taken in hand some months ago by the London Chamber of Commerce, and the committee to whom it was referred have just announced the result. They have "received an assurance that the Council had no intention to increase the difficulties of owners or occupiers of property by excessive requirements." It is promised that in future, "should it be considered by the factory or workshop owner, or his advisers, that suitable means of escape in case of fire can be provided from the premises in some other way than that indicated" in the Council's official requisitions, the Building Act Committee will be prepared to give full consideration to any alternative proposals submitted to them. It is a great pity that these assurances should have been delayed so long, and when it was found that the Council's requisitions "were so worded as to convey the impression that they were in the nature of mandates, and that no alternatives could be accepted," that the mistake was not corrected. This mistaken impression was not confined to the persons upon whom the notices were served and their professional advisers. The officers of the Council read them apparently in the same sense, and considerable sums that might have been saved have been unnecessarily expended. Everything now depends upon the spirit in which the "assurances" of the building committee are acted upon, and perhaps it is just as well that the committee of the London Chamber of Commerce are continuing their sittings for the present. There may be many occasions on which their advice will be useful, and they will, at all events, be in a better position to judge how far the assurances they have received are carried out in practice. In the meantime manufacturers and property owners who are the recipients of requisitions from the London County Council are recommended to consult their professional advisers as to alternative proposals, taking care that in such alternatives the requirements of the law are reasonably met. There is, of course, no valid objection to the requirements of the Act. It is the duty of every employer—apart from any legal obligation—to see that the means of escape in the event of fire are provided for the persons in his employ; the Act itself demands nothing more. It does not insist upon costly fireproof staircases; that is the idea of the County Council, and it is against this only that the protest has been made. Had the demand of the Council been brought within the limits defined by the Act they would have had very little difficulty in enforcing it.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS

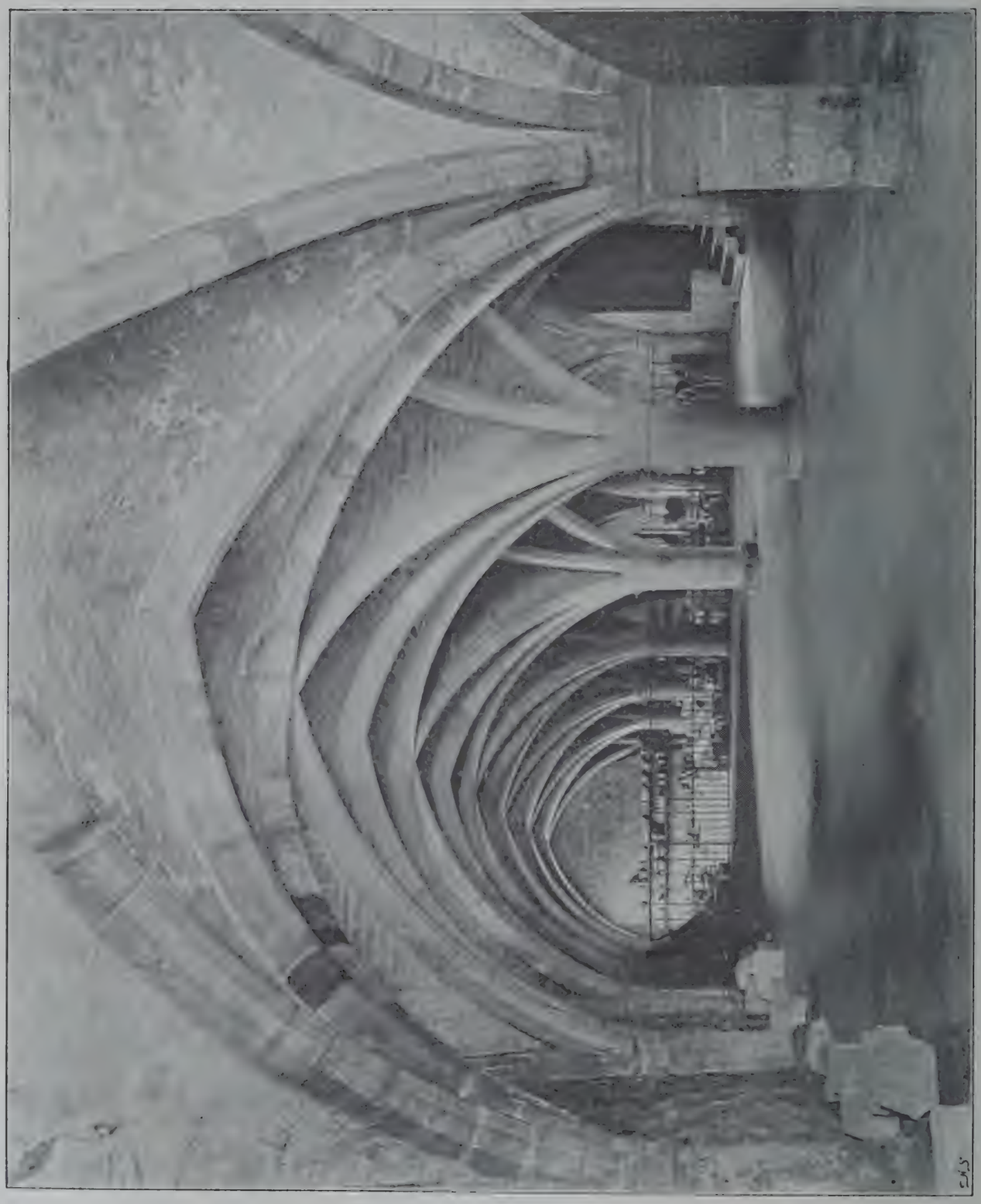
15. Sidney James Woodhouse, for "Improvements in paving blocks composed of wood, stone, concrete, or other obdurate material."

49. Max Wolff, for "Improvements in apparatus for drying bricks, earthenware lumber and the like."

196. George Ree, for "Improvements in apparatus for use in the fettling and ornamenting of ridge tiles."

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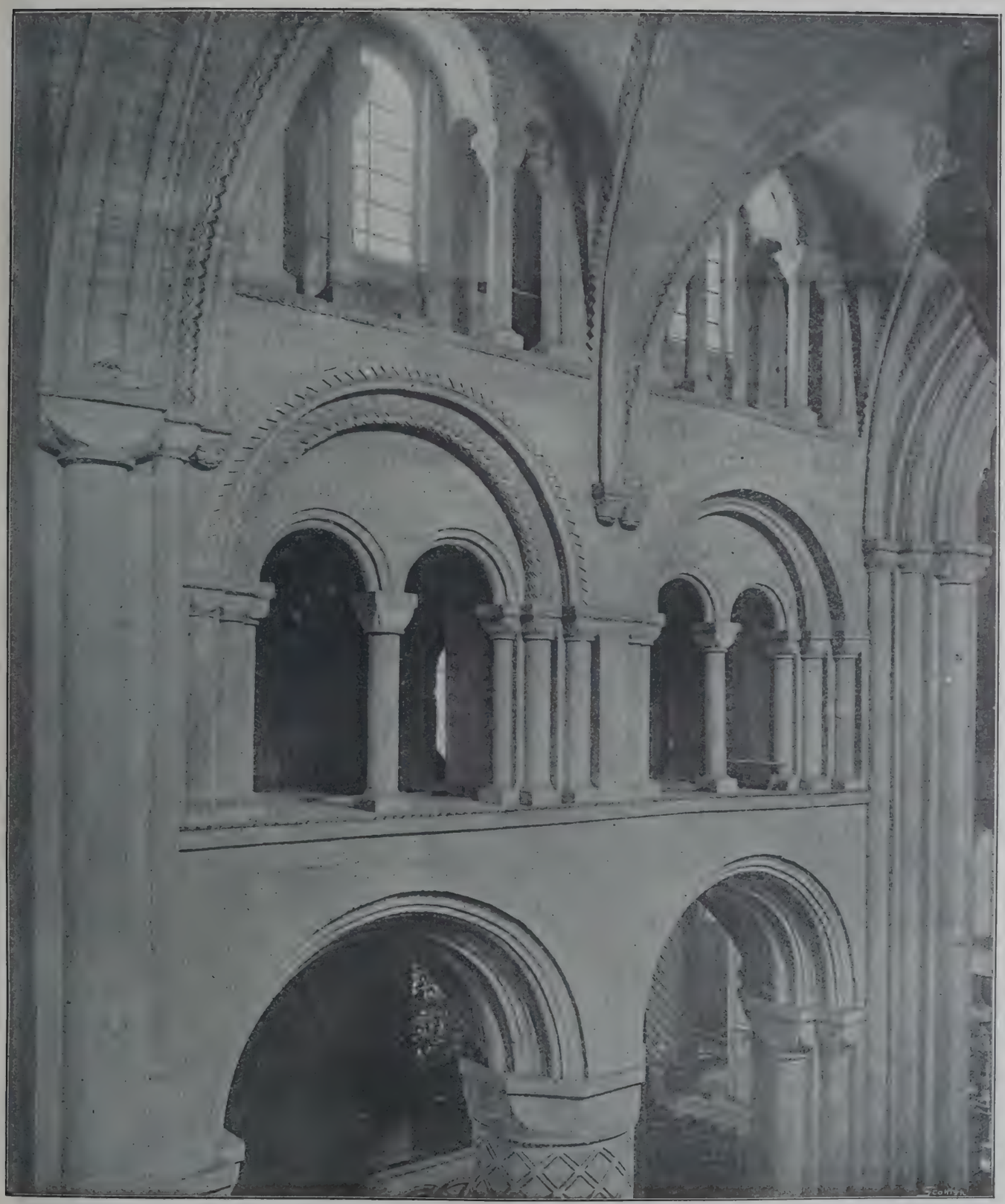
SOUTH STREET, BERKELEY SQUARE.

J. J. STEVENSON, Architect.





CATHEDRAL SERIES, No. 189.—DURHAM: WEST TOWER, FROM CLOISTERS.



PHOTOGRAPHED BY S. B. BOLAS & CO., 77 OXFORD STREET, W.

CATHEDRAL SERIES, No. 191.—DURHAM: TRIFORIUM. NAVE, NORTH SIDE.

The Architect.

THE WEEK.

A SMALLPOX hospital is not a desirable addition to a suburban district, and inhabitants are to be excused if they have recourse to indirect means for raising obstacles to its erection. The provision has to be made, but no district cares to have the privilege of possessing it. A curious instance of the extent to which opposition can go was exhibited in the Court of Appeal on Saturday. A site was purchased on Whitmoor Common, near Worplesdon, in Surrey, on which a smallpox hospital was to be erected for Guildford, Godalming, and Woking. In last September a contract for the work was entered into with Mr. JOHNSON. It was stipulated that he was to avoid all unnecessary damage to the common, and to replace any turf which might be removed. About a month after the works had commenced the commoners applied for an injunction against the hospital board and the contractor to restrain them from carting materials across the common. A temporary injunction was granted. Afterwards an order of the court was made by which the defendants were to limit interference to a track to be set out by a surveyor that the court would nominate. The commoners appealed, and asked for an unqualified injunction. The court said the real nature of the contest was obvious, but as the plaintiffs' rights were protected by the ordinary remedy there was no necessity for such an injunction as was sought. It was true defendants were carting bricks along a track of the common, and at one part of the track it would be necessary to cut up the turf, but to suppose that the defendants could ever acquire thereby any rights over the common was out of the question. The appeal was therefore dismissed.

THE prison of Sainte Pelagie on the Rue du Puits de l'Hermite, Paris, is to be demolished. A week ago the privilege of doing the work and acquiring the materials was set up for sale by auction, but as the starting price was not to be less than 17,000 francs no house-breaker was discovered with sufficient enterprise to offer that sum. It will be necessary for the authorities to make a large reduction of the amount demanded. The building was originally a convent, founded in 1665. At the time of the Revolution it was utilised as a prison for the suspected men and women who were considered enemies to the Republic. It was, in fact, a resting-place on the way to the guillotine. Madame ROLAND remained in it long enough to write her Memoirs. At a subsequent period a part was used for condemned criminals and a part for political offenders. Many distinguished French authors have been confined in it. Anything which could be considered as possessing historical interest has been reserved by the authorities, including doors of cells tenanted by notabilities, and windows on which they had scratched their names. The prison retained many of the expedients which were supposed in old days to be efficacious in reforming culprits or for moving them to repentance.

THE old question whether photographic portraits are works of art, and therefore entitled to protection against imitations, was raised on Friday last in one of the French courts. A trader had issued a prospectus which was embellished with portraits of several actors and actresses. They were copied from photographs taken by M. REUTLINGER, and he had sent copies to the persons represented. There was no doubt that they had approved of the copying, but had they any right in the photographs? After a long course of argumentation the court decided in favour of the photographer. He was declared to be an artist in the eyes of the law, his art consisting in the posing of the figures, arrangement of the lighting, and selection of the suitable moment for seizing the likeness. He had copyright in his plates, and the person represented, whether he had paid or not for the photography, could not authorise a reproduction of the plate. It was only by a written agreement that the right could be ceded. The photographer was awarded 500 francs as damages, and the issue of the prospectus was prohibited. The decision has caused much surprise, especially to "celebrities."

IN April 1896 the reparation of Winchester Cathedral was commenced, and works of the value of about 12,000*l.* have been since carried out. They include the whole of the main roof of the nave and the stone vaulting, which was in a critical and dangerous condition, the north transept and its aisles, the choir and the south aisle of the same, together with some repairs to the timber of the central tower. Further repairs are still needed at the roof of the south aisle of the nave, estimated at 1,060*l.*; the large, flat roof of the retrochoir and its aisle, estimated at 1,065*l.*; and the eastern aisle of the south transept, estimated at 435*l.* When they are complete the whole of the main fabric of the vast cathedral (the largest church in Europe, except St. Peter's at Rome) will have been put into a state of such sound and solid repair as will secure its stability for many generations to come. The whole of the work has been executed by Messrs. THOMPSON of Peterborough, under the superintendence of the architectural surveyor, Mr. COLSON, whose plans for strengthening the nave roof and relieving the pressure of the timber on the vaulting received the approval of Sir J. WOLFE BARRY. The Dean and Chapter still require about 4,400*l.* to pay for the contemplated works and to settle the accounts for the works executed, and they trust that many persons outside the diocese will aid them in preserving a building which possesses not only architectural beauty and grandeur, but from its many historical associations, stretching back to a remote antiquity, occupies a high rank amongst our great national monuments.

THE last quarterly number of the *Journal* of the Royal Society of Antiquaries of Ireland is marked by variety and interest. Papers on WALTER FITZGERALD, a sixteenth-century outlaw, the district of Kileton, the lake and church of Kilmakelloge, Dunbeg Fort, Mount Merrion, prehistoric remains in Burren Ogams (three papers) and other subjects are as diversified as any reasonable archæologist could desire. In the notice of Mount Merrion, near Dublin, there is reference to Lord FITZWILLIAM, the founder of the museum which bears his name in Cambridge. He was one of the old school of dilettanti. He had several paintings of the demesne executed by WILLIAM ASHFORD, the first president of the Royal Hibernian Academy. We are told, "His life was spent in collecting rare books, illuminated manuscripts, pictures, drawings, which he bequeathed to the University of Cambridge, together with 100,000*l.* for the endowment and building of the museum. He was a man of an enlarged and liberal mind, kind and compassionate, and being easy of access to all, his great collections were, during his lifetime, ever open to the view of those who cared to see them." The earl died in 1816, and his Dublin estates passed to his cousin, the Earl of PEMBROKE.

IT was expected that the old Greyfriars church in the quadrangle of Marischal College, Aberdeen, would be allowed to stand by the Corporation of Aberdeen, who appear to possess absolute authority over the building. But from what was said on Tuesday at the meeting of the Aberdeen Ecclesiological Society, sentence of demolition has been passed. This is a loss not only of an interesting specimen of Gothic architecture, but of a feature that imparted interest to the old and new University buildings. According to Professor MATTHEW HAY, the scheme of the University Court, embodying the retention and repair of the ancient church, was the only one which would have been likely to be carried out within a reasonable time. Promises of money amounting to something like 28,000*l.* were given, and within two or three years a beautiful frontage to Broad Street could have been presented in stone and lime. There was not any chance of any other scheme going on, because there was no money for it. They were exceedingly sorry at the possible demolition of the old church, which was the only remaining part of the buildings that originally belonged to the University, and even on that ground alone its removal should be deplored.

THE TEMPLE OF MUT IN ASHER.*

IN most of the occupations which ladies have followed of late years, to the surprise of old-fashioned folks, they are simply imitating ancient precedents; but the authors of "The Temple of Mut in Asher" are, we believe, the first women who have had the courage to undertake the exploration of a temple. Probably they will not be left alone in their glory, and will hereafter be considered as only pioneers in a movement for which ladies will say they are better qualified than men. In this case the experiment has been so far as successful as any Egyptologist could desire. The work is not ended, but an immense quantity of masonry is revealed, together with many statues, statuettes, inscriptions and other objects. What to one class of readers will be more important is the evidence unearthed of the exalted position occupied by womankind in ancient Egypt. One temple superintendent takes pride in the circumstance that he was "born of ABU, the lady of the house." The superintendent of the Treasury, not to be outdone, declares his father was one UAZMES, a doctor, but his mother was "AAHMES, the lady of the house." There was inheritance through the mother, and if a woman could not always reign, she could marry her brother if he were a king, and in that way become a joint possessor to the throne. Architects and builders must have been anxious for queenly rule, especially if all princesses resembled HATSHEPSUT, who after aiding her father THOTHMES I. as co-regent, became the wife of her brother, who was seven years younger than herself. The authors tell us "her reign was what a queen's should be in its foreign relations and in the progress of its arts and the piety of the ruler. It was religious and rich in temple building." That statement is enough to compel us to become interested in the book, and in any others which the authors will produce.

We are supposed to possess a more authentic record of the history of ancient Egypt than of ancient Britain. There are also so many references to public works as to constitute a guide-book. Yet the Temple of Mut was ignored by all with the exception of the donkey boys. It lies between Luxor and Karnak, and was therefore in a region which is familiar to foreign visitors. The appearance of the remains in 1894 is thus described:—

> The gateway into the first court was filled with earth nearly up to the top. A few yards to the north of this lay yet another gateway, and between the two a triple line of sphinxes. The creature next to the northernmost gate has a man's face, which looks serenely out of the choking earth. From this gate a grove of feathery tamarisks stretches northwards again to Karnak, and beneath the tamarisks runs yet another avenue of mouldered sphinxes. The temple itself was so much destroyed and the broken walls so far buried that one could not trace the plan of more than the outer court and a few small chambers. The walls of this outer court were banked up slopingly with earth, and out of the earth bank came here and there at short intervals a lion head in black granite or the headless shoulders of a woman's figure. The figures were scattered irregularly—at one place a group, at another a single mutilated head, and again two figures close together leaned towards one another as if they were secretly lamenting the downfall of the great gods. On the east side of the court a doorway opened, and where the mounded earth grew level a flagged pathway led to a little shrine high on the sand heaps. At the far end of the temple a lion-headed figure, quaintly whitened by saltpetre from the soil, stood out against the background of the lake.

The site now presents a very different appearance. Enough has been done to allow a plan to be prepared. Apparently the temple enclosure was surrounded by a brick wall. Outside there was one sphinx, if not more, guarding the entrance. After passing through a pylon an outer court was reached. Then a second opening led to a colonnaded court adorned with statues, sphinxes and other sculpture. A hypostyle hall followed, the outer wall of which probably displayed reliefs. Behind it were various chambers and beneath was a crypt. At the rear were steps leading to the sacred lake. The temple is not of one period. It is supposed to have occupied the attention of the PHARAOHS for at least two thousand years.

* *The Temple of Mut in Asher.* An account of the excavation of the Temple and of the religious representations and objects found therein, as illustrating the history of Egypt and the main religious ideas of the Egyptians. By Margaret Benson and Jane Gourlay. The Inscriptions and Translations by Percy E. Newberry. With Plans and Illustrations. (London: John Murray.)

But what gives appropriateness to the direction of the exploration is the fact of the dedication to a goddess, MUT, the Mother of Tears. As in other temples there were, however, statues and various objects which belonged to the cult of different deities. Lion-headed statues especially were supposed to be entitled to positions within the temple. It is conjectured they were not mere offerings for the benefit of the donors. MUT herself was believed to have a periodical necessity to use one of them as a refuge. The gods were not exempt from the universal law of dissolution. Each had his or her Ka, that is, a double or ghost, which could apparently be in a stone figure, but the figure must have a shelter. Plenty of figures were provided for a deity to whom women at least were devoted. It is not everywhere signs of human pity for a goddess are to be discovered in Egypt, and therefore the claim on the Temple of Mut in Asher is enough to increase our insular pride. The cry could be raised in the ancient world, "PAN is dead!" But as long as there were four or five hundred statues of hard stone standing in her temple nobody could exclaim that MUT had expired. As the authors say, "The piety of AMENHETEP III. and SHESHANG preserved in a sense the immortality of the goddess of whom they were votaries." It is also suggested that MUT was not without influence on the ritual of Israel. The subject is risky, but the authors are not afraid to say:—"It is tempting to think that the wings of MAAT, goddess of justice, are borrowed from MUT. Thus the cherubim of the Mercy Seat would spread wings of protection; but although the wings have the proportion of the vulture wings (the bird was a feminine symbol), it would be rash to say they are characteristically the wings of MUT." Soaring was familiar to the Hebrew mind, and therefore wings, which were also suggestive of the protection of affectionate strength for weaklings. It was therefore natural that outspread wings should occur to an artist as a symbol of protection without being derived from Egypt. Art, like law, may have "slowly widened out from precedent to precedent," but it is not wise to conclude that imagination was entirely inactive while the evolutionary process was in progress.

Modern mortals who crave commissions will find more interest in HATSHEPSUT than in the more exalted MUT. The queen will henceforth appear to us with more charm than the embalmed heroine of THEOPHILE GAUTIER'S "La Momie." It is no wonder she was great, for she had the good sense to realise that an able architect must be no less competent to build up a nation. We are indebted to the lady explorers for recalling to us so much about SEN-MUT, who, according to the inscriptions, was "Chief architect upon all the works of the Queen," and whose statue is to be seen in the Berlin Museum. He was of humble origin, but he rose to be keeper of the temple and granaries, guardian of the sacred cattle, the greatest of the great, the noblest of the noble, the leader of the guides of the gods, the chief of the secrets, and, in fact, he appears to have held every office worth having except the king's. Like the queen, the authors of the book are glad to testify to his worth:—

> So stands Sen-Mut, a man of colossal talents. To an age of specialists, when the quasi-critic intuitively decides that a man of two thousand years ago, and of the most talented race in the world, cannot be at once the visionary mystic of the Revelation and the meditative mystic of the fourth Gospel, the idea of such many-sided talent is inconceivable. Our great men may be eminent in a profession and a hobby. "Le peintre Rubens s'amuse d'être ambassadeur." In the Middle Ages our priests indeed were our statesmen, and Italy had a man who was at once a great architect, a great sculptor, a great painter and a poet. But this fades into nothing by the side of a man who was a great prince, the chancellor, a priest, a superintendent of priests, an architect and the clerk of works; and was, moreover, tutor to the queen's daughter.

We have said enough, we hope, to suggest the interest of the volume and of the excavations it describes. The Temple of MUT was affected by the changes in Egyptian history, as will appear from the pages. The nephew of HATSHEPSUT when he came to the throne was at great pains to remove all trace of the existence of that queen, and to attain his end perpetrated many acts of vandalism. We are afraid the temple suffered occasionally at the hands of

despots, but there were others to make amends. Its history is therefore a history of Egypt in miniature, and the volume by the lady explorers thus becomes a more efficient guide to Egyptology than many formal treatises. The insight of the authors is preferable to the pedantry which weighs so heavily on students, and the knowledge gained will well repay the time devoted to a careful study of the pages.

SYSTEMS OF DISTRIBUTING AND GENERATING ELECTRICITY.

By F. J. WARDEN-STEVENS.

(*Continued from page* 46.)

Continuous Current.

NOW with the continuous current system the current in the circuit is constantly in one direction. The advantages of this system are that it can be used directly for charging accumulators, which afford a most valuable stand-by in case of breakdown of machinery or sudden increase of demand, and all or at least a portion of the running machinery may be stopped and the supply left entirely to the accumulators during periods of small demand. This conduces to economical working and reduces the attention required in the works.

Continuous current motors are more easily started and more reliable in working at present than those constructed for use on an alternating current system. This is of great importance in districts where a large demand for motive power is probable.

It is not necessary to use a dangerously high pressure in any portion of the system, although in some works pressures of 1,000 volts and upwards are employed; still, as the use of these pressures is confined to the feeding cables, and is in no case continued into consumers' premises, there is no danger to the public by their use.

Meters and measuring instruments used with the continuous current system are in general simple, accurate and inexpensive; arc lamps are more efficient and reliable, and, generally speaking, every form of apparatus for using electricity is as economical with continuous current as with alternating, and in most cases the economy is better.

The great disadvantage of the continuous current is its inflexibility. Only one, or at most two, pressures can be supplied from one works, and the pressures cannot be altered without running machinery known as rotary transformers. It is often inconvenient and uneconomical to be compelled to use the current at the same pressure for all purposes, and for this reason the alternating current system is to be preferred in such cases.

Alternating Current.—In the alternating system the current passes through a cycle of changes, reversing several times per second. These alternations may be likened to the motion of a pendulum as it swings first in one direction and then in the other, with the exception that in practice the pulsations, and therefore the effects given out, vary so rapidly that they are not perceptible, and there is no visible fluctuation in the light produced by a lamp when the periodicity or number of alternations is from 50 to 100 per second.

These rapid pulsations make it possible to use what is known as a static transformer—that is, one without moving parts, which will alter the ratio of current and pressure to any extent required, but keeping the product of the two the same.

The great disadvantage attributed to the alternating system is that the machinery must always be kept running, as storage is not directly possible; this means that the staff for attendance must be larger and the coal consumption heavier than with the continuous system.

Accumulators are, however, now being used in the following way in connection with alternating current systems to reduce these costs. An alternating current motor is coupled to and drives a continuous current generator which is used to charge the accumulators. In the daytime and times of small demand the continuous machine runs as a motor from the accumulators, and drives the alternator, thus supplying any demand that there may be. This arrangement has been adopted at several electricity supply works with great success.

It may be taken that the chief advantage of the alternating system is its flexibility. The pressure can be changed as desired with little loss in economy and no moving machinery, but it is not easily and economically stored, and it has not the advantages mentioned previously in connection with the continuous system.

What is known as Rectified current is sometimes used for arc lighting where the alternating system is in use for ordinary purposes. A rectified current is a continuous current in so far as it does not reverse, but it pulsates in a regular manner. The current rises and falls in strength, from nothing to its maximum, periodically. The advantage of this is that it is easily obtained from the alternating current by means of a machine known as a rectifier, and is as efficient as the continuous current for arc-lighting purposes.

The pressure at which electricity is generated or used is not solely dependent upon the question of continuous or alternating current, although it is often assumed that the low-pressure is the continuous system and the high-pressure the alternating system.

The continuous system is generally adopted when the current may be generated at a pressure which will not necessitate being transformed before being supplied. The reason is that if the pressure need not be changed, the continuous system has all the advantages and the alternating system the disadvantages. There are, however, several cases of the high-pressure continuous current systems in operation with good results.

The continuous high-pressure system was first introduced at Oxford in 1892, and is to some extent a compromise between alternating high pressure and continuous low-pressure, inasmuch as it involves the use of pressures up to and exceeding 1,000 volts. The high-pressure continuous current is taken from the works by means of feeders to the various sub-stations in the district, which are either underground chambers built beneath the roadway, or the basement of houses if they can be secured for the purpose. These sub-stations contain rotary transformers or motor generators for converting the small high-pressure current into low-pressure current, the motor generators feeding into a network of low pressure mains. The economy of the system is considerably increased by the addition of accumulators in the works in conjunction with a rotary transformer, which can be employed for converting low-pressure into high-pressure current, or the accumulators can be in the sub-stations feeding direct into the low-pressure mains; it is then possible to stop the main generators during periods of small demand and supply from the accumulators.

One of the greatest advantages of the system is that it permits of the use of continuous current motors, which, as before mentioned, for ease of starting and reliability in working are still better than those obtainable for use on the alternating system.

High-pressure continuous systems are also in use at Shoreditch, Wolverhampton, Chelsea, Walsall and other places with successful results.

The Uses of the Various Systems.—The question as to the system of electricity supply adopted in a particular district is of the greatest importance, and among the considerations which decide it may be mentioned:—

1. Position of available site for the works.
2. Area to be supplied.
3. Character of the district, for example, whether the demand is compact or scattered, and whether motive-power is required.

The site for the works is or should be decided with a view to obtaining water-power or cheap coal, inexpensive land, a free water-supply, if possible, for condensing plant, good foundations and a position where legal action for smoke and vibration nuisance will not be likely. The further away the site from the area of supply the greater is the cost of feeders, and the greater will be the probability that high-pressure will have to be adopted, whereas it might otherwise not have been necessary. A saving of 100*l.* per annum in working expenses will be justified even if so much as 2,000*l.* capital has to be spent in obtaining it.

High-pressure is now seldom used if low-pressure is

financially possible, and as a rule, for reasons previously mentioned, the continuous current system is generally to be preferred to alternating. The usual pressure at which current is supplied is about 100 volts, but in order to save copper in the mains the pressure is now often 220 volts at the lamps. With the alternating system there is no great object in fixing a high-pressure of supply, as the distributors may be supplied at as many points as desired, shortening the length and reducing the loss of pressure. In fact, owing to the great advantages to be obtained by the use of low-pressure lamps in economy, first cost and appearance, 100 volts is the usual pressure with an alternating system.

There is no doubt that the continuous system two-wire is the simplest and most economical to work, and gives the greatest convenience to users as a whole, but the question of capital outlay intervenes. When this occurs it is probable that the adoption of the three-wire system relieves the situation, by reducing the cost of mains to about one-third for an equal amount of power. If the capital outlay is then still too high on the distributors, high-pressure distributors must be considered, and in that case the continuous system is abandoned.

It has been previously explained that the feeders may be high-pressure and the distributors low-pressure, if the site is far from the centre of the area of supply.

In considering the question of high-pressure supply, it depends entirely upon the character of the district as to whether transformers are placed at the feeding points and supply a low pressure distributing network, thus providing large and infrequent sub-stations, or high-pressure distributors are provided with transformers in the houses, or high-pressure distributors are used with frequent transformers supplying low-pressure mains from which the supply is obtained.

In a district where the site of the generating works is not central, or if there are thickly populated yet isolated centres of demand, with comparatively no demand to be supplied between them, then undoubtedly the transformers are placed in sub-stations at the feeding points. This is perhaps the only case where the continuous system is used at a high pressure, as only a small number of large sub-stations are needed, and so the attendance required for the transforming apparatus which for the continuous system must be moving machinery is not prohibitive.

High-pressure distributing mains and house transformers are not usually adopted now except for very scattered districts, as it is often only by employing this system that some districts can be supplied at all. All the cables being high-pressure, and consequently small and inexpensive, a large area and few consumers can be supplied without any considerable outlay. This inevitably develops in course of time into the street-box system, which is carried out as follows :—Small low-pressure distributors are laid all over the area, and at frequent intervals an iron case is sunk in the ground, in which a transformer is placed. At the same time a high-pressure network is laid connecting all these transformers together, and this is supplied by the feeders. When at any time consumers are connected to the mains and in such numbers that the loss of pressure on the low-pressure distributors becomes serious, a new case containing a transformer is placed near the congested part, and the distributor being supplied at another point is relieved, and therefore the drop of pressure is reduced.

This system is excellent in residential districts where houses are near together, but where the demand may be apart for some time.

In both these systems alternating current transformers are used because they contain no moving parts, and the great number of points at which the transformers are placed is no disadvantage, as they do not require attention.

With the alternating system the dynamos generate the current at about 2,000 volts, which is transformed into a current nearly twenty times as large at 100 volts for supply.

It will be seen that the question of distribution of electricity is an exceedingly complicated one, but it is to be hoped that sufficient has been stated to enable it to be understood to some extent, at least, that one system is not the best for every case, and that it requires considerable care to decide the best system for any district. The system decided on should also be applicable for extensions to any outlying parts of a district in the future without any serious alteration. It may be mentioned that this fact is apparently lost sight of in many cases where low-pressure continuous systems are adopted in a restricted portion of the area. It will probably be found that when the mains have to be extended considerable changes will in some cases have to be made in the system, costing perhaps thousands of pounds, which would not have been needed had extensions been considered at first.

EXHIBITION OF LITHOGRAPHS: FOREIGN.

IT is fortunate for the reputation of the English lithographers that the gallery at South Kensington does not allow of a comprehensive comparison of their works with those of Frenchmen. It is not possible to obtain a point of view from which more than a few of the plates produced in London and Paris are visible. The lithographs are hung on frames like clothes in a laundry, and the intervening passages are narrow. On account of the arrangement the inferiority of English work becomes less striking, and most visitors will never take the trouble of comparing it with the French, or indeed with any foreign examples.

Many years ago THACKERAY, who was a great admirer of lithography, because it was "the honest work of hand," explained why the art was in a more satisfactory condition abroad than among his countrymen. As draughtsmen, he considered the French and Germans were superior; then as the foreigners were not rich they could not pay for costly engravings like those produced in England. They were compelled to be satisfied with military scenes dashed off on stone by RAFFET, CHARLET, VERNET, or "clever pictures from the crayon of the DEVÉRIAS, the admirable ROQUEPLAN or DECAMPS." They get, he says, "the *loisirs* of men of genius, not the finikin performances of laboured mediocrity, as with us; all these artists are good painters as well as good designers; a design from them is worth a whole gross of Books of Beauty." There was a further reason—the admiration of the French for caricatures, which lithography might have been invented to serve. It is not yet extinct in Paris, and some of the daily journals have to provide caricatures two or three times in a week. At one time it was expected that a new example would appear nearly every day in the print shops. To supply the demand many artists attempted to produce humorous subjects, and it is needless to say success did not always attend their efforts, but their courage was marvellous. PHILIPON, when brought before the law courts for the notorious portrait of LOUIS PHILIPPE as a pear, went through the process of evolution by which a pear became the king's countenance, for the amusement of judges and jurymen, and in that way gained an acquittal. It was necessary to pass a law by which caricaturists were obliged to keep their pencils and chalks from representing royalty and the Government. The only effect was to oblige the artists to give more attention to social subjects, and in an indirect way to display the effects of the incompetence of the authorities.

Lithography was introduced in Paris as soon as SENEFELDER secured his patent—that was in 1802. There is a small lithograph by the veteran EUGÈNE LAMI, dated 1810, but the art was not turned to much account until the close of the Empire. Then the political transformation gave scope for satirical prints and for battle scenes which had a similar purpose. By HORACE VERNET there are plates which begin with 1815, and they show the skill which in his case was hereditary. In his lithographs we see indications of the facile power which subsequently enabled him to produce such a multitude of paintings of warlike and scriptural subjects. The work by his father, CARLE VERNET, is similar in style and subjects, but reveals more patience. There is a curious series, mostly landscapes, "the joint work of Prince LOUIS NAPOLEON, Grand Duke of Berg and Cleves, and of the Princess CHARLOTTE BONAPARTE," which is up to the usual amateur standard.

GERICAULT'S name will always be associated with the sombre *Raft of the Medusa*. But if he had lived he must have gained more fame as an animal painter. He was one of the earliest revolutionists against the stilted school of DAVID, and his ideal was to be found in nature instead of in sculpture. Most of the lithographs by him which we

find at South Kensington were published in London, which he visited in order that he might be able to study English horses. It may not be generally known that the first encouragement he received was in this country, for his innovations were not appreciated in France. He drew about a hundred plates on stone. There are only eight at South Kensington, but they are of much interest. In those with horses—such as the English Farmer, Racehorse and Jockey, Watering Horses, &c.—we can see a master's hand. There are several by JACQUES DEVÉRIA, consisting of portraits and figure-pieces. They are capital specimens, but the artist was best with costume pieces, and at one time he was expected to hold a place in painting similar to ALEXANDER DUMAS'S and VICTOR HUGO'S in romance.

To have gathered fifty of CHARLET'S plates is a success for the organisers of the exhibition. It is possible, however, they will not be appreciated as they merit. The artist was a worshipper of the army, like many of his countrymen at the present day, and he was no less inimical to all the organisations which civilians directed—diplomacy, law, education, finance, religion. He was the son of a dragoon, and his early ambition was to be a soldier. But LOUIS XVIII. cared only for peace, and CHARLET became a drawing master. A shrewd publisher utilised him to draw figures of the old soldiers of the Empire on stone, and by degrees he became one of the representatives of militarism. He painted an occasional picture, but the works by which his name will live are his lithographs. The great painter, EUGÈNE DELACROIX, with all his misanthropy, was proud to be the eulogist of the designer of plates which were supposed to serve only the most brief interest of the passing hour. He declared that CHARLET had the power of imagination and execution which belonged to the grand artists alone. He pointed out the impossibility of discovering two of CHARLET'S heads which were alike, that in his drawings the grand was united with the natural, and as success was gained the artist endeavoured to become more and more careful in composition and finish. DELACROIX would place CHARLET alongside MOLIÈRE and LA FONTAINE as a describer of characters, and yet many of his finest plates could not attract purchasers. His twelve plates of the ancient French Army were so neglected, the artist rubbed the drawings off the stone, and several others were likewise destroyed. In conclusion, DELACROIX declared he was unable to do justice to the genius of CHARLET. It is well to remember the criticism of the painter, for so many drawings of old soldiers may appear commonplace things to a stranger. The veterans are always genial and childlike, occasionally given to grumbling, but models of obedience to their officers.

RAFFET was a pupil of CHARLET, and his manner can be traced in some of the plates which bear the master's name. He also was devoted to armed men. RAFFET'S plates are more admired outside of France. He possessed marvellous skill in composition. The two plates of *The Midnight Review*, and *The Flight of Arabs from Constantine*, *The Combat of Oued-Alleg*, &c., would have been beyond attainment by CHARLET'S skill. RAFFET was always successful with a crowd, while CHARLET'S most characteristic plates have only two figures—one suggests the individuals, the other the battalions. RAFFET did not confine his attention to the trials and triumphs of French soldiers. He was invited to Russia, and made a roundabout journey through the East of Europe and Turkey. Soldiers of various nationalities were treated by him with uniform interest, and in that way he set an example which M. DETAILLE has followed. In our days, when photography has revealed the manners of all the peoples of the world to the stay-at-home travellers, and when excursions are arranged to remote regions, RAFFET'S Tartars, Tsiganes, Moldavians, Cossacks, Armenians, &c., will not be novel, but it should be remembered they were published nearly sixty years ago, and then they surprised the Parisians.

Among the examples by DECAMPS only one or two suggest that he also was a political caricaturist whose strokes left wounds which time could not always heal. He was considered worthy to co-operate with CHARLET and GRANDVILLE. The plates which expressed indignation against rulers were inspired only by a factitious spirit; the true DECAMPS is not apparent in them. Although a Parisian, he was possessed by the poetry of landscape, and his works are comparable with those of DIAZ and COROT. Eastern landscapes especially captivated him, and he drew figures which could be worthily introduced in them with the accuracy of FROMENTIN or GERÔME. DECAMPS'S plates have therefore an unique interest. Many are studies which were intended for pictures, others are complete compositions which surprise us by the variety which is produced with black chalk alone. For Englishmen his lithographs should have peculiar interest, for it is believed in France that DECAMPS'S mode of treatment was derived from J. S. COTMAN'S etchings.

FRANÇAIS reproduced several of DECAMPS'S drawings, and his plates after COROT, TROYON, ROUSSEAU and other artists are no less expressive. But his own compositions are the most charming. There was no artist during the century who contrived with so much judgment to make amends for the absence of colour in lithographed landscapes. It is to be regretted that more of his original work is not visible at South Kensington. We have marvellous translations, but those who are acquainted with what he has done will agree that his ability is more displayed in the subjects he designed on stone or those which are copies of his own pictures. M. FRANÇAIS was fascinated by the mists which are so often seen in France floating over plains near rivers, and one of the attractions which he found in lithography was, we suppose, the facility which it gave for rendering phenomena of the kind.

There are many other artists whose works merit a lengthened notice. The elder GRÉVEDON, for instance, is represented by a dozen plates, but they are the memorial of a most remarkable career. He was born in 1776, the son of the "officier des gobelets du roi," an officer which recalls the hereditary bootjack of whom we read in "Esmond." As such he had the run of all the studios in the Louvre, and his toys were paints and pencils. As a matter of course he entered the Académie, and in 1789 he carried off a first medal. When the Académie was suppressed by the National Convention he joined the atelier of REGNAULT, and one of his fellow-students, who was more remarkable for talkativeness than drawing, was CASIMIR PÉRIER, the grandfather of the ex-president of the third republic. In 1804 GRÉVEDON exhibited in the Salon a painting entitled *Achilles Landing on the Shore of Troy*. It gained a first-class medal, and NAPOLEON ordered that the artist should be informed of the Imperial satisfaction with the work. The reason for such extraordinary success was that France as well as the emperor interpreted the work as meaning *Landing of Napoleon the First in England*. But the excitement was too great to endure. GRÉVEDON was neglected, and went to Russia in search of patronage. Then he tried Sweden, and afterwards he found his way to London, where he lived six prosperous years, or from 1813 to 1819. On his return to Paris he was, like ISABEY, BONINGTON, MICHALON and many other painters, absorbed by lithography. His portraits were so successful, the publishers were able to pay him 20*l.* for a head, which was then a large price. For twenty-three years he devoted himself exclusively to the art. After 1846 he resumed his work as a painter, and up to 1860, the year of his death, he produced works which showed no signs of failing powers. In his imaginary figures we can see the influence of his age, but his portraits are among the most vigorous in the French collection.

CÉLESTIN NANTEUIL has been called "the COURBET of lithography," and although the plates by him which are exhibited are of small size, they suggest the appropriateness of the appellation. As a painter he utilised colour to add illusions to scenes which might be suggested by dreams, and by his crayon he often produced subjects that were no less removed from common life. LASALLE'S lithographs are too often considered to be mere subjects for imitation by young artists. His *Napoleon* is almost as effective as the original by DELACROIX, and his *Medea*, after DELACROIX, is an undoubted masterpiece, in which, by the treatment of light and shade, the tragic character of the picture is more than suggested. M. ACHILLE SIROUY, who is foremost among the living lithographers who reproduce pictures, is known by plates which will bear comparison with LASALLE'S for draughtsmanship, while he has a versatility that is his own. He can render works by PROUDHON, MEISSONIER, ROSA BONHEUR, TROYON,

SIGALON which will express the style of the originals. For anyone who wished to establish an art gallery on a small scale in a parish or village a collection of M. SIROUY's plates would be almost sufficient to start with.

Artists like DECAMPS, FRANÇAIS, LASALLE and SIROUY have considered that a plate which is worthy of the name cannot be produced except slowly by a gradual working out of effects. They know that flatness can only be overcome in that way. There is little or no relief obtainable in etching or line engraving, and to obtain black of a desirable depth, and which will not appear a patch, is no easy task. Some artists consider it is no use struggling against the impossible in lithography. They prefer to treat it as an art which is lyrical in character, and is most suited to express the feelings or thoughts which are suddenly aroused and as suddenly vanish. HONORÉ DAUMIER, who is well represented in the exhibition, is therefore considered to have realised the limitation of the process. He boldly drew the figures he wished to satirise, and if needful made the heads out of proportion to the bodies. He possessed invention, and his subjects are often humorous. His most successful hits now need an interpreter, for even his prominent politicians are now forgotten. GAVARNI also did not care much about elaborating his designs, unless in those which were specially prepared for the English market. But with all their slightness they are likely to live, for they will be accepted as representing types of Paris life who are supposed to be engaged in playing parts in ridiculous farces.

The new school does not neglect the species which yielded so much to GAVARNI and the other caricaturists, but they like to suggest the tragic side of the incidents. It is easy to imagine, for example, the kind of portrait which GAVARNI or DAUMIER would make of PAUL VERLAINE, the poet. He would become an absurdity at which all decent folks were expected to laugh. He would be more hideous than "THOMAS VIRELOQUE," which was one of GAVARNI's creations. But the poet is drawn by M. EUGÈNE CARRIERE with an earnestness that appals. Hunger, disease, drunkenness, insomnia, are all shown to have left their mark on the poet's face; his unrestrained imagination appears to have distorted his forehead, the conflict between his conviction of his greatness and the contempt in which the world held him make him appear as if he were doubtful of his humanity, and believed like Poor TOM that five fiends were in him at once. It is an unforgettable portrait, for which lithography seems the most fitting medium, as we cannot suppose so scared a being could be induced to go through a succession of sittings. A work so expressive was necessarily laborious, but the toil is concealed. In looking at it one is not merely moved to pity for the subject, but the question obtrudes whether FRANÇOIS VILLON did not bear more resemblance to the lithograph than to the smiling statue we see at the Rue Monge?

VERLAINE was not one of the pillars of the vanished cabaret known as the "Chat Noir," but several men of genius were in that position. It seems odd that so strange a place was needed to make Parisians acquainted with a dramatist like MAURICE DONNAY and artists like HENRI RIVIÈRE, ADOLPHE WILLETTE, CARON D'ACHE and FORAIN. RIVIÈRE is one of the forces in the new lithography. Several of his countrymen have endeavoured to demonstrate that landscapes can be subjected to laws of decoration; he has established the fact. In the transparencies of the "Chat Noir" he used to amaze the frequenters by the extreme simplicity of his pictorial elements. He put, as it were, a few suggestions before them, their imaginations created the pictures. They were delighted at their own cleverness, with which they credited the artist. M. RIVIÈRE has now adopted chromo-lithography, the least valued branch of the art, as a means for his necromancy. He is bringing out plates in series which will be excellent aids to decoration. But in his colour pictures there is no need for the forty or fifty paintings which are commonly supposed to be indispensable if a landscape is to look like nature. Every coloured bit used by M. RIVIÈRE is as flat as if it were a geometrical pattern. There is no superimposing or shading. Coloured papers pasted together might produce a similar result. But there is no doubt the general effect is successful and is more decorative than efforts produced at a far higher cost.

M. WILLETTE is another adept in husbanding resources so that a little may go a long way. In the article on CHARLET which DELACROIX wrote praise was lavished on a lithograph which was a scene in the Russian campaign. But it is not so impressive as the *Funérailles*, which is to be seen at South Kensington. The few soldiers and the melancholy dog that follow NAPOLEON over the snow appear as if going to the burial of the Empire, and the most wondrous creation which time saw passes off the surface of the earth like a pauper, who can only count on a share of the common fosse.

M. FANTIN-LATOUR's lithographs do not recall his flower paintings or his portraits. They suggest the difficulty which arises when one artist copies the works of another. If published with a different name on them the plates would be declared to be wanting in M. FANTIN-LATOUR's characteristics. But he does well when he realises that drawing on stone is different to painting on canvas. The shortcomings of the stone are turned to account. In some of the lithographs the figures appear as if seen through a mist, and in the scenes from the operas of WAGNER and BERLIOZ that is not a disadvantage. Germans would prefer more muscular figures for the Nibelungen, such as Germans alone can draw. M. FANTIN-LATOUR's figures have nothing extreme about them. He evidently considers it is not necessary to be restricted to outlines. His contrasts between light and dark are pronounced, but they appear to be accomplished by delicate touches. Scraping is employed for lights, and altogether there is an absence of that expression of mechanical toil which is apparent in so many lithographs. M. FANTIN-LATOUR's plates are among those which must be considered by all who care to understand the tendencies of modern lithography.

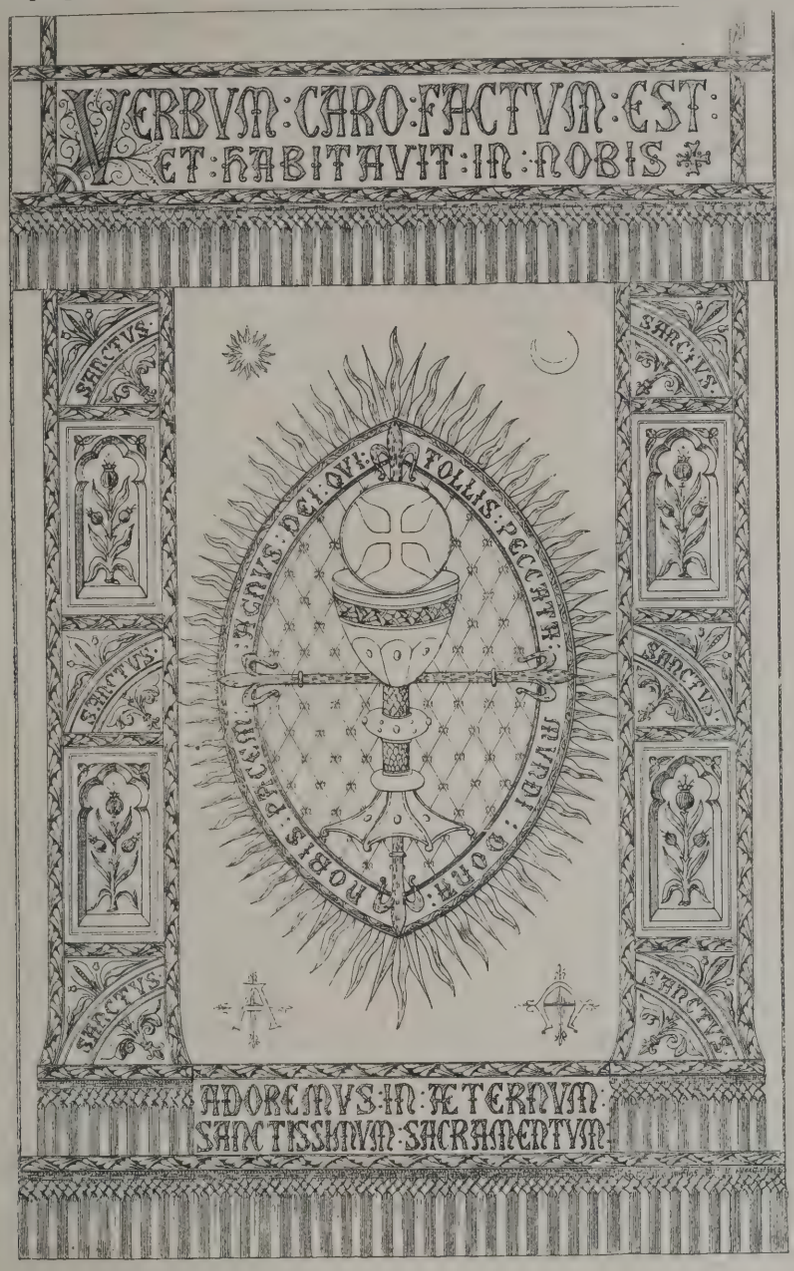
The delicacy which many Frenchmen employ and which is a proof of dexterity would, we suppose, be considered illogical by the countrymen of SENEFELDER. Their drawings suggest they consider that stone from its rigidity demands thoroughness and solidity in all work executed upon it. The most interesting plates in the German section are the copies of pictures in the Munich and Dresden Galleries. The lithographers made no efforts to suggest they could have styles of their own, and the impersonality is not without advantages. There is nothing to be acquired from the German lithographs nor from those of Spain and Italy. The Dutch examples, if few, are interesting, and from the studies of Messrs. WHISTLER, ABBEY, PENNELL, SARGENT, the American section gains importance. But the Frenchmen alone appear to have possession of the future of lithography, and it is their drawings which must be studied by all who would emancipate themselves from old-fashioned notions about the province of the art.

EDINBURGH ARCHITECTURAL ASSOCIATION.

AT a meeting of this Association, held in the Royal Institution, Edinburgh, on the 11th inst.—Mr. Robert Ross, the president, in the chair—a lecture on "Explorations in Palestine and Jerusalem" was delivered by Mr. A. C. Dickie, of the Dundee Institute of Architecture. The paper dealt with the recent excavation at Jerusalem carried out by the Palestine Exploration Fund, under the direction of Dr. Bliss and Mr. Dickie. Their principal work was the recovery of the southern limits of ancient Jerusalem, and the recent explorations showed, he said, that the city once extended very much further south than the present southern boundary, the addition and the area of the city amounting to over 100 acres. Almost the whole of this area is now cultivated in tiny terraces and plots, the soil having accumulated over the ancient ruins to an average depth of from 25 to 30 feet, and in some places as much as 70 feet. The ancient wall encloses the whole of the western hill down to the verge of the Kedron valley across the Tyropeon, under the Pool of Siloam, on to Ophel, where it joins the wall traced by Sir Charles Warren from the south-east angle of the Temple area. Towers occur at short intervals along the wall, and three gates (two of which show three periods) were found between the Protestant cemetery and the Pool of Siloam. The discoveries illustrated in a remarkable manner the description given in the second and third chapters of Nehemiah of his night ride and survey of the ruined walls, and subsequent apportionment of sections of the work of restoration to the different Jewish families from the "Valley Gate" to the "stairs that go down from the city of David" (chap. iii. 13-15).

CHURCH BANNER.

THE banner, of which we give an illustration, is for one of the wards of the Confraternity of the Blessed Sacrament, a Church of England society founded in the year 1862, and now numbering some 30,000 members, banded together for the purpose of united intercessory prayer. The design is by Mr. HUGH ROUMIEU GOUGH, architect, one of the oldest members of the Society, and the whole of the embroidery has been admirably carried out by Mrs. LOANE, of Ravenscourt Park, W., assisted by other members of the Confraternity.



RUSKIN SOCIETY OF GLASGOW.

THE first meeting of the second part of the session of this Society was held on the 9th inst. in the Society's rooms, 100 West Regent Street, when Mr. Paton, curator of the Corporation Galleries, lectured. The president (Mr. James Borland) introduced the lecturer. Mr. Paton, whose subject was "The Beginnings of Christian Art," first drew attention to the decadence of art in progress at the beginning of the Christian era. He then noticed the prohibition of the use of images in Hebraic worship and the horror of idolatry among the Jewish race. That horror was inherited by Jesus and His followers, and the Apostle Paul, as well as all the early Fathers of the Church, insisted most strongly on the perils of images in the Church. Notwithstanding these teachings and warnings, the art traditions and instincts of the people led them gradually to disregard their warnings. It was in the catacombs of Rome, the earliest burying-ground of Christians, that the first developments of Christian art were to be studied. The nature of the catacomb pictures, their mixture of pagan and Christian motives and symbols, were next dealt with and illustrated. It was shown that the decline of art was not arrested by the spirit of Christianity, and while the painters changed their faith, their art continued the same. The enormous influence of the adoption of Christianity by the Emperor Constantine and of his transference of the capital from Rome to Constantinople were discussed, and the progress of art in the fifth and sixth centuries was illustrated by the mosaics of that era still extant in Rome and Ravenna. Finally, the great iconoclastic war, with its causes and vast consequences, was briefly sketched, and the lecture was concluded with some observations on the relations of art to Christian progress generally. Mr. Paton's observations were illustrated by a series of lantern slides. Mrs. Nelson, in a few remarks, proposed a vote of thanks to the lecturer at the close.

BRISTOL SOCIETY OF ARCHITECTS.

AT the ordinary monthly meeting held at the Fine Arts Academy on the 16th inst., the award was made in the students' competition for measured drawings prizes, the first prize of six guineas going to Mr. C. F. W. Dening, articled to Mr. H. Dare Bryan, the second and third prizes being equally divided by Mr. H. F. Smith, articled to Messrs. Crisp & Oatley, and Mr. E. G. Rodway, articled to Mr. H. Dare Bryan. The subjects drawn were of local and historic interest, and included Kewstoke Church and Cleeve Abbey, Somerset; the cupola of All Saints Church, city; the Mede Tomb in St. Mary Redcliffe, and the interesting little Georgian church on Redland Green. After the general business of the Society had been transacted a paper of much literary and artistic interest on "Rhythm in Design" was read by Mr. F. Bligh Bond, a cordial vote of thanks to whom terminated the meeting.

NOTES AND COMMENTS.

WHEN the county surveyorships in Ireland were thrown open to competition it was found that a higher class of engineers than used to have possession of the appointments sought for them. Englishman and Scotsman who would appear to be competent for more lucrative positions were willing to settle in districts where there was not much scope for an ambitious engineer. The Government are not oblivious of the improvement, and this is seen by the selection of Mr. COWAN, the surveyor for the southern part of the county Mayo, for the chief engineering inspectorship of the Local Government Board, an office long held by Mr. COTTON, who was an assistant to the late W. R. LEFANU, C.E., the author of a most amusing collection of Irish stories. Mr. COWAN's experience is varied enough to enable him to deal with any question that is likely to arise. A native of Dundee, he gained in 1878 a Baxter scholarship. Then he studied in the engineering classes in Edinburgh University, and for a time served as assistant professor. He won the coveted Dunlop scholarship, which is worth 300*l*. After holding appointments in America he tried for an Irish county surveyorship, and was successful. An inspector who is so qualified and energetic can render many a service to his adopted country in the Local Government office, which is now beginning a new era.

A COMPETITION which is certain to attract many designs is that for a chapel and other cemetery buildings arranged by the Urban District Council of Knutsford. The conditions are most unsatisfactory, and in such cases architects become like gamblers who play heavily when the chances are against them. The game has then a novel fascination. There is not a word in the conditions about obtaining the advice of even a local builder. The Council reserves to themselves the right to exclude designs if the probable cost is supposed to exceed the contemplated outlay or be otherwise unsuitable. If all the designs are considered disappointing the Council do not propose to prepare their ideal design, they generously offer to arrange a second competition. They expect architects will be no less self-sacrificing. Whoever is the happy man that gains the favour of the Council will have to supply quantities at his own cost. The moderation of the demand is praiseworthy, for the successful competitor might have been asked to supply the school furniture, if not some of the building materials. Moreover, 5 per cent. on 4,000*l*. will be paid as commission. Such an opportunity does not occur every week, and the Urban District Council may be confident it will be appreciated beyond their anticipation.

IT is allowable, we presume, for Roman correspondents to startle the world with announcements of the discovery of the tomb of ROMULUS or the Niger Lapis which marked the spot where he was not buried. Imagination has had full scope in Roman archæology for many a century. Signor BACCELLI's explorations in the Forum Romanum are only in progress, and until they have been completed and investigated by men who are recognised as authorities in the science, it is premature to come to conclusions respecting them. It is time there was an end to the substitution of guessing for reasoning. Mr. ST. CLAIR BADDELAY's recommendations on the subject deserve to be remembered. He says :—"It may be of use to suggest that statements made concerning both the most important recent discoveries in the Forum should be accepted with considerable caution. The octagonal pedestal of the column erected to JULIUS CÆSAR, in the one case, is made of tufa concrete, a material not employed for such purposes until days very long after his date, while in the case of the so-called 'Tomb of ROMULUS,' in front of the 'Curia,' the material uncovered consists of quadrangular blocks of 'nero venato,' or marble, from Cape Tænarus, sufficiently irregular in size as to suggest work of the third century A.D. They have, it is true, suffered by exposure in ancient times, and still more by the superposition of still later pavement of 'selce' or lava blocks, but they can never have been precisely uniform in size. They measure on an average 60 centimetres by 75 centimetres, and are 19 centimetres to 25 centimetres in depth. That some object of great historic importance will be found beneath we may rest assured, but whether it will prove to be related to FAUSTULUS or to the story of Attus Navius and the Whetstone, none may yet say. As the whole of this portion of the Forum was swept by the fire of Carinus, the pavement probably dates at earliest from A.D. 260. It may originally have been square, it is now about 4 m. by 3 m. 7 cent. ; orientation, S.E.-N.W."

WE have no means of knowing whether the unsuccessful competitors for "The PHŒBE A. HEARST Architectural Plan" are less discontented than those architects who have had an earlier experience of failure, but they cannot say they are the victims of unbusiness-like arrangements. The designs, it will be remembered, were lodged in the Musée Royale des Beaux-Arts, in Antwerp. There they came into the hands of Belgian officials and employés. Photography has been employed to demonstrate to the competitors and others how the designs were kept concealed until the hour arrived when they were to be brought before the jury. The cases containing the drawings were covered with paper, securely tied and sealed with wax bearing an official stamp. It was impossible for anyone to see a drawing without breaking the seals. The door of the room containing them was also effectually sealed. The next stage was to prepare the drawings for inspection. A photograph shows that no less than thirty men and boys were employed to make stretchers and to mount the plans. Every indication of a motto or other clue to authorship was carefully concealed. The plans were then covered with paper, tied and sealed. There was no likelihood of prepossession in favour of any design, or of prejudice against it, when a design came before the jury. Each had to depend on the impression which was made when it was revealed. The order observed was favourable to arrival at a right judgment, for there was no confusion or liability to confound the designs of two competitors. The account by Mr. REINSTEIN, which is printed on another page, is borne out by the evidence of the photographs.

THE Exhibition of Art which was held by the members of the International Society of Sculptors, Painters, and Gravers, at Knightsbridge, during last summer, was too interesting to be without some record of its contents. The catalogue prepared by Messrs. CARL HENTSCHEL & Co. and published by Mr. HEINEMANN, contains illustrations of the principal pictures which are reproduced in satisfactory style. There are over one hundred plates by artists who are representatives of various sections in the modern realistic school. They have as much fidelity to the original paintings as is attainable without the help of colour. Some works appear more suitable for the photographic process than others, but all the plates are deserving of attention, and, we may add, of preservation, for hereafter they will be evidence of the condition of non-academic art in Europe in 1898.

THE Southampton Town Council have shown good sense in declining to approve of any scheme which would cause the removal or alteration of the old Bargate. The middle arch is not sufficiently high to allow of the setting up of overhead wires in connection with tramways, but the difficulty can be overcome by lowering the roadway. Some people have proposed that the Bargate should be made the centre of a circus. That would be an improvement, but the cost of acquiring the necessary property is likely to be an obstacle. At present lovers of antiquity can rejoice in the preservation of the ancient portal ; whether the effect of it is to be enhanced by street improvements is a question for the future. If outside opinion had not been brought to bear on the Council, the days of the Bargate would be few. The precedent is therefore important, and we hope it will not be without influence on authorities elsewhere.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: FROM THE PRECINCTS. GALILEE, LOOKING SOUTH-EAST. VAULTING, CHAPEL OF "NINE ALTARS."

KENSINGTON HOUSE, KENSINGTON COURT.

"LANGLEY," WEST HILL, PUTNEY HEATH, S.W.: FRONT VIEW. GARDEN VIEW.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &C.

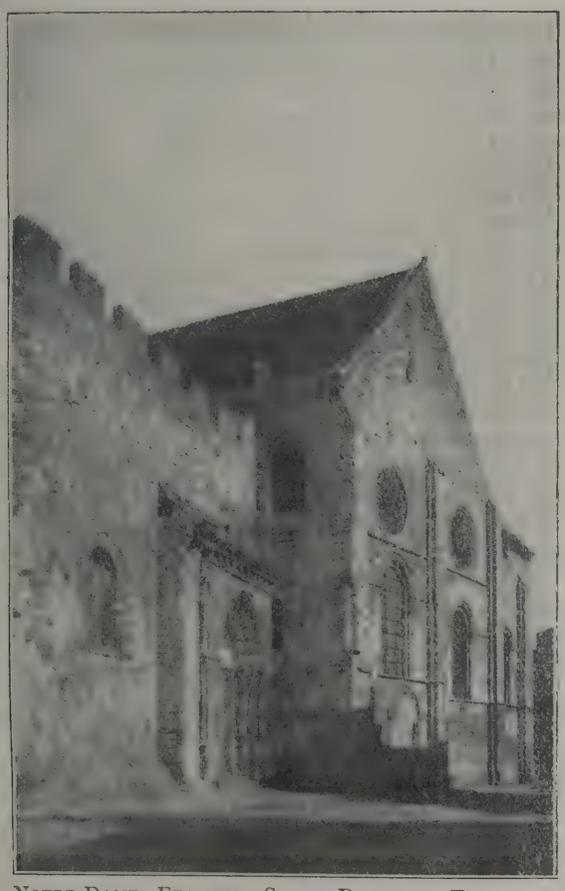
(*Continued from page* 52.)

X.

Bourges—Etampes.

OF the *instrumenta ecclesiastica* at Bourges, perhaps the most striking is the great corona lucis, suspended just at the point where the choir begins. Modelled on the celebrated one at Hildesheim, it must form, taken in conjunction with the smaller coronæ of less happy design hung all down the nave, a superb picture when lighted up on dark afternoons, or on the rare occasion of an evening service.

We once had the good fortune to be present in Amiens Cathedral during a late week-night service. It was July 29, and the festival of St. Martha, the patron saint of cooks, a large body of whom were present, and accommodated with chairs in the choir between the two rows of celebrated carved stalls. Anything more impressive in a continental church we do not remember than this service, the ritual being most magnificent, and carried out with the pomp for which Amiens has always been celebrated.



NOTRE-DAME, ETAMPES: SOUTH DOOR AND TRANSEPT.

The music was commensurate, and the manner in which one of the Psalms was sung to the fifth ending of the First Tone will long live in the memory, while the immense building, dimly lighted by a few candles placed at intervals amid the chairs in the nave, with the last rays of daylight struggling through the painted glass in the transeptal roses, the high altar and its surroundings being in a blaze of light, formed a scene which is not presented to the everyday traveller on the Continent.

At Bourges, as in the majority of French cathedrals, the high close screen is absent, its place being taken by a low modern Gothic grille of iron, delicately and beautifully wrought. This runs right across the church, including both aisles, and forms the only visible separation between nave and choir.

Modern French ecclesiologists seem to have no idea of the light open jubé of wood or brass with which our cathedrals of Ely, Hereford, Lichfield, Salisbury and Worcester have been equipped since the Gothic revival, nor of the suspended or elevated rood and attendant figures, modern examples of which have, with the approval of the clergy and to the delight of many a devout congregation, been placed of late years in many of our ancient and modern parish churches.

In France original jubés of stone or marble exist in the Madeleine at Troyes, Notre-Dame de l'Epine, near Châlons; Notre-Dame at Brou, the cathedral of Alby, St. Florentin near Auxerre, and in St. Etienne du Mont at Paris. A very poor pseudo-Gothic screen closes the choir of Amiens from the transepts; the choirs of Tours, Rheims, and St. Etienne, Caen, have tall iron grilles of questionable design; others of a better sort exist at Auxerre and Laon; the highly elaborated ones encircling the choir of St. Ouen, at Rouen, rivalling in richness Tijou's work in St. Paul's, must not be forgotten; while at Paris, Chartres, Coutances, Troyes, Bayeux, Lisieux and Sens, a low grille upon a dwarf wall, although it gives an uninterrupted view of the ritual being performed in choir is but a sorry substitute for the tall, light, open rood, which not only imparts an air of solemnity and mystery to the building, but performs the function of a milestone, by which we may, in imagination, measure the length of a church, and thus in the most legitimate manner make it appear longer.

The high altar at Bourges retains its pseudo-Classical form and ornaments, while, as usual in the French cathedrals, those



BOURGES: CRYPT OF THE CATHEDRAL.

in the radiating chapels have been restored in the Mediæval manner. The presence of a candle burning all by itself in a common crockery-ware candlestick, such as one sees on toilet tables, right in the centre of the carpet before one of these side altars, was not a little diverting. Verily extremes meet.

With regard to the treatment of the chapels in the outer processional aisle at Bourges, it is not improbable that they present us with the same arrangement that Notre-Dame at Paris must have done before its fringe of Early Middle Pointed chapels was projected at the close of the thirteenth century. Here the outer wall of the second aisle has three compartments for every one in the central apse, and from the centre division of each of these a small circular-ended chapel with a triplet of lancets is thrown out. The wall on either side the entrance to these chapels is pierced with a couplet of very broad lancets—one of the finest and most marked features of the early chevets, and one which occurs in that of Le Mans. When we go outside we see that each of these projecting chapels is

bracketed out oriel-wise above the crypt, which is visible externally, is of vast extent and of the most refined thirteenth-century work.

Several of the nave chapels have been Flamboyantised, but with these exceptions few cathedrals in France have remained so unaltered by late accretions and additions as the majestic edifice now under consideration.

It is not often that one visits a world-famed church without disappointment. That of Bourges not only equalled but much surpassed all previously-conceived ideas of it, while its situation at the summit of gently rising streets, whose picturesque houses give scale to its immensity, with the light freely admitted on all sides, and with the archiepiscopal gardens extending the whole length of its south side, is one enjoyed by few other great French churches.

The yellow sunlight of the July afternoon renders the gay parterre of bee-haunted flowers in the unshaded part of these gardens too dazzling to look upon, but it only trickles down in a golden shower through the encircling avenues of lime trees upon picturesque knots of smartly-coiffured bonnes, and upon a happy-looking group, occupied with books and work, gathered round a Sister of Charity, who occasionally hands round a bag of cakes.

Sunday at Bourges.

En dies est Dominica
Summo cultu dignissima ;
Ob octavam Dominicæ
Resurrectionis sacræ.

A still, hot, perfect morning. The cliff-like western façade of St. Etienne towering up against a sky guiltless of clouds. An awful stillness reigning throughout the vast interior, whose eastern portions are glorified by the newly-risen sun, while its western end is as yet cold and grey.

But these hallowed feelings are somewhat rudely dispelled, for on approaching one of the side chapels on the north side of the nave we find two small servers, supposed to be preparing its altar for an early Mass, indulging in a little private pantomime—hitting one another over the head with the elongated silver dish in which the cruets ordinarily repose, thrusting the taper with which the altar candles have just been lighted up each other's noses, playing Teggy Touchwood round the confessional box and so on—performances which, concluding with a mad race to the sacristy, the slamming of whose doors reverberates through the sacred building, are, to an English Churchman with an English Churchman's reverence for holy places and holy things, exceedingly improving and pleasant of course.

At half-past nine the Parochial Mass is performed *sine cantu* in the lady chapel ; outside it, in what they call in France the *Pourtour*, the congregation, a fairly large one, is disposed all over the floor in chairs, the *ensemble* being strikingly picturesque. Their elasticity, if we may use such a term in connection with these great French churches, constitutes one of their greatest charms. You go to the offices of Mass or Vespers and stand about as you please : you do not feel in anybody's way ; are not stared at ; you do not feel obliged to fix yourself in a seat at once for the whole service ; you may take a chair if you please, and where you please—nearer or further from the choir or altar as you like. Should you choose, you may attend the whole or part of the service without sitting down at all, and you fall into a far more easy and natural position than in our benched and closely chaired churches at home.

The Parish Mass concluded, everyone, thinking no doubt his or her duty done for the day, hurries off, a very scanty congregation assisting at the subsequent grandly rendered Chapter Mass at half-past ten.

While sauntering round the choir aisles listening to the solemn roll of the plain chant at Terce we encounter a very benevolent-looking old cathedral dignitary, M. le Chanoine Darrenguet, with whom we had enjoyed a lengthy conversation upon the architecture of the cathedral the day previous, and who had in the most polite manner conducted us round, pointing out its most interesting features, and drawing our attention to such as we should otherwise have overlooked, left to ourselves.

Thus it happens that on Sunday morning we are met with a courtly bow, and an invitation to take "un banc près le maître autel," which, however, we decline. For once at Fécamp we got so unpleasantly near the gentleman who performed on the ophicleide, or some analogous instrument, as to render a repetition of the experiment undesirable. We therefore elected to seat ourselves in the nave, whence a good view could be had of the various ceremonies attendant upon the performance of the highest Office of the day, which, neither ritually nor musically, could compare in point of splendour with that at Chartres.

Subsequently we contrived to visit the Maison Jacques Cœur, where we enjoyed a quiet and leisurely inspection of the numerous objects of antiquity that have been collected therein, and the church of St. Pierre-aux-Corps—one overlooked by Murray, but deserving of notice if only on account of the slope of its floor from east to west. To the architectural student this church presents several features of considerable interest, one of them being the discrepancy between the two nave arcades, referable to a fire which did much damage to the city in 1487. The south arcade of St. Pierre-aux-Corps is an excellent specimen of First Pointed work, with columns of the "compound" type—four slender shafts disposed around a core.

The northern arches belong to the Third Age, and spring from half-shafts attached to a square pier, as in the little church of St. Ethelburga, Bishopsgate. The apse of St. Pierre, with its five acutely-pointed arches, presents, owing to the curious ascent of the floor towards the east, a most imposing appearance from the west end of the church. It has, like the south side of the nave, a clerestory of small lancets, and is vaulted in the most fascinating style of the thirteenth century, recalling, on a small scale, the work in Notre-Dame, Dijon.

There are no transepts here, nor is there any visible separation between nave and choir. A square tower with low stunted spire stands at the west end. The former is open on three sides, beautiful pointed arches of Early Gothic character admitting north and south to a species of narthex, while above that leading into the nave is another arch, affording a view of the interior of the tower, with its western Middle Pointed window gracefully traceried and of three lights.

Our original plan was to return to Paris through Nevers, Vézelay, Avallon and Auxerre, but our devotion of a day more than we had intended to Le Mans and Tours, precluded the carrying out of this part of the programme.

So it came about that at half-past five A.M. on the ensuing Monday we were taking our last look at Bourges from the railway station, *en route* for Paris *viâ* Orleans and Etampes, it having been a "toss up" as to which of the two last-named places we should break the journey at—and Etampes won the day.

We said good-bye to Bourges Cathedral from the window of the railway carriage just as the newly-risen sun was lighting up the cross on the apse and the western towers with gold, and then, as the train carried us across the dreary district of La Sologne, we settled ourselves to finish the night's rest as well as our knapsack and the seat of a third-class French railway carriage permitted.

However we awoke just in time to see Orleans Cathedral rising up white against a cloudless sky from the vast plain. Presently we lost it, and were traversing the more interesting La Beauce, whose village churches, passed in quick succession all seemed to present the same local characteristic, viz. the gabled tower and the square east end. Many of them in case of detention or overmuch leisure would we opine repay examination.

The features just noticed occur in all the four Etampes churches, whose towers rising above the houses in bold architectural masses impart to this quiet old town an air of ecclesiastical opulence gratifying to the eye and soothing to the mind.

Among these churches, in which may be traced a line of demarcation between the Pointed of Northern and Central France, the best part of the morning was spent, page after page of a pott 8vo note-book being filled with memoranda, of which the following are a few excerpts.

Of the Etampes churches the largest and most important is Notre-Dame, one of the most irregularly planned churches we remember ever to have met with.

It embraces a choir with square end; a double north aisle also rectangular, but with its wall and arcade of separation inclining to the south; two south aisles, both apsidal, the outer wall slanting very markedly in a southerly direction; double transepts, *i.e.* two in juxtaposition; nave of two bays with very broad aisles, and a large narthex not at all in the plane of the nave, but sloping from north-east to south-west, and above which is the steeple.

This singular deviation of Notre-Dame at Etampes from the usual rectilinear form is due partly to the nature of the ground and partly to the character of the building, which is at once fortress and church. The structure in question forms by no means a solitary proof of the perils to which religion was exposed in Mediæval times, and the necessity under which Churchmen lay of calling in military assistance for the defence not only of their own lives and property, but of many others' also, who, at the approach of danger, fled to the church or monastery for protection.

St. Cecil, at Alby, is an example of those ecclesiastical fortresses which are of frequent occurrence in the South of France.

Danger appears to have been apprehended chiefly upon the eastern side of Notre-Dame, for here we find the windows placed at a great elevation from the ground, and above the chapels are casemated chambers for troops, with loopholes as in other fortifications, and it was probably with a view to greater security that the usual apsidal termination to the main choir was abandoned in favour of the rectangular one, the projecting apsidal ends of the flanking aisles serving as bastions for the defence of the high altar.

The nave of two bays has a clerestory composed of two wide lancets and a circle with inverted cusps, like those in the apse of St. Etienne at Auxerre. The remainder of the church is unclerestoried, and from the transepts the effect of the lofty arcades, owing to the double aisles on either side of the choir, with their slender clustering pillars and delicately-foliaged capitals, is exceedingly striking. The church is mainly First Pointed, but retains portions of an earlier structure, notably the steeple, whose composition, as regards the spire-lights and pinnacles, is in effect not unlike those met with in Caen and its district.

Generally speaking, the windows in the choir are tall lancets in triplets, the wall space at the apex of the central and highest lancet and between the centre and side one being pierced with a small quatrefoiled circle. The fenestration of the great double south transept is effected in each division by one broad lancet surmounted by a large wheel window. Taken in conjunction with the richly-sculptured south portal, which closely adjoins it, this transeptal façade of Notre-Dame at Etampes succeeds in producing an architectural group of much dignity and interest. Altogether this is a most remarkable church, and deserves the closest attention, whether as regards plan or detail, from the student.

St. Basile, the first of the Etampes churches encountered on emerging from the railway station, is a large cruciform structure with aisled nave, chancel, and chapels to both on the south. The exterior is almost entirely Flamboyant, though Romanesque work can be traced here and there.

The west door, restored in imitation of the original in terra-cotta, is highly enriched Romanesque.

The central tower, very low and massy, is good Transition, and has a roof of the hipped gabled form. The outer aisle of the nave being an after-thought, the transept terminates in a line with the inner one; a screen, therefore, is thrown from the outer nave aisle to that of the choir, the space within it serving as a porch. The general aspect of St. Basile internally is Flamboyant, and there is not a pier capital throughout the edifice, the arch mouldings dying off into the imposts.

In the Renaissance period the authorities appear to have been seized with a desire to classicalise the whole, and by way of commencement turned the buttresses of the south aisle into Corinthian pilasters, but they seem to have progressed thus far when, fortunately, their funds failed. An external inscription runs thus:—"Faxit Deus perficiar. 1559."

St. Gilles, another Flamboyant church with earlier remains, is pleasing from its simple solidity. Here the tower is likewise central, and terminates in a cruciform saddleback of pleasing outline and peculiar construction.

The object of the architect seems to have been the adaption of a square tower, narrower than either the nave, chancel, or transepts. Its base is square, visible above the nave roof, but hidden by the greater elevation of those of the eastern and transeptal limbs.

From the angles rise triangular slopes, as if for an octagon, and on these, as well as on the space left on each of the faces of the tower, stand equal gables—four cardinal and four diagonal. The points of the latter support the angles of a smaller square tower, whose faces fall behind the gables resting on the sides of the base.

The nave has one aisle on the south, each window being surmounted by a gable, as in many of the Belgian and German churches.

There are two aisles on the north, their internal separation being effected by an arcade carried on short Tuscan pillars with rather lofty plinths. In the chancel the vaulting shafts have that peculiar twisted moulding met with now and then in French Late Gothic work. Among the remains of the earlier church are some pier bases and caps and the western doorway, which is Romanesque, and has an arch of three orders boldly moulded with torus and hollow, the two outer orders supported by shafts set in re-entering angles. The label has a kind of large head-nail, forming a rough hexagonal pyramid.

A little distance to the south stands St. Martin's, superior to all the other churches of Etampes, as being purer and freer from Late Gothic alterations. Conceived in a very vigorous mingling of the round-arched and Pointed styles, it may be cited as an excellent model of a large parish church, quite clear of any pretensions to the cathedral type, yet embracing such features requisite for the performance of solemn functions as a procession path and three chapels, an arrangement more common in the Romanesque and Transitional churches of Central and Southern France—the Auvergnat, for example—than in those of the North. The nave and choir are comprised under one line of roof; the tower—an erection of the Renaissance closely following the old local models, and finished with a carefully moulded cruciform saddleback—leans considerably. It stands at the west end, but is detached a few feet from it.

The First Pointed work of this church is unusually fine, and a charming feature is the coupling of the alternate pillars in the apse after the fashion of those at Sens, the eastern part of Canterbury, and the apse of Coutances.

Altogether we were much delighted with Etampes, and at the appointed hour sat down in high good-humour to the *déjeuner*, seen so temptingly displayed through the open windows of the Hôtel du Grand Courrier.

It was not a little amusing after the habitués had discussed their meal to see monsieur and madame, with "la petite" between them, sit down with the whole establishment to the enjoyment of it. Involuntarily one recalled that finest chapter in "Adam Bede," wherein the early supper party at the Hall Farm is drawn with a fidelity that has rarely been surpassed.

With pleasant recollections of this richly churched old town we arrived, after a railway ride of about half an hour's duration, in the brilliant Lutetia.

(To be continued.)

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of British Architects was held on Monday evening last, Professor Aitchison, R.A., president, in the chair.

A vote of thanks was passed to the executors of the late Professor Hayter Lewis for a presentation of several books for the Institute library.

The President then delivered the following address to students:—

It is customary in this month to give an address to students, and it is one of the pleasantest duties the president has to perform.

The world consists of the past, the present and the future. The past is hopeless: it cannot be altered or improved; it can only be studied. The present, of which the practising architects are representatives, is too well known to dilate on; and the immediate future consists of the students, and they allow us to conjure up all sorts of visions, and to delight ourselves with

fancying that their works will be stamped with the perfection that ours have missed.

Aristotle tells us that most things can be equally well or better done by youth than by age; but there is one thing that age can alone give—that is, experience. I think it is a pleasure to all men of some years to convey as much of the results of their experience as they can to the young who are following in their footsteps, or are about to follow. In an art like ours it is very difficult to know what useful experience we have to impart—I mean æsthetic experience—because our views and those of the rising generation are probably different, if not opposed. I give you some remarks of Professor Cockerell to the R.A. students of my day:—"That they should study all styles, for they can never tell how fashion will change, and that the style they have chosen may not be abandoned." This was said when imitation Gothic was all the rage.

I hope for the advancement of architecture which will take every one, and that when it does come it will not be an imitation of some dead style.

At present, at least, we have no means of evoking genius, and the only means that has yet occurred to me to improve our art is by learning principles and by striving. It is true that I was found fault with by one of my hearers on a former occasion for not invoking the aid of the Almighty; but it seemed to me then, as it does now, that my business is to say as far as I can what earthly methods, and what earthly methods only, have the chance of improving us.

There is one thing I have remarked—that all the sciences and arts seem to go in cycles, or, as we should say, are mounted on Fortune's wheel, and, as it turns, one art or science is the top of the wheel while the other is in the mud, and as it goes round the positions are reversed. It is not very easy to trace the cause of these epochs, but we can safely say that, at the present moment, the epoch is that of the application of science, and is on the top of the wheel, while architecture is very low down. When these epochs occur, the whole atmosphere, as it were, is full of the desire for excellence in the particular art or science then coming into vogue, as a knowledge of Roman architecture was at the time of the Italian Renaissance; and at such times men of the most transcendent abilities have an ambition to succeed in the new fashion, even though it promise but little wealth, and very often nothing but the escape from starvation, even if it offer that. Milton's was in England a poetic age, though he got for his "Paradise Lost" little more than the price of waste paper, but he at least got an immortality of more than two hundred years, and we know not how many more centuries he will last and be studied; while poor Otway, the author of the once admired "Venice Preserved," who lived in the same century, is said to have died of starvation, and, though he was popular in his time, I am afraid there are few but professed students of dramatic literature who have ever read a line of his. A great incentive to any kind of study or achievement is that of being thought highly of by your contemporaries, though there is a higher stimulus in the hope of that sort of immortality which mortals can attain.

One of these inducements at the present time is impossible to be looked for—I mean the admiration of your fellow-men, for who knows or cares whether your work is good, bad, or indifferent, except perhaps a brother architect? I do not know if the sort of limited immortality any one can get has ever been obtained by those who have not been admired by their contemporaries; at any rate, it has not commonly been the case. Yet we hear all the unsuccessful votaries of the fine arts saying, that though their works may not be appreciated now, they will be appreciated by posterity. I have admired architecture I have casually seen without knowing the name of the architect, or whether he were alive, and thought this was by a good man, which I hope, if he is dead, may be some satisfaction to his manes. Architecture, at least in good times, does not so much represent the proclivities of the artist as the general aspirations of the people; for though the great artist seems only to portray his own ideas, he must, if popular, do admirably what every one desires to do himself, in spite of Dr. Johnson's attempted refutation of Boswell's remark that "the poet only says what every man thinks and would say":—"Then, sir, according to you, the poet is only the tailor of other men's thoughts." At any rate, architecture must have conveyed to the minds of the people when it was built the sort of effect that they desired, for models were mostly made for approval before the building was done, while to future generations it clearly speaks of the taste and inclination of the age in which it was produced. It shows the genius and knowledge of the architect and the skill and care of the workmen, so that if a ruin is seen, or a considerable architectural fragment is found, we cannot help forming a strong opinion of the taste, skill and proclivities of that age.

I think I have pretty well expressed the indifference of the present age to architecture, so that you cannot expect much honour or reverence on account of your work, or that it will cause much pleasure or delight to the living beholders. It becomes questionable whether there is enough stimulant to attract men who possess the intellectual faculties necessary for producing fine architecture, I mean such architecture as will be admired for two or three thousand years. I hope that my observation has been wrong as to the chances of immortality for those whose works are disregarded by their contemporaries, for if the architect is really before his time, he should be recognised by those that come afterwards. I cannot even give that sort of encouragement to the students that used to be given me when I was a boy—that all men had equal abilities, and the great man was merely distinguished by greater perseverance and industry, although it is quite clear that extraordinary industry and perseverance are the concomitants of genius. I think I understate the case if I say that one considerable architectural genius is to be found among 100,000 of the inhabitants of any highly civilised country. To be a great architect involves a capacity for acquiring the higher branches of mathematics and to be able to use them; to comprehend at least that branch of natural philosophy that is called statics, and even to advance beyond the point at which it has then arrived; to so arrange a building as not only to fit it for its purpose, but to put it in a shape that will command the admiration of skilled and cultivated beholders, and to invest the finished structure with a capability of exciting emotions that are proper to its use. Architecturally this is brought about by simplicity, perfection of proportion, by outline, by the proper disposition of light and shade and by size and mass. To the former qualifications of the architect must be added the capacity of knowing what additional interest can be given to important parts by sculpture, and how colour can be properly applied to the whole structure. Of course it would be infinitely better for the architect to possess the whole of these qualifications; I do not know whether this was ever the case, though Sir Christopher Wren very closely approached it. We know that in whatever excellent qualities the Renaissance architects were deficient, they were mostly sculptors or painters. Where they were deficient was in construction, in invention and in the proper expression of their buildings. According to Mr. Ruskin, all the architects of the world since the early Greek times were sculptors, and the sculptors thought, like Mr. Ruskin, that pure architecture was ridiculously easy, or came naturally to all men. I think that he was conversant with the history of the Renaissance architects, who were undoubtedly sculptors or painters, and applied these qualifications to the Greek and Mediæval architects; but as far as I can find out, there is not the slightest ground for believing it true of the Mediævals. His Excellency M. Jusserand tells us of a monk who was allowed to have a nude model to make studies from for a crucifix, but we have not the slightest hint that he was an architect as well, and the note-book of Wilars de Honecort, whom we know to have been an able architect, does not impress us by his sketches with the idea of his being a competent sculptor or painter. Some profound students of Greek literature would probably be able to confirm or deny the hypothesis that all the Greek architects were sculptors; but considering that we do not know that Phidias was an architect, it seems unlikely that the great architects were sculptors or that the great sculptors were architects. Aristotle was a great admirer of architectural art, and anyone bent on knowing whether the architects were sculptors as well might find indications of it by reading through his voluminous works to that end. Plato was evidently conversant with the craftsmen of his time, but I do not recollect any suggestion of his that the Greek architects were sculptors. We know from Trajan's letter to the younger Pliny that the Roman architects were mostly got from Greece, but we do not know whether they were sculptors as well.

Most of you probably know that Pascal considered architecture a progressive art, and we all know that it did progress most rapidly in constructive skill from the end of Romanesque days through Gothic times almost to the very end, and it also changed its æsthetic expression several times.

I think all of us desire to see architecture progress, more especially in æsthetic expression.

Since the application to building of cast-iron, wrought-iron and steel, the engineers have surpassed even the wildest imagination of sixty years ago. The Britannia Tubular Bridge is, as far as I recollect, 500 feet span, but Sir Benjamin Baker has made a span of the Forth Bridge over 1,700 feet. It is very unlikely that any architectural work would require a span of more than a tenth of that bearing, and that supposes an extension of more than double the span of the largest groined vault of the Romans, which was only about 80 feet. Still we must to a certain extent look for the advancement of architecture in a nicer adjustment of the mass to its height and to the weight to be carried, and to the form to be given to the supports for the weights and strains that come on each particular piece. In the use of iron and steel architects are very much handicapped, first on account of the slenderness of proportion which, as a rule, renders them unfit to compose with the weaker material, but mainly on account of the little resistance these materials offer to the action of fire, unless they

are protected by fireclay and terra-cotta, and when they are so protected they very nearly assimilate in size to the supports of old-world structures. Still, as I have so often said before, I think if the Mediæval architects had possessed these materials and been able to work them as we can, they certainly would not have abstained from using them, as architects of the present day have mostly done. What visions does the use of cast-iron raise in our minds as to the possible size and height of buildings? What new forms and shapes does not cast-iron suggest when we know that it will take any form we please and any ornaments that can be cast? What visions of colour does it not evoke when it may be made resplendent with enamel?

No one can say that convenience in planning is not greatly studied in the present day, but this convenience has mostly been of the purest utilitarian sort; it has been a question of how the accommodation wanted can be packed anyhow, which should not be the aim of architectural planning, which now, alas! is hardly thought of. The other thing to be aimed at is to give expression to the thoughts, cultivation and aspirations of the present day, a subject that requires the deepest study and a perspicacity that is rare, for though we are quite certain that many buildings have not got the proper expression, it is not so easy to say how the proper expression should be got. We have ransacked all the civilised architecture of the past and made collections of it for use, but we have certainly not applied the examples with discretion. The delicate ornaments and suggestive sculpture that were applied to the embellishment of the boudoirs and pleasure-houses of Renaissance beauties is now lavished on oyster-shops, public-houses and clothiers' warehouses, on which fluttering cupids are out of place, and the magnificence and stateliness of the palaces of great nobles now deck stores or hotels. We can at once pronounce these to be absurd, but we can hardly lay down a rule for the right expression which should be applied to the immense variety of buildings that are erected, for although we are familiar with the term "playful" applied to some buildings by the architects of two generations ago, we hardly know in what that playfulness consisted.

We must not forget the effects of association. Pediments were only foun t on temples during the Roman Republic, and Cicero expected to see them in heaven. Gothic with us is mostly associated with cathedrals and churches, and is therefore looked on by the public as a holy style. This, of course, is absurd, for the style in vogue was always used indifferently for all sorts of structures when there was a style; but the architects did not bestow the same character on a coal-store or a tinker's shop as they did on a cathedral, and when the outside of a building shows what is wanted in the inside, the cathedral and the tinker's shop will not be quite alike, nor should it be decked with the same enrichments.

You know that architecture is the most difficult of the visual fine arts, yet there is much more labour spent on learning painting and sculpture than there is on learning architecture, and the votaries of these fine arts commonly have more natural aptitude to start with. We know the painful years students of painting and sculpture devote to getting the ground-work of their art, while from three to five years spent in an office, mostly in tracing, is thought enough for an architect.

Although I do not think that the test of examination is a very complete one, it is better than nothing; but yet the profession generally think even this too much, and utterly declines to start a more complete one for Fellows, being afraid that a knowledge of the elements of architecture may damp the ardour of genius or clip its wings; while almost all the other professions have examinations for the two classes, and have consequently advanced at a much more rapid rate.

There are two points to which I beg to draw your particular attention—first, that architecture is a structural art, and that all an architect can do, as an architect, is to build; in his structures he has to show his knowledge, taste and skill, his learning, morals, cultivation and aspirations. The Mediæval architects in their ecclesiastical buildings showed their hopes and adoration by lanterns, towers and spires, by lofty naves, daring construction and intricate patterns. When we have arrived at their pitch of knowledge and skill we must show our parts, inventions and aspirations in similar ways—not as they did, with almost pure geometrical figures, but in more graceful, refined and daring work. Secondly, to point out the comparative scarcity of the use of coloured and glazed materials for external facings where the greatest beauty of colour and form may be used. It is refreshing even to think of London and other manufacturing towns presenting to us beautifully coloured fronts that do not want painting every year, and would render such towns cheerful, if not delightful, to look on, in the place of the dingy, sooty and depressing houses faced with stone, brick or plaster; and this would not only raise our spirits under our leaden skies and perpetual drizzling rain, but be more healthful, for glazed pottery absorbs but little moisture, and is easily cleansed from dust and soot.

I am glad to see that we have admitted ladies to the Associateship, for that allows us to avail ourselves of the abilities of at least another half of the population, and, if you will pardon the bull, the larger half, as well as to offer a small meed of justice to the fair sex.

Reports on the drawings were read by Mr. A. Beresford Pite and Mr. H. H. Statham. The prizes were distributed by the President to the successful students. We have already published a list.

THE CALIFORNIAN UNIVERSITY COMPETITION.

WE have received the subjoined official report of the reception, preparation and judgment of the plans submitted in competition for the "Phœbe A. Hearst architectural plan for the University of California":—

One hundred and five packages for the Phœbe Hearst architectural plan for the University of California arrived at the office of the United States Consul General at Antwerp. There each case was marked with a number and the date of arrival, and insured for 5,000 francs for a period of six months. Many of the packages arrived much damaged; all of the large unsealed cases and the letter belonging to one of these had been opened at the Custom House. On July 10 all of the packages were transferred from the Consul's office, and stored in a room at the Musée Royal, where they were under the protection of the city of Antwerp. The Musée Royal is fireproof, and contains some of the most valuable examples of Dutch and Flemish art.

From August 17 to 22 the plans were measured for framing. At the same time the mottoes on the plans and on all the documents connected therewith were covered and the letters of identity were placed unopened in the safe deposit vault of the National Bank of Belgium. The average time required to measure each set of plans was six minutes. Cases found damaged were replaced by new ones. One package contained a pamphlet of photographs with a typewritten description. To exhibit this scheme it was necessary to soak the photographs off the pages of the pamphlet. Later it was found that the pamphlet was only a complement to a set of plans which had arrived at an earlier date.

During the month of September the plans were mounted on stretchers. It took about thirty minutes to mount each set of drawings. From September 26 to 29 the No. 3 envelopes were opened (Nos. 1 and 2 remained closed); the mottoes on the plans were compared with those on the envelopes and the addresses on envelope No. 2 were written down. This operation lasted about ten minutes per competitor.

After the judgment the plans were cut from the frames, laid in piles, covered and sealed. The designs of the chosen authors were photographed and the others were returned to their cases, which were put into wooden boxes lest the tin tubes be damaged in transport. By October 15 all of the plans were boxed ready for shipment. Each case was insured for 2,500 francs and sent to the address given on envelope No. 2, to be delivered only against a receipt. The railway companies refusing to be responsible for the cases beyond the boundaries of Belgium, it was necessary to correspond with shippers in the various towns to which the plans were to be sent in order that the committee might be assured that each competitor had received his plans. This caused a delay of several weeks in the delivery of the plans.

It was understood that the authors of the plans wished their work to be seen by no one but the jury and their names to be unknown. Every effort was made to respect this wish. It was taken for granted that the address on envelope No. 2 gave no clue to the authorship of the plan to which it belonged. An officer of the secret police of the city of Antwerp was always present while the plans were being handled. He put his seal on everything, closed or covered and kept an account of the time the plans were being worked with. The brigadier, or chief of the guardians of the museum, was made responsible also. At night watchmen were on guard, and the Fire Department furnished firemen whenever and wherever there was need of them. While the plans were exposed special care was taken; policemen guarded all entrances, and extra men were present at night.

The doors and windows of rooms where plans were stored were kept locked and sealed, and no seal was broken without the officer and witnesses being present. Before being opened the cases were examined to see if they had been tampered with. When they were closed a band was pasted over the joint between lid and box and tied with a tape, both ends of which were fastened with sealing-wax. Before the box was reopened the seals were examined. While a drawing was on the table for measuring or for mounting the officer kept it covered, that no employé might see the composition. As soon as a design was fastened to its frame it was covered with a double thickness of paper held down with ribbons tacked down at the corners. A seal covered the tack and joint between the

cover and the frame. When a motto under cover was to be inspected one corner of the covering was raised and then re-sealed. The mottoes on the descriptions were covered in the same manner as those on the drawings.

The envelope No. 3 was opened before the jury meeting, but as soon as the address was taken and the motto noted, the letter was put into a new envelope and sealed. This sealed letter was attached to the plan to which it belonged, and remained so during the jury meeting. The book of the addresses was seen by no one except the employé who wrote them. In short, the employés of the Phœbe A. Hearst architectural plan for the University of California did what they could to merit the confidence of the authors of the plans.

The first meeting of the jury for the Phœbe Hearst architectural plan was held at Antwerp in the Royal Museum of Fine Arts. The meeting began at 9 A.M. September 30, and continued in daily session, except on Sunday, until the evening of October 4.

The jury was composed of Mr. R. Norman Shaw, Mr. J. L. Pascal, Mr. Paul Wallot, Mr. Walter Cook and Mr. J. B. Reinstein. At the beginning of the first session Mr. Pascal was made president and Mr. Wallot vice-president. Before seeing the plans the jury decided a number of questions regarding the competition and discussed the programme in detail. With regard to the plans which had arrived after July 1 the following resolution was adopted :—

Resolved:—That the jury has studied the question from various standpoints, taking into consideration the various methods of transport used by competitors, the hindrances occurring from rules and laws, varying in different countries, with regard to the bulk and weight, method of covering, &c.; the confusion arising from improperly executing the details as required by express companies, parcel services, steamships and other causes tending to retard the arrival of the packages within a reasonable time, and the fact that the express companies do not guarantee delivery within stated time. After a long and careful examination of these questions with a view to the greatest fairness, the jury concludes that all designs which arrived at the consulate within the two days after July 1 are to be exhibited, and if any plan arriving later be among those chosen the cause of its late arrival shall be investigated.

The jury decided to make its choice by elimination as indicated in the programme.

With regard to the examination of the plans, it was decided that all the designs should remain in the exhibition halls until the final decision, because the discussions arising in the final elimination might suggest merits in plans previously eliminated that would entitle them to a place among those finally selected.

On the first and second elimination all of the jury worked together, and no plan was eliminated if any one juror objected.

On the first elimination forty-four plans were retained, fifty-four rejected.

During the second elimination one plan that had been retained in the first elimination was rejected, and two that had been rejected in the first were retained. These last two, however, were not among the twenty-one which remained after the second elimination.

On the final elimination, each juror separately chose of these twenty-one such plans as he thought worthy of being retained for the final concours, and made a list of the numbers he preferred. These lists were then compared and the numbers occurring on the majority of lists noted.

After discussion of the plans receiving no votes or a number of votes less than the majority, no plan was eliminated if any one juror objected. Before making a final choice the jury re-examined all of the plans previously eliminated.

Upon the final vote, four plans received one vote each, and eleven plans received the unanimous vote of the jury and were declared the choice for the final concours. The letters corresponding with them were opened and the authors notified of their success. The jury then adjourned.

Upon receiving a verbal report of the proceedings of the jury, Mrs. Hearst expressed a desire that the authors of the four plans receiving one vote each should receive some reward, which matter was naturally left to the trustees for consideration.

The people of the city of Antwerp did all in their power to make their guests comfortable and to insure the competitors against indiscretion and harm. They deserve the gratitude of everyone interested in the competition. Special thanks are due to Mr. Van Reijswijck, the burgomaster, Mr. Van Kuyck, echevin of the Fine Arts, M. Koch, conservateur of the Fine Arts, and to the echevins, Mr. Van den Nest, Mr. Desguin, Mr. Goemaere and Mr. Verspreeuven.

To the authors of the designs is due something more than gratitude. Men who can with enthusiasm give their trust, time and work to an enterprise of a distant country are the makers of history.

The following are the names of the eleven authors invited for the second concours :—

MM. Barbaud & Bauhain, 2 Boulevard Henri IV., Paris.

M. E. Bénard, 29 Boulevard Péreire, Paris.

Herr Professor F. Bluntschli, 4 Stockgasse, Zurich.

Messrs. D. Despradelles & Stephen Codman, 6 Beacon Street, Boston, Mass.

Herr Rudolf Dick, 99 Josefstâdterstrasse, Wien VIII.

Mr. J. H. Freedlander, 24 West Twenty-second Street, New York.

MM. G. Héraud & W. C. Eichmuller, (Arcueil) 3 Rue des Tournelles, (Paris) 18 Rue de l'Odéon.

Messrs. Howard & Cauldwell, 10 and 12 East Twenty-third Street, New York.

Messrs. Howells, Stokes & Hornbostel, 46 Cedar Street, New York.

Messrs. Lord, Hewlett & Hull, 16 East Twenty-third Street, New York.

Mr. Whitney Warren, 160 Fifth Avenue, New York.

The following are the names of the four authors mentioned above as recommended to receive some reward :—

MM. Joanny Bernard & Robert, 58 Rue de Rome, Paris.

M. Charles des Anges, 66 Rue Ampère, Paris.

Mr. Ernest Flagg, 35 Wall Street, New York.

Mr. Fred Skjold Neckelmann, 21 Kriegsbergstr, Stuttgart.

J. B. REINSTEIN,

Chairman of the committee of the Phœbe A. Hearst architectural plan for the University of California.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. G. H. Fellowes Prynne, president, in the chair.

The following were elected members of the Association :—Messrs. B. E. Crockett, L. W. Grace, C. B. S. Shepherd, E. E. Shrewsbury, Montagu White, R. E. Peach, A. Potter and C. C. Thompson.

It was announced that the first spring visit was fixed for February 4 to the Carlton Hotel, Haymarket, by permission of the architect.

Mr. Beresford Pite delivered a lecture entitled—

Ancient and Modern Buildings in Palestine.

Mr. Beresford Pite said it would be impossible for him to deal with the subject in a thorough way in one lecture. He could only relate what had struck him most when he visited Palestine. The lecturer then showed how the architectural interests of Palestine began with caves and rock tombs, cisterns and oil and wine presses, and then the buildings. The variety of influences which passed over the land in its early history had its effect on the people and their work. Beginning with Egyptian influence, they came to periods when Phœnician, Assyrian, Græco-Roman and Roman styles could be traced. Then the history of the country became obscure as they passed through dark ages to the Arab period. The years of crusading followed, dotting Palestine with interesting examples of Mediæval art. Turkish sway, too, had left its memorials, and as landmarks of modern work and travel some buildings presented the strong characteristics of the Gothic Revival. Apart from the artistic and historic periods there was the material to be considered. The building material most ready to hand was a hard limestone, difficult to work and offering little opportunity for ornamentation. The soil of the land was poor and yielded but scanty crops of coarse grain, so that when seeking to copy from nature the native imitated the heaviness of his surroundings. The country was also the seat of endless wars and disasters, so that durability and not beauty was the great aim of those engaged in architecture. The lecturer then gave some practical hints to those who might have to design for buildings in Palestine. The consideration of aspect was most important. It was always well to avoid an eastern aspect, and near Jerusalem itself it was advisable to turn the building away from the road because of the quantity of dust, which was terrible during the hot months when there was a drought of water. There were only two wells in Jerusalem, and the city was wholly dependent on the rainfall for its supply of water. In the absence, therefore, of a water supply the cost of water had to be seriously considered. If water ran out during building operations it meant an increase in the cost of construction. It was therefore necessary to begin building operations by constructing and excavating a cistern for the season's rainfall, thus providing against the drought which would certainly arise during the hottest months. There was an absence of any system of drainage, and no kind of cesspit could be properly adopted because of the hardness of the rock and the small depth of earth which covered it.

When designing a building the arrangements for heating had hardly to be considered. Fireplaces resembling ours were not generally used. In buildings established for the protection of Russian subjects Mr. Pite said he noticed more attention had been paid to the heating of the building, and stoves had often been adopted. The carriage of materials was a most

important item when doing work in the East. The railway could only carry coal, so that it was impossible to send up heavy material in large quantities. Camels were the beasts of burden. In order that foreigners might erect a building of any size a royal firman from Constantinople was necessary, and even when this Imperial permission had been obtained the local authorities had to be pacified and a liberal amount of backshish expended before operations could be commenced. If mosques were in the vicinity of the site the permission was more difficult to obtain, the religious traditions and superstitions of the case bearing an important part in the negotiations. There seemed to be no builder, and consequently no contractor, in Jerusalem; but still the lecturer, with the assistance of a German architect resident in Jerusalem, had overcome such difficulties. Plans made in London had been carried out with the utmost accuracy. The workmen would only recognise one master, and thus the man who gave the orders must also have the paying of the men engaged on the job. There was an entire absence of sand for building purposes, but a good supply of lime was to be obtained.

Mr. Pite then gave a list of the prices charged for work in Jerusalem :—

Roofing.—Tiles came from Marseilles and cost 25 francs per 1,000. The work was wired to battens; rewiring was necessary every ten years.

Bricks.—The best were foreign, the native ones were worth nothing. Bricks cost from 7 to 12 francs per 100 (*i.e.* 4*l.* to 5*l.* per 1,000).

Paving Tiles cost from 6 to 8 francs per square metre.

Timber.—About five times the cost paid at home.

Building cost for cubing about 12 francs per cubic metre, about 10 francs for foundations, and cisterns 10 francs.

Lime costs about one-twelfth of whole building; lime costs about one-fifth of cost of wall, including probably plastering; for girls' school (not plastered), one-seventh to one-eighth.

Walling.—Stones for inner side 1 piastre each, for outer side, hewn, 2 piastres each. Lime, 5 to 6 piastres. Wages and hauling, 10 piastres, or in all, 12½ francs per square metre. Foundation walls, 10 to 11 francs, above ground, 14 to 16 francs; partition walls, 10 francs; dolma walls, *i.e.* wooden framework filled with framing, 6 francs; vaulting, 8 francs—all per square metre.

Various details.—Façade stone, 100 pieces, from 10 to 14 francs. External pointing, ½ franc per square metre. Corner stones or quoins, 2 francs each. Lintels and cornices, 3 francs per lineal metre, or 40 francs per door and window opening. Plastering, 1½ to 2 francs per square metre. Cementing new cisterns, 3½ to 4 francs. Plastering ceiling, 2½ francs. Tile roofs, including wood, labour, nails, &c., 12 francs; with heavier woodwork, 15 francs. Carpentry for window, glazed, painted and fixed, 50 francs. Per internal door complete, 50 francs; per pair of shutters complete, 40 francs. Iron bars fixed, ½ franc per kilo. Girls' school, Jerusalem, including boundary wall, gate-house and cistern, and clearing site, about 12 francs per cubic metre. Not plastered.

About fifty lantern slides were shown on the screen, the lecturer giving a short description of each.

Mr. A. C. Dickie, who proposed a vote of thanks to Mr. Pite for his interesting lecture, said he had listened to the remarks with the greatest possible enjoyment. The more modern Jerusalem had really few attractive features as regarded the construction of buildings. New settlements were springing up outside the walls of the old city, and German shops were being opened. One of these settlements or villages had become famous, inasmuch as old and empty petroleum tins had been largely employed in its construction. The Kaiser's visit to the Holy Land would long be remembered by those interested in the antiquities and beauties of Palestine. Prior to the Kaiser's visit to Jerusalem, when the authorities were trying to improve the look of streets, &c., several acts of vandalism were committed. Although the streets were then said to present a cleanly appearance, it was hardly true, as the refuse and dirt of the principal streets were merely swept into the smaller and less frequented ones. Where old gilt-work in mosques had become dull, a little yellow paint was used to restore (such was the taste of the Turk) its first charm.

Mr. Alexander Payne, who seconded the vote, said that although Palestine possessed attractions peculiar to itself, yet it was a disappointing country in some things. The tourist had to be well prepared for emergencies, as travel was expensive and really slow. The "squaring" of officials in order to travel in safety was tremendous, but long journeys were out of the question unless backshish was freely given.

Mr. R. Phené Spiers, who supported the vote, said different dates were often given to the buildings. The dates of them had, however, been clearly shown in the work of the late Professor Hayter Lewis on the Holy Places of Jerusalem. In some instances where an old building had been demolished it had been rebuilt with the old material. The immense stones used in the construction of older buildings showed Roman influence, although contrary to their method. The Romans had recourse to the labour of the country, and they believed in monolithism, two facts which help to prove the theory.

The President summed up the discussion and put the vote, which was carried unanimously.

Mr. Pite, in returning thanks, advised students to study more deeply the subject he had but touched upon.

On the motion of the chairman the following resolution was passed :—"That this committee, recognising and appreciating the efforts made by the London County Council for the embellishment of London, views with the utmost concern the manner in which it is proposed to rebuild Vauxhall Bridge, and desires to express its sense of the unfitness of the design for a work of such architectural importance."

THE DUMBUCK CRANNOG.

AT the monthly meeting of the Glasgow Archæological Society on the 19th inst., Mr. W. A. Donnelly, Bowling, read a paper on the crannog which he discovered at Dumbuck, on the Clyde, in July last. He stated that immediately after the discovery he intimated it to Dr. Anderson, of the Society of Antiquaries, and as a result Dr. Munro visited the crannog. He made a number of incisions within the circuit of what appeared to be the boundary line of the crannog. These excavations revealed the presence of timber, and Dr. Munro expressed the opinion that the structure had all the features of a crannog besides others hitherto unknown to him; in fact, that the find was unique. On the following day Mr. Bruce and Mr. Miller, of the Helensburgh Society, and a number of friends visited the crannog, and made a more extended examination and excavation. Mr. Bruce was fortunate in discovering the presence of osseous remains. Several stones showing signs of human labouring were found, particularly a hone, which showed that some other materials had been ground upon its surface. Subsequently operations were conducted under the auspices of the Helensburgh Society, and these had resulted in the discovery of the objects which had excited so much interest. Dr. Munro made a second visit to the crannog and emphasised the high opinion he held of the find at the beginning. The structure was a pile dwelling. As to its probable antiquity, it was notable that in all the hundreds of tons of débris carefully excavated not a single trace of either pottery or metal of any kind had been found. That pointed to a period long before a Roman galley appeared on the silver waters of the Clyde. The paper was illustrated with numerous limelight pictures from original drawings by Mr. Donnelly, and a large number of the articles discovered were exhibited.

Mr. John Smith said that the question had been raised in the newspapers as to whether this was or was not a crannog, but nobody in his senses could say it was not a pile structure. There could not be the slightest doubt that it had been inhabited. The individual who said that this was not a crannog did not know what a crannog is. He hoped Mr. Donnelly would continue and complete his investigations to the satisfaction of all intelligent archæologists.

Mr. Neilson was inclined to think that what had been found represented a period well into the dividing line between geology and archæology. With regard to the allegations that some of the articles discovered were forgeries, he felt sure he expressed the opinion of the meeting when he said that they entirely repudiated all sympathy with such statements so far as Mr. Donnelly and his friends were concerned. They were sure that they would be above that sort of thing. The crannog was one of the most important archæological discoveries of recent years.

Mr. Bruce said that the charges that had appeared in the newspapers had caused Mr. Miller, Mr. Donnelly and himself some concern. The visitors to the crannog, however, believed them rather than those who cast suspicions upon the articles discovered. He had dug out several of the articles in dispute, and he could assure them of their genuineness. It was quite impossible that anyone could have taken advantage of them.

Mr. Donnelly, replying to a question, explained that the bones discovered had not been examined by an expert, but that it was proposed to ask Professor Clelland's opinion regarding them.

Mr. J. Dalrymple Duncan expressed regret that observations had been made in the daily press calculated to hurt not only the feelings of the investigators, but also to discourage other workers on similar lines in other parts of the country. He had the pleasure of spending a day at the crannog with Mr. Munro on the occasion of his second visit, and he was rather surprised that Dr. Munro, after what he then said, should have altered his opinions. Dr. Munro did not on that occasion indicate any of the views which he had subsequently expressed in the newspapers except those with regard to the shale ornaments. Both at the crannog and in returning from it in the train, Dr. Munro spoke to him as if the discovery was

of very great interest, and he was sorry, because all of them must have great respect for Dr. Munro as a very great authority on the subject, that he should have been led into writing the letters which he had written. However, Mr. Donnelly would have the consolation of knowing that the great mass of those who had both seen the crannog and heard the accounts of these discoveries recognised that he had made a most important find, and that there was not one person in a thousand who had the slightest doubt as to the thorough honesty of himself and of those who had worked with him.

The chairman (Dr. Murray), in moving a vote of thanks to Mr. Donnelly for his interesting paper, said he was sorry it should have been thought necessary that anything should be said with regard to the suggestion of forgery. He thought that was a question to which prominence should not be given by discussing it. The discovery of the crannog was a matter of very great interest. The shale articles found were proof of the genuineness of the discovery. Similar articles had been discovered in the valley of the Clyde, and that had a good deal to do with the age of the structure, which, he thought, would take them back to somewhere about the period of the Roman occupation. He thought it was utterly out of the question to say that the articles were palæolithic, but undoubtedly they might be neolithic.

TESSERÆ.

Architecture and Criticism.

ALTHOUGH educated men generally have a fair knowledge as to the facts of architecture—that is to say, as to the styles in vogue at various periods and the history of the rise and fall of the various styles—they very rarely attempt to exercise their critical faculties or to form any definite opinion as to why one building is admirable, another blameable, one noticeable for the perfection of the art displayed in it, another for the imperfection. It is impossible to doubt that the exercise of active criticism is essential to the healthy progress of all the arts. Without it the artist falls asleep, makes no progress and finally becomes uninterested in his work. With it each appreciative criticism spurs him on to fresh efforts, and his work is of necessity a continual advance. Now this sort of criticism is impossible if attempted with nothing but a dry knowledge of the history of architecture, it has no life in it, no power of affecting the artist. For this it is necessary that the critic should have mastered the artistic principles developed in the style to which he attaches himself, and be able to define and distinguish clearly what is right and what is wrong in each, and so to appreciate the subtle difference between work which marks the great artist and that which only shows the patient truthful workman. It is far too much the custom to assume that all ancient art was equally good; that men wrought under such rules, possessed such traditions and adhered so carefully to the same grooves or channels in art, that there is no choice to be made between the works of one old architect and another, all being equally admirable and equally deserving of imitation. If this were so we should be obliged at once to wipe out architecture from the list of the fine arts altogether, knowing this very well, that no art can be practised under such conditions, and that without personality and individuality of character no artist—whether painter, sculptor or architect—can ever impress any great and lasting value on his work.

The Picturesque in Ireland.

Travelling in England awakens less of the springs of dramatic interest, will engage the passions less than travelling in Ireland, where the dark bleak bog and moor contrast with the vivid green of her beautiful fields; the lofty mountains, the lesser undulating hills and sequestered valleys—the intermixture of severest sterility with tracts of pasturage, which, in native strength of production, fattens an ox to the acre—the wild woods too scantily relieving the heathery sides of the mountains, the clear and sparkling streams, the generally respectable and often noble rivers, pastoral all, and the numerous lakes, diverse and multiform in size and shape and beauty, cast over the surface of Ireland. Then the Danish raths or forts, crowning almost every eminence; the relics of old chapels mocking calculation of their dates, and surrounded by the tumuli of a race who seem destined never to find repose but in death; the round towers equally mocking antiquarian conjecture of their uses; the proud monastic ruins that, relatively to the state of society, still proclaim the gorgeous temporalities of the Church before the period of the Reformation, and in the rich and happy choice of their sites tell of the superior wealth, power and worldly enjoyments of the priesthood through all its orders. At various points of view the high lonely castle and quadrangular towers, within whose strong and gloomy walls the rude chiefs or toparchs of ancient days lived in reciprocal fear and hatred, snatching their physical enjoyments from the steel grasp of danger, and maintaining their feverish and hazardous existence—their constantly disputed and barbarous dominion—by international warfare. Such inanimate memorials of the barbaric ages can scarcely be said to meet the eye of a traveller in England.

International Competition.

The most superficial glance at the present condition of European states shows that those nations which linger in the race cannot hope to escape the partial diminution, and perhaps final annihilation of their resources. It is with nations as with nature, which, according to a happy expression of Goethe, knows no pause in ever-increasing movement, development and production—a curse ever cleaving to standing still. Nothing but serious occupation with chemistry and natural and physical science can defend a state from the consequences of competition. Science and information are the joy and the justification of mankind. They form the springs of a nation's wealth, being often, indeed, substitutes for those material riches which nature has in many cases distributed with so partial a hand. Those nations which remain behind in manufacturing activity, by neglecting the practical application of the mechanical arts and of industrial chemistry to the transmission, growth or manufacture of raw materials; those nations among whom respect for such activity does not pervade all classes, must inevitably fall from any prosperity they may have attained. This result follows the more certainly and speedily as neighbouring states, instinct with the power of youthful renovation, in which science and the arts of industry operate to lend each other mutual assistance, are seen pressing forward in the race.

GENERAL.

Mr. Walter Emden has been placed by the Board of Trade on the list of surveyors and umpires, from which selections are made by the Board of Trade for appointment in cases of disputed compensation for land.

Mr. Stanhope Forbes, A.R.A., has completed the mural decoration, "The Great Fire of London, A.D. 1666," which he has been commissioned by the Sun Insurance Office to paint for the ambulatory of the Royal Exchange.

M. Cormon, the latest member of the Académie des Beaux-Arts, has been presented by his pupils with a sword of honour, which is part of the official uniform of all members of the Institut.

The Late T. Hayter Lewis has bequeathed 100*l.* to the Architects' Benevolent Society out of a fortune of 88,789*l.*

M. Léon Charvet, architect and inspector-general of instruction in design, has been awarded a gold medal by the Société d'Architecture du Rhône for his book on "The Architects of Lyons."

M. Waltner, the French etcher, has been promoted to the rank of commander in the Legion of Honour.

The Bishop of Bath and Wells presided over a meeting of citizens at the Guildhall, Bath, on Tuesday, to consider the question of restoring the west front of Bath Abbey, in connection with the four-hundredth anniversary of the edifice to be celebrated this year. The Bishop said they aimed more at the repair of what already existed than at restoration with a free hand.

A Series of Lectures will be delivered in the Lecture Theatre of the South Kensington Museum on the following Saturdays, at 3.30 P.M.:—January 28 and February 4, Dr. Lockyer, M.A., F.R.A.S., "Astronomical Instruments"; February 11 and 18, Mr. J. H. Pollen, M.A., "Furniture"; February 25 and March 4, Mr. William Burton, "Pottery." Admission will be free.

Mr. T. Butler Wilson, architect, of 72 New Bond Street, W., and Harrogate, Leeds, informs us that he has taken into partnership Mr. Robert P. Oglesby, who has been associated with him for the past fifteen years, and that in future the style of the firm will be T. Butler Wilson & Oglesby.

Major-General T. Kelly-Kenny, C.B. (Inspector-General of Auxiliary Forces), will present the prizes to members of the Artists' Rifle Volunteers at the annual distribution on Thursday, the 2nd proximo, at 8.30 P.M., at the Headquarters, Duke's Road, Euston Road, W.C. A regimental concert will follow.

The Applied Art Section of the Society of Arts will commence the meetings on Tuesday evening, January 31, when Mr. Edward F. Strange will read a paper on "The Centenary Exhibition of Lithographs." At subsequent meetings during the session papers will be read on "Vitreous Enamels," by Cyril Davenport, February 21; "Craftsmanship and its Place in a National Scheme of Art Culture," by Sir William Blake Richmond, K.C.B., R.A., March 14; "Modern Changes in Taste relating to Domestic Furniture," by George Lock April 18; "Maiolica," by William Burton, May 2; and "Wrought-iron Signs," by J. Starkie Gardner, F.G.S., May 30.

Messrs. T. Cook & Son have organised a series of tours to Italy and Rome which are well adapted to meet the requirements of students of art.

THE
Architect and Contract Reporter.

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," 175 Strand, London, W.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, 175 Strand, London W.C., not later than* 2 P.M. *on Thursdays*

NEW READING CASE

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For Advertisement Scale, see page xiii.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

COMPETITION DECIDED.

CREWE.—For erection of a clubhouse. The designs of Messrs. Wm. Sugden & Son, F.R.I.B.A. (submitted under motto "Forward the Light Brigade"), have been placed first, and the work will be carried out by them.

CONTRACTS OPEN.

ABERGAVENNY.—For erection of the Abergavenny new joint cottage hospital and dispensary. Mr. E. A. Johnson, architect, Abergavenny.

ANGLESEY.—Feb. 1.—For erection of a school for the Rhosybol School Board, Anglesey. Mr. Richard Davies, architect, 125 High Street, Bangor.

ANGLESEY.—Feb 6.—For extensions to the Welsh C. M. chapel at Benllech. Mrs. Jos. Owen, architect, Menai Bridge.

BANBURY.—Jan. 31.—For improvement of the public swimming-bath in the recreation-ground. Mr. N. H. Dawson, borough surveyor, Town Hall, Banbury.

BARNSLEY.—Feb. 3.—For erection of a school for infants at Staincross, near Barnsley. Messrs. Senior & Clegg, architects, 15 Regent Street, Barnsley.

BELFAST.—For erection of premises, Old Lodge Road and Hanover Street. Messrs. E. & J. Byrne, architects, 4 Waring Street, Belfast.

BEN RHYDDING.—For erection of two pairs of semi-detached villas at Ben Rhydding. Messrs. Isitt, Adkin & Hill, architects, Prudential Buildings, Bradford.

BERWICK-UPON-TWEED.—Jan. 31.—For erection of lock up and police station in Church Street. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-upon-Tyne.

BIRMINGHAM.—Jan. 30.—For erection of nurses' messroom and other accommodation at the workhouse infirmary. Mr. R. H. Ward, architect, Paradise Street, Birmingham.

BOOTLE.—Feb. 1.—For erection of a technical school in Balliol Road. Mr. Edward Reid, surveyor, 7 Westminster Chambers, Crosshall Street, Liverpool.

BRACKENTHWAITE.—Feb. 3.—For erection of two bridges over Hope Beck. Mr. J. B. Wilson, Court Buildings, Cockermouth.

BRADFORD.—For erection of a combing-shed and warehouse at Dudley Hill. Mr. Fred Holland, architect, 11 Parkinson's Chambers, Hustlergate, Bradford.

BRANSCOMBE.—For erection of a Wesleyan chapel and school Rev A. Martin, Budleigh Salterton.

BURNLEY Feb. 1.—For extension of central stores, Hammerton Street. Mr. Thos. Bell, architect, 14 Grimshawe Street, Burnley.

BURTON-UPON-TRENT.—Feb. 1.—For widening the bridge crossing the Midland Railway, Horninglow Street, and alterations to existing buildings adjoining thereto Mr. George T Lynam, borough engineer

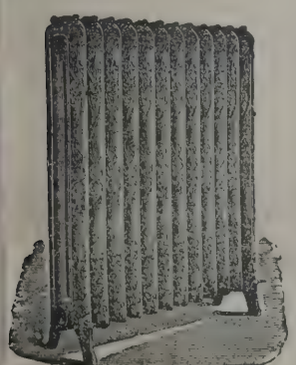
CAMBERWELL.—Jan. 31.—For construction of a [illegible] ground convenience in Rye Lane. The Surveyor, Vestry Hall, Peckham Road.

CARDIFF.—Jan. 31.—For extensions to the electric-lighting station, Eldon Road. Mr. W. Harpur, borough engineer, Town Hall, Cardiff.

CARDIFF.—For alterations at the Royal Hotel. Messrs. J. P. Jones, Richards & Budgen, architects, 18 St. Mary Street, Cardiff.

CARDIFF.—Feb. 11.—For extension of the mortuary at the workhouse. Mr. Edwin Seward, architect.

CARLTON.—Feb. 4.—For erection of a classroom to Carlton Board schools. Mr. W. E. Richardson, architect, 28 Bond Street, Leeds.



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CHATHAM.—Feb. 2.—For erection of stables for the Corporation. Mr. Charles Day, borough surveyor, Corporation Offices, Military Road, Chatham.

CHORLEY.—Jan. 30.—For erection of buildings at pumping station near Grimeford Mill, Anderton; construction of storage reservoir near Roscoe Low Quarry, Anderton; and construction of sewage purification works at Coppull. Mr. Alban Jolly, surveyor, 9 High Street, Chorley.

CHURWELL.—For erection of a 14-chamber kiln, chimney and brickwork. Mr. Frederick W. Rhodes, architect, Upper Wortley.

COVENTRY.—For erection of classrooms at the West Orchard Chapel. Messrs. Geo. & Isaac Steane, architects, 22 Little Park Street, Coventry.

DALTON-IN-FURNESS.—Feb. 2.—For additions and repairs to Low House Farm, Ayeside. Messrs. W. Butler & Sons, Dalton-in-Furness.

DEWSBURY.—Feb. 3.—For erection of two houses in Lees Road, Thornhill. Messrs. Holtom & Fox, architects, Westgate, Dewsbury.

DONEGAL.—Feb. 1.—For alterations to premises at Cross-Roads, Killygordon, co. Donegal. Mr. J. Crawford, secretary, Crossroads, Killygordon.

DUBLIN.—Feb. 8.—For erection of six labourers' dwellings as follows:—two to be erected in the townland of Blanchardstown, and four upon a plot of ground at Ballycoolen, all in the electoral division of Blanchardstown. Mr. John O'Neill, clerk, Board Room, North Brunswick Street, Dublin.

DURHAM.—For erection of branch store, recreation-room, and cottages at Chopwell, Durham. Messrs. Liddle & Browne, architects, Prudential Buildings, Mosley Street, Newcastle.

DURHAM.—Jan. 31.—For erection of an additional classroom and other works proposed to be executed at Windy Nook school. Mr. H. Miller, architect, Board Offices, Felling.

DURHAM.—Feb. 3.—For erection of a five-roomed house, with attic in Bridge Terrace, Annfield Plain. Mr. Jas. Norman 24 Bridge Terrace, Annfield Plain.

EXMOUTH.—Jan. 31.—For erection of engineering and smiths' shops at the docks, for the Devon Dock, Pier and Steamship Company, Limited. The Secretary, Dock Office, Exmouth.

GATESHEAD.—For erection of a nurses' home, Coatsworth Road. Mr. L. H. Armour, 16 West Street, Gateshead.

GLASGOW.—Jan. 30.—For erection of a new generating station at Pollokshaws Road. Mr. Andrew Myles, architect, 143 West Regent Street, Glasgow.

GREAT YARMOUTH.—Feb. 3.—For additions to premises, Priory Plain. Mr. Chas. G. Baker, architect, Town Hall Chambers.

HALIFAX.—Jan. 30.—For erection of a pair of villa residences in Manor Heath Road. Mr. Arthur George Dalzell, architect, Albany Chambers, 15 Commercial Street, Halifax.

HALIFAX.—Feb. 3.—For erection of stabling and alterations and additions to Grove Brewery, Luddenden Foot. Mr. Joseph F. Walsh, architect, Lancashire and Yorkshire Bank Chambers, Halifax.

HALIFAX.—Feb. 7.—For erection of a new bridge over Godley Road. Mr. Edward R. S. Escott, borough engineer, Town Hall, Halifax.

HASTINGS.—For repairs at the Hastings baths. Mr. Henry G. Baily, secretary, 23 Havelock Road.

HASTINGS.—Feb. 16.—For erection of workhouse buildings in Cackle Street. Messrs. Jeffery & Skiller, architects, 5 Havelock Road, Hastings.

HOLBECK.—For erection of ten through houses at Elland Road. Mr. Frederick W. Rhodes, architect, Upper Wortley.

ILFRACOMBE.—Feb. 1.—For demolition of the existing markets, construction of a new road, and erection of a new market hall. Mr. Oswald M. Prouse, surveyor, Town Hall, Ilfracombe.

KILLYGORDON.—Feb. 1.—For alteration to premises for Creamery, Killygordon Company, Donegal. Mr. A. Robinson, architect, 3 Richmond Street, Londonderry.

KINGSTON-UPON-THAMES.—Feb. 4.—For erection of a dining-hall and alterations to the various adjuncts at the workhouse. Mr. William H. Hope, architect, Union Offices, Portsmouth Road, Kingston-on-Thames.

LANCASTER.—Feb. 3.—For alterations to wards, at the County Lunatic Asylum. The Clerk of the Works.

LANCASTER.—Feb. 4.—For alterations and additions to premises in George Street. Chas. F. Thompson, architect, The Arcade, Lancaster.

LARNE (IRELAND).—Feb. 1.—For erection of rooms for the assistant nurse and ward mistress. Mr. William Hay, clerk, Board-room, Larne Workhouse.

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LEAMINGTON.—Jan. 31.—For erection of a refreshment buffet in the Jephson Gardens, for the Corporation. Mr. F. Foster, architect, 4 Euston Place.

LEEDS.—Jan. 31.—For erection of a detached villa, Park Avenue, Roundhay, Messrs. Thomas Howdill & Charles B. Howdill, architects, 24 Albion Street, Leeds.

LEEDS.—Feb. 6.—For alteration and renovation of the public baths in Cookridge Street. Messrs. Walter Hanstock & Son, architects, Branch Road, Batley.

LEEDS.—Feb. 14.—For addition of an apse, clergy vestry, nave roof, new seating, &c., at St. George's Church. Mr. Henry Walker, architect, 8 Upper Fountaine Street, Leeds.

LETTERKENNY.—Feb. 15.—For plastering walls and groined ceilings of new cathedral, Letterkenny, with alternatives in fibrous plastering and wood for ceilings, in accordance with drawings and specifications to be seen at office of Mr. William Hague, architect, 50 Dawson Street, Dublin.

MANCHESTER.—Jan. 30.—For erection of Government offices, for the Commissioners of H.M.'s Works and Public Buildings. Messrs. J. S. Lee & Son, 35 Craven Street, Strand, London.

MANCHESTER.—Feb. 1.—For joists and concrete flooring at Leaf Street Baths. The Chairman of the Baths Committee.

MANCHESTER.—Feb. 1.—For erection of clubhouse at Mossley. Mr. Tom Cook, architect, 39 Victoria Buildings, Manchester.

MARYPORT.—Feb. 2.—For alterations and additions to premises in Senhouse Street. Mr. C. Eaglesfield, architect, Maryport.

NELSON.—Feb. 6.—For alteration and additions to the Zion Baptist School Chapel, Elizabeth Street. Mr. Harry Whitaker, architect, 21 Market Square, Nelson.

NEWCASTLE (CO. DOWN).—Jan. 31.—For erection of a vicarage, for the Trustees of St. John's Church. Mr. John Russell, architect, 16 Waring Street, Belfast.

NEWCASTLE-UPON-TYNE.—Feb. 6.—For alterations and additions to Spital Tongues School. Mr. W. Lister Newcombe, architect, 89 Pilgrim Street, Newcastle-upon-Tyne.

NEW ROSS.—For erection of a billiard-room in connection with the New Ross Club. Mr. J. S. Power, hon. secretary, New Ross.

NORMANTON-BY-DERBY.—Feb. 6.—For alterations and additions at the schools. Messrs. Naylor & Sale, architects, Iron Gate, Derby.

NORTHALLERTON.—Jan. 30.—For erection of a shed, and alterations to and drainage of buildings. Mr. Wm. Fowle, clerk, Northallerton.

NORTHALLERTON.—Jan. 31.—For erection of bathroom, bath and hot and cold water supply at the workhouse, Northallerton. Messrs. Fairbank & Son, 13 Lendal, York.

PERTH.—For erection of offices at corner of Tay and High Streets, Perth, for the General Accident Assurance Corporation, Limited. Mr. George P. K. Young, architect, 42 Tay Street, Perth.

PETERBOROUGH.—For erection of two houses, butcher's shop, stables, &c., in Vergette Street. Mr. Hall, architect, Huntley Grove, Peterborough.

PRUDHOE-ON-TYNE.—Jan. 31.—For rebuilding the Dr. Syntax Hotel. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle.

RICHMOND.—Feb. 2.—For erection of additional dwellings under the Housing of the Working Classes Act, for the Town Council. The Borough Surveyor, Town Hall, Richmond.

RIPPONDEN.—Jan. 31.—For erection of a fireproof mill adjoining the present mills at Ripponden. Messrs. Richard Horsfall & Son, architects, 22A Commercial Street, Halifax.

ROCHDALE.—Jan. 31.—For alteration of the dressing-boxes in the Rochdale Baths. Mr. S. S. Platt, borough surveyor, Town Hall, Rochdale.

SALFORD.—Feb. 9.—For construction of retaining walls and embayment to canal abutting upon the Lancashire and Yorkshire Railway and the Manchester, Bury and Bolton Canal. Mr. John Holt, C.E., 6 St. Mary's Gate, Manchester.

SALFORD.—Feb. 7.—For erection of a public hall, library, &c., at King Street, Irlams-o'-th'-Height. Mr. B. C. P. Heywood, architect, Town Hall, Salford.

SALISBURY.—Feb. 2.—For erection of railway hotel and stables at Porton. Messrs. John Harding & Son, architects, 58 High Street, Salisbury.

SCOTLAND.—Feb. 9.—For erection of New Free Church at Tayvallich. Mr. Neil Gillies, architect, Lochgilphead.

SLIGO.—Feb. 9.—For alterations and additions for a new surgery at the County Infirmary. Mr. W. T. Vernon, registrar, Board Room, Sligo.

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STOWMARKET.—Jan. 31.—For alterations and additions to a house in Cemetery Lane. Mr. Henry Geo. Bishop, architect, Cheapside, Stowmarket.

SWANSEA.—Feb. 1.—For erection of power-house, stack and offices, for the British Electric Traction Company, Limited. Messrs. J. P. Jones & Rowlands, architects, 58 Wind Street, Swansea.

SWINDON.—Jan. 30.—For alterations at the workhouse, Stratton St. Margaret. Mr. O. Kimber, architect, 64 Exmouth Street, New Swindon.

SWINDON.—Feb. 11.—For pulling-down and rebuilding the Foresters' Arms inn and adjoining house in Fleet Street, New Swindon. Messrs. William Drew & Sons, architects, 22 Victoria Street, Swindon.

ULVERSTON.—Jan. 30.—For erection of a villa residence in Kilner's Park. Messrs. Settle & Farmers, architects, Ulverston.

WALES.—Jan. 30.—For erection of an additional classroom (to accommodate fifty children) and other works at the Board Schools, Ynysddu, Mon. Messrs. Rosser & Roberts, architects, Abercarn.

WALES.—Feb. 1.—For erection of warehouse and other alterations to premises at Williamstown, near Penygraig. Messrs. James & Morgan, architects, Charles Street Chambers, Cardiff.

WALES.—Feb. 3.—For rebuilding the Allen's Arms, Mountain Ash. Mr. Geo. Kenshole, Duffryn House, Ystrad Mynach.

WALTHAMSTOW.—For erection of twenty houses in Brookfield Avenue, Sherne Hall Street, Wood Street. The People's Land, Building and Dwellings Company, Limited, Offices, 5 Adelaide Place, London Bridge, E.C.

WHITBY.—Feb. 3.—For erection of two ashpits at Sandsend. Mr. John Jackson, inspector of nuisances, East Row, near Whitby.

WILTON (WILTS).—Feb. 6.—For alterations to the sick and children's wards at the Wilton Workhouse. Messrs. John Harding & Son, architects, 58 High Street, Salisbury.

WIMBLEDON.—Feb. 13.—For erection of isolation hospital, to include three ward blocks, administrative block, cottage, receiving and discharging block, laundry and disinfecting station and mortuary, on site off Gap Road. Mr. C. H. Cooper, surveyor, Council Offices, Broadway, Wimbledon.

WINDERMERE.—Feb. 7.—For erection of a bridge over the river Troutbeck, near Troutbeck Church. Mr. Joseph Bintley, county surveyor, 7 Lowther Street, Kendal.

WEST HAMPSTEAD.—Feb. 4.—For erection of school. Mr. Henry Stock, architect, 9 Denman Street, London Bridge, S.E.

WORTHING.—For erection of a mineral water factory. Messrs. Clayton & Black, architects, 152 North Street, Brighton.

WREXHAM.—For erection of a hotel at the corner of Regent Street and King Street. Mr. Walter Slater, architect, 8A High Street, Wrexham.

YORK.—Feb. 2.—For erection of fire-escape staircases and other works in connection therewith at the workhouse. Messrs. Penty & Penty, architects, Lendal Chambers, York.

YORK.—Feb. 10.—For erection of a fence wall, railing and gates in Kent Street, near the cattle market. Mr. A. Creer, city engineer, Guildhall.

CARDIFF NEW TOWN HALL.

ON Friday last a special meeting of the town hall committee of the Cardiff Corporation was held at the Town Hall, Alderman Ramsdale being in the chair. Mr. Lanchester, one of the architects of the new Town Hall, was present, and the revised plans for the new Town Hall were discussed. They show several rather important alterations. The elevation of the main building has been raised 6 feet, an alteration which has the effect of bringing the whole into much better proportion. The front elevation shows an increase in width of some 20 feet, which thus allows of the addition of several small rooms inside. These alterations, however, will necessitate an additional expenditure of 30,000*l.* to that decided upon in the first instance. Councillor Veall called attention to the fact that in the Law Courts a room had not been set apart for the use of members of the Press. The architect said that there was one more consultation-room than was needed. On the motion of the chairman it was resolved unanimously that one of the rooms marked in the plan "consultation-room" be set apart for the use of representatives of the Press. The amended plans were adopted on the motion of Alderman D. Jones.

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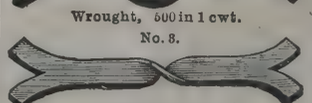
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BARNSTAPLE.

For alterations and additions to a house in Bear Street, and for erection of stables, carriage-house, &c. Mr. ARNOLD THORNE, architect, 16 Cross Street, Barnstaple.

Slee & Sillifant	£962 0 0
Sankers & Karslake	868 0 0
Karslake & Tucker	853 0 0
W. COOKE, Barnstaple (*accepted*)	850 0 0
H. Burgess	819 10 0

BISHOP AUCKLAND.

For providing and fixing sewer ventilating shafts at Coundon. Mr. C. JOHNSTON, surveyor.

P. Frater	£66 0 0
G. H. Bell	58 5 0
G. HETHERINGTON, Coundon (*accepted*)	46 18 0

BLACKBURN.

For excavating, forming and paving Grace Street, Calder Street, Baywood Street, Vauxhall Street, Broomfield Place and St. Silas's Road. Mr. W. STUBBS, borough engineer.

Accepted tenders.

G. Chadwick, 10 Clarendon Road, Blackburn, Calder Street and Grace Street.

Chadwick Bros., Chorlton Street, Baywood Street.

J. Eddleston, Lower Bencock, Pleasington, near Blackburn, Vauxhall Street and Broomfield Place.

BOURNEMOUTH.

For making-up the existing part and the proposed continuation of Braidley Road. Mr. F. W. Lacey, borough engineer.

G. Troke	£715 0 0
GROUNDS & NEWTON, Bournemouth (*accepted*)	615 0 0

BRADFORD.

For erection of inland revenue offices.

J. W. Gill	£7,365 0 0
J. Moulson & Son	7,100 0 0
H. Birkby & Sons	6,590 0 0
W. Holdsworth	6,448 0 0
W. Farnish	6,373 0 0
C. MURGATROYD & SON, Idle (*accepted*)	6,050 0 0

CAMBRIDGE.

For repairs to roof of Corn Exchange, for the Town Council.

GREEF (*accepted*)	£321 12 0

EAST HAM.

For erection of four shops, Upton Lane. Messrs. BOWIE & BARRETT, architects.

W. W. Norton	£3,569 0 0
J. Riley	2,286 7 0
Geo. Sharpe	2,145 0 0
W. Perryman	2,110 0 0
J. R. CORDELL (*accepted*)	1,899 17 0

EDGBASTON.

For villa residence, Poplar Avenue, for Mr. J. Wentworth. Messrs. BAILEY & MCCONNAL, architects, Bridge Street, Walsall.

J. Rollason	£1,565 0 0
W. Hopkins	1,480 0 0
Whitehouse & Sons	1,449 0 0
J. W. Smith	1,420 0 0
G. H. Marshall	1,397 0 0
E. J. Charles	1,397 0 0
J. Hailey & Sons	1,360 0 0
Walton Bros.	1,348 0 0
J. MALLIN, West Bromwich (*accepted*)	1,330 0 0

FORRES.

For erection of two semi-detached villas on the Sanquhar Estate, for the Forres Building Company, Limited. Mr. JOHN FORREST, architect, Forres, N.B.

Accepted tenders.

John Mackenzie, Forres, mason.
James Robertson, Forres, carpenter.
Alex. Forbes, Forres, slater.
Angus & Ross, Forres, plasterer and tiler.
Wm. Munro & Son, Forres, plumber and gasfitter.
James Robertson, Forres, painter and glazier.
Wm. Smith & Son, Forres, railings, &c.
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GLASGOW.

For erection of winter garden at Springburn Park.

SIMPSON & FARMER (*accepted*)	£9,300 10 0

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HANWELL.

For erection of a block of school buildings and appurtenances for infants, Cuckoo Lane, Hanwell. Messrs. J. T. NEWMAN & JACQUES, architects, 2 Fen Court, London, E.C.

Hearle & Farrow	£6,597 0 0
F. J. Shopland	6,229 0 0
Battley, Son & Holness	6,024 0 0
G. H. Gibson	6,022 0 0
Stimpson & Co.	5,930 0 0
F. Nye	5,793 0 0
F. J. COXHEAD, Leytonstone (*accepted*)	5,489 0 0
H. Flint	5,433 0 0

HUDDERSFIELD.

For erection of twelve dwelling-houses at Calmlands, Meltham. Mr. J. BERRY, architect, 9 Queen Street, Huddersfield.

Accepted tenders.

J. Earnshaw & Son, Helmet, Meltham, mason.
Garlick Bros., Meltham, joiner.
J. W. Kaye, Meltham, plumber.
J. Wilkinson & Sons, Meltham, plasterer and slater.
J. Preston & Sons, Town Bottom, Meltham, painter.
J. Cooke, Little Royd, Huddersfield, concretor.
Total, £2,880.

LEAMINGTON.

For providing and laying about 4,000 yards super of tar pavement and 1,300 yards lineal of kerb and channelling. Mr. W. de Normanville, engineer, Town Hall, Leamington.

J. Biggs	£1,181 6 0
W. Shepherd	940 14 8
MCCARTHY & Co., Coventry (*accepted*)	854 10 9

LEEDS.

For pulling down and rebuilding boundary walls in Old Park Road, Roundhay. Mr. E. J. SILCOCK, engineer, 10 Park Row, Leeds.

S. Ross	£400 0 0
J. White & Son	335 9 0
A. M. Child	311 18 6
C. Wilson	250 0 0
J. Bentley	180 0 0
B. Proctor	165 0 0
G. NETTLETON & SONS, Leeds (*accepted*)	151 0 0

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For erection of county schools.

J. MAIRS, Chester (*accepted*)	£2,669 12 0

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C. W. Knight	£175 0 0
G. Foxley	97 0 0
Warburton & Goldring	89 0 0
S. Dunn	88 0 0
Belham Bros.	85 10 0
Johnson & Manners	79 10 0
Johnson & Co., Limited	75 10 0
M. PEARSON (*accepted*)	56 10 0

For repairing, alteration and extension of blacksmiths' shop (Contract No. 4) at London Yard, Cubitt Town, E., for Messrs. Yarrow & Co., Limited, torpedo-boat manufacturers. Messrs. BRADSHAW BROWN & Co., architects and surveyors, Billiter Square Buildings, E.C.

T. H. Jackson	£4,655 0 0
Harris & Wardrop	3,969 0 0
Dove Bros.	3,755 0 0
F. G. Minter	3,700 0 0
CHAFEN & NEWMAN (*accepted*)	3,638 0 0

SCOTLAND.

For erection of shops, stores, &c., in connection with the contract for new docks at Grangemouth.

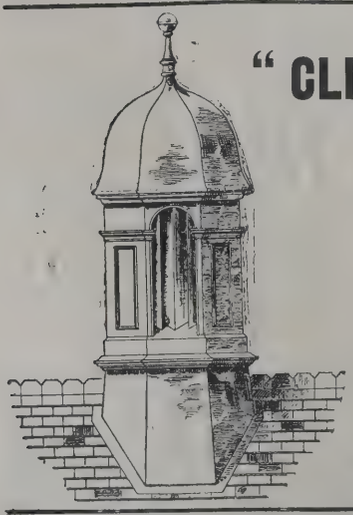
W. WALKER, Polmoret (*accepted*)	£85 0 0

STREATHAM.

For erection of a new wing (entertainment hall and further accommodation for patients and staff) at the British Home for Incurables. Mr. E. T. HALL, architect, 57 Moorgate Street, E.C.

Foster & Dicksee, Rugby	£8,270 0 0
Woodward & Co., Finsbury	7,983 0 0
Cubitt & Co., Gray's Inn Road, W.C.	7,917 0 0
Lawrance & Son, City Road	7,800 0 0
Lovatt, Wolverhampton	7,782 0 0
Bulled & Co., Croydon	7,594 0 0
Johnson & Co., Wandsworth Common, S.W.	7,585 0 0
Higgs & Hill, South Lambeth Road	7,584 0 0
MARRIAGE & Co., Croydon (*accepted*)	6,950 0 0

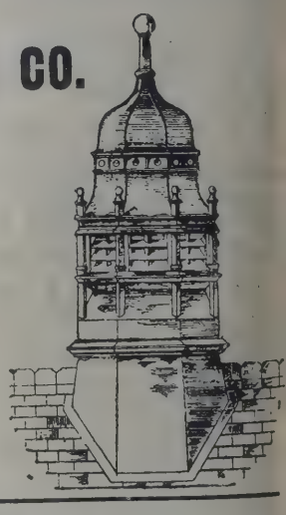
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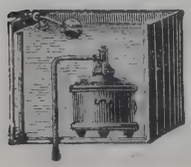
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C. W. Killingback & Co.	2,871 10 3
Lawrence & Thacker	2,296 11 2
S. Kavanagh	2,182 15 0
J. NICHOLAS, Surbiton (*accepted*)	1,955 13 10
Surveyor's estimate	1,954 15 10

WALSALL.

For extension to Metropolitan Bank of England and Wales. Messrs. BAILEY & MCCONNAL, architects, Bridge Street, Walsall.

W. & J. Webb	£6,550 0 0
J. L. Jones	6,250 0 0
Harley & Son	6,150 0 0
T. Rowbotham	6,075 0 0
H. Willcock & Co.	6,037 0 0
W. Wistance	5,997 0 0
J. Moffat & Sons	5,794 0 0
W. Sapcote & Sons	5,678 0 0
J. Mallin	5,250 0 0
W. HOPKINS, Birmingham (*accepted*)	4,990 0 0

For extensions to premises, George Street, for Messrs. J. Shannon & Son, Limited. Messrs. BAILEY & MCCONNAL, architects, Bridge Street, Walsall.

T. Tildesley	£10,000 0 0
T. Rowbotham	9,994 0 0
J. Harley & Son	9,975 0 0
W. & J. Webb	9,936 0 0
H. Willcock & Co.	9,856 0 0
W. Sapcote & Sons	9,333 0 0
W. Wistance	9,157 0 0
E. Giles & Son	9,150 0 0
W. Brown & Son	9,106 0 0
J. W. Smith	9,000 0 0
C. Gray Hill	8,936 0 0
Smith & Pitts	8,900 0 0
J. Mallin	8,850 0 0
L. Jones	8,832 0 0
R. M. Hughes	8,671 0 0
J. Dallow	8,450 0 0
W. HOPKINS, Birmingham (*accepted*)	8,440 0 0

WALES.

For erection of laundry and disinfecting block, discharging and mortuary block and stables for new isolation hospital at Ystrad, Rhondda Valley. Mr. W. D. MORGAN, architect, 23 St. Mary Street, Cardiff.

A. Richards.	£2,051 18 11
W. E. Willis	1,920 9 10
T. Maggs.	1,708 3 0
C. Jenkins & Sons	1,668 6 6
D. Thomas & Co.	1,655 0 0
Morgan Bros.	1,615 19 8
W. Williams	1,475 0 0

WALTON-ON-THAMES.

For making-up of Winchester, Highfield and Churchfield Roads.

T. Adams	£898 0 0
Free & Sons	877 0 0
Free Bros.	833 0 0
G. HEBBURN, Hersham (*accepted*)	662 0 0

WARWICK.

For converting buildings into bathroom and lavatories at the workhouse. Mr. FRANCIS P. TREPESS, architect, 8 Jury Street, Warwick.

E. Talliss	£189 10 0
A. & J. Chaplin	187 0 0
J. H. & J. Cashmore	185 15 0
B. Atkins	178 10 0
J. RILEY, Warwick (*accepted*)	170 0 0

WATFORD.

For providing and laying about 1,000 lineal yards of 12-inch by 6-inch Norwegian granite kerbstones, and about 1,000 lineal yards of 12-inch by 6-inch Norwegian granite channel stones, and about 80 square yards granite setts, and laying about 2,000 yards of concrete paving slabs. Mr. D. WATERHOUSE, borough engineer.

Nowell & Co.	£1,452 6 0
G. R. Mann	1,436 12 10
Bracey & Clark	1,412 13 0
F. DUPONT, Watford (*accepted*)	1,375 18 9

T. FALDO, SOMERSET WHARF, 283, 285 ROTHERHITHE ST., London, S.E.

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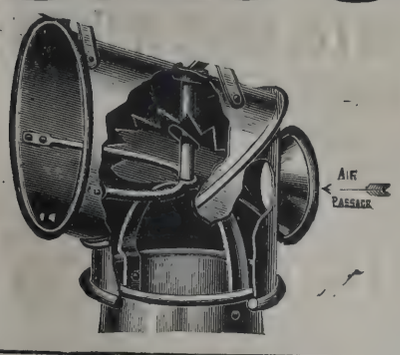
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NEW CATALOGUE.

WE have received a copy of the new 1899 Catalogue issued by the Thornton-Pickard Manufacturing Company, Limited, which is in every respect worthy of the high reputation this company enjoys for first-class work. Amongst the many excellent appliances referred to, we notice mention of a new "Ruby" convertible lens, new luggage carrier, new "Ruby" cameras in the quarter-plate and 5 by 4 sizes, as well as improvements in the plate-holders. The catalogue is profusely illustrated by reproductions of many of the photographs which secured prizes in the recent competition held by the company; and, doubtless, the 25,000 dealers, professionals and amateurs, to whom we understand the catalogue is posted every year, will consider this to be one of the good things that come to them gratuitously through the post, and which is worth preserving for handy reference.

ELECTRIC NOTES.

AT a meeting of the Grimsby Town Council last week, it was decided to apply to the Local Government Board for consent to borrow 43,500*l.* for the carrying out of necessary works for the production and supply of electric light and power in the borough.

PROFESSOR RAY LANKESTER, director of the Natural History Department of the British Museum, South Kensington, writes to the *Times* that arrangements have been made by the trustees for the supply of electric lighting to the Museum. The electric light will be gradually introduced into the various parts of the large building—first of all into the offices and studies of the staff and the workshops in the basement, then into the various public galleries.

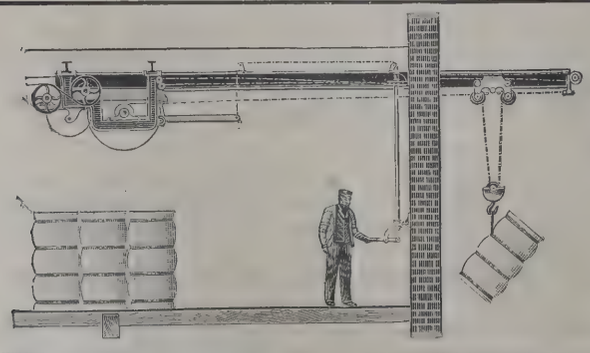
IT is stated that the promoters of the two Lancashire electricity schemes intend to ask the assent of the Standing Orders Committee to the suspension of the Orders. Even if the committee decides against them, they can proceed with regard to the other districts which have not opposed at the preliminary stage. Members of Parliament are being actively canvassed to support the second reading of all the measures, and to let the matters at issue be fought out in committee, and both promoters and opponents express the utmost confidence at the result. About 700 different places in Lancashire and Cheshire are still affected by the mutilated measure.

AT a special meeting of the Burgh Commissioners of Fort William held last week the following resolutions were carried:—That the establishment of industrial undertakings throughout the Highlands of Scotland by utilising the vast water power at present lost for the development of electrical power ought to be supported by all desirous of seeing the Highlands again peopled, and that under more prosperous conditions; that if the Highland Water Power Bill at present before Parliament be passed, permanent employment will be given to hundreds of people who are at present compelled to leave the country to seek employment in other lands; and this meeting, realising the importance of the scheme from that point of view, resolves in every way to support the Bill; and that the meeting earnestly hopes the whole of the proprietors of the lands concerned will give the scheme their hearty support, as it must not only be beneficial to the district but also to the whole of the Highlands; that the meeting is convinced that this scheme is the pioneer of many other similar schemes, and that therefore it is not merely of importance to the Highlands of Scotland, but of national importance that the Bill should be passed.

IN the Manchester Town Hall on Tuesday a meeting was held of the executive committee which was appointed at the recent conference of municipal corporations in Lancashire and Cheshire on the subject of the proposed Electric Power Bills. The chair was taken by the Lord Mayor (Mr. W. H. Vaudrey), and the Corporations of Liverpool, Manchester, Salford, Oldham, Blackburn, Bolton, St. Helens, Stockport, Bury, Wigan, Southport and Chester were represented. It was resolved that communications should be made with all the municipal corporations in the area of the conference, urging them to adopt resolutions for opposing the second reading of the following bills:—General Power Distributing Company, Lancashire Electric Power Company, South Lancashire and Cheshire Electricity Company, Leicestershire and Warwickshire Electric Supply Company, and the Midland Electric Power Distribution and Lighting Provisional Order. It was also decided to ask the Corporations concerned to affix their seals to a petition against the Lancashire Electric and South Lancashire and Cheshire Bills, and that the secretary of the Association of Municipal Corporations be authorised to act as the Parliamentary agent of the conference.

THE Lancashire Electric Power Company's Bill was before one of the examiners of proofs of compliance with standing orders in the House of Commons on Tuesday. Petitions had been lodged against it by the Warrington Corporation and the

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FOR INSTALLATIONS OF
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ELECTRIC POWER,
ELECTRIC VENTILATORS.
Estimates Gratis.

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Ormskirk, Lathom, Burscough, Stretford and Dunkinfield Urban District Councils, alleging that standing orders had not been complied with. By the measure it is proposed to obtain powers to supply electricity for all purposes over an area practically covering the whole area of Lancashire south of the Ribble, and only omitting a very small portion on the Yorkshire border, where there is no population. The area also extends into Cheshire as far as the estuary of the Dee. The boundary then branches off directly east to the estuary of the Mersey, and in a rather zigzag fashion to Macclesfield, which borough is also included. The examiner decided that standing orders had not been complied with, the promoters having in their notice referred to a map instead of describing the area of supply.

A BILL to provide for a central electrical generating station for the supply of electricity within certain portions of Leicestershire, Warwickshire and Derbyshire has been deposited for introduction into Parliament next session. The Bill proposes to incorporate and confer powers upon the Leicestershire and Warwickshire Electric Supply Company to acquire about 35½ acres of land at Hinckley, in Leicestershire, on which to erect a huge generating station for the distributing of electricity direct from the company or in bulk to any Corporation within their area of supply, "provided that notwithstanding anything shown upon the deposited map this company shall not supply any part of the county of Nottingham." The share and loan capital of the company is to be 1,000,000*l.*, of which 250,000*l.* may be raised on mortgage. The profits of the company are to be fixed at 10 per cent., but subject to an increase of 5*s.* per cent. for every one-tenth of a penny per unit at which the "energy" may be supplied below the standard price of 2½*d.* per unit. The Bill further provides that "Nothing in this Act shall be construed to confer upon the company the exclusive right to supply energy within the area of supply, or to hinder or restrict any other body, company, or person from supplying or increasing their present supply of energy within the said area, nor shall the company at any time hereafter by reason of any competitive supply be entitled to any compensation for alleged vested interest in respect of any of the powers conferred upon them by this Act."

IT is proposed to erect a Sunday school in connection with the Ebenezer Congregational Church, West Bromwich, at an estimated cost of 2,500*l.*

BUILDING AND BUILDERS.

THE Grimsby Town Council decided at a meeting held last week to accept the tender of Messrs. Hewins & Goodhand to carry out drainage work in Eastgate for 460*l.* 8*s.*

CONTRACTS for the building of a large new hotel in Guild Street, Aberdeen, adjoining the offices of the Great North of Scotland Railway, have been accepted. The hotel will cost over 12,000*l.*

THE erection of the chancel to Holy Trinity Church, Aberystwyth, will be completed by May, when it will be consecrated by the Bishop of St. David's. The cost of the chancel will amount to about 2,400*l.*

THE Church people of Blaenau-Festiniog, Merionethshire, are making a great effort in the way of Church extension. There are at present in this parish of 13,000 inhabitants two churches and two chapels of ease, but the parish church is quite unworthy of its name. It is intended to entirely rebuild the latter, and erect a vicarage and a church house, at an estimated expenditure of 6,000*l.*

AN alarming escape from instant death has occurred to a Leeds plumber. The man for the past few days has been engaged upon a house in course of construction off Johnson Street, and slipped on the roof-board. He slid down the slates with great rapidity, and fell a distance of more than 30 feet. Below was a large tank containing several feet of freshly washed lime. The man plumped head first into the mess, which was splashed half-way up the side of the building. When hauled out he was found to have been badly burned about the face, and particularly the eyes, but beyond that and the shock he was apparently uninjured.

AN old workman named Alfred Crowther, while repairing the roof of the Rev. R. J. Campbell's church in Queen Square, Brighton, last week fell some 20 feet to the ground. He was picked up unconscious, and on being taken to the hospital was found to have sustained injuries to his chest and ribs, necessitating his detention.

THE School Board are about to erect schools in Earle Road, Wavertree, for the requirements of the district, and the provision of a public clock in the building has been suggested. The site is in the centre of a very large area which is at present without a public timepiece nearer than the Picton clock or Edgehill Church. Colonel Morrison, vice-chairman of the Board, has interested himself in the matter, and it is

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Chief Office and Works:—GAINSBOROUGH ROAD, VICTORIA PARK, LONDON, N.E.

to be brought before the building and sites committee at the next meeting.

THE scheme to extend Leith Hospital in commemoration of the Queen's Diamond Jubilee is likely to take practical shape in the course of a few months. The directors of the hospital have now matured a scheme to meet the views of the commemoration scheme committee. The extension is to take the form of an addition to the King Street pavilion, whereby the wards in the south end will be incorporated into the new building, and the present ward of six beds on each flat will be made wards of twenty beds. Day-rooms, bath and lavatory accommodation and lifts will be provided at the ends of the wards. The present north wards will be utilised for the administrative offices, doctors' and nurses'-rooms, kitchen, &c., of the new wards. The extension will allow of an increase of twenty-seven beds in the King Street pavilion, and on completion the hospital will contain in all 102 beds, besides three isolation-rooms. The elevation of the building shows a frontage to King Street on the lines of the existing elevation to that street, but it is treated in a less severe style, and terminates with an ornamental gable and oriel window, with balustrading. For some time past the kitchen and laundry accommodation and nurses'-rooms have been found insufficient for the requirements of the hospital, and the need for new buildings for these purposes has also occupied the attention of the board of directors. The proposal to increase the number of beds has brought the question to a point, as without such isolated administrative accommodation the extension proposed could not be utilised. The kitchen was originally constructed for a hospital of forty beds. Fortunately, the directors secured, a few years ago, ground on the other side of King Street, opposite the hospital, more with a view to preserving the amenity of the buildings than for extension purposes, but the ground has been found to be of value, and it is now proposed to erect on it a new kitchen, laundry and nurses' home. Plant for steam-power will be put down for the kitchen and laundry, and it is intended to provide an installation of the electric light and motive power for lifts, &c. The nurses' home will provide accommodation for nearly thirty nurses. The buildings will be connected with the hospital by a subway under King Street, permission to construct which has been granted by the Town Council. The total cost of the new buildings, including machinery and plant, is estimated at between 17,000*l.* and 20,000*l.* The plans have been prepared by Mr. W. N. Thomson, architect, Leith.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: FROM THE PRECINCTS. GALILEE, LOOKING SOUTH-EAST. VAULTING, CHAPEL OF "NINE ALTARS."

KENSINGTON HOUSE, KENSINGTON COURT.

"LANGLEY," WEST HILL, PUTNEY HEATH, S.W.: FRONT VIEW. GARDEN VIEW.

TRADE NOTES.

THE new Board schools, Ferrybridge, are being warmed and ventilated by means of Shorland's patent Manchester grates.

IN the ventilation of the Cunningham Memorial Free Church, Glasgow, now in course of erection (Messrs. H. & D. Barclay, architects), Cousland's "Improved Climax" patent direct-acting invisible roof ventilators are being used, supplied by the Climax Ventilating and Heating Company, 93 Hope Street, Glasgow.

THE following buildings are being ventilated throughout on the "Grahtryx" system of ventilation by the well-known firm of ventilating and heating engineers, the Grahtryx Ventilating and Engineering Company, Limited (successors to Baird, Thompson and Co., Limited), 23 Sutterton Street, Caledonian Road, London, N., and at Glasgow. The new schools, Blackford, Wedmore, near Weston-super-Mare; Emmanuel Church, Little Drayton; Penygroes Congregational Chapel; and Muswell Hill Congregation Church.

THE public hall which Lord Pirbright is generously erecting at Pirbright for the use and recreation of the inhabitants will stand in the centre of the village, adjoining the fountain which he gave in commemoration of Her Majesty's Jubilee. The hall will be erected in red brick, and will measure 60 feet by 30 feet, and 22 feet in height. It will be panelled in oak, and the flooring will be of the same wood. There will be a sliding partition in the centre, making two square rooms when the entire hall is not required. There will also be two smaller rooms, measuring 15 feet by 10 feet each, one to be fitted with a cooking-range, the other with a lavatory.

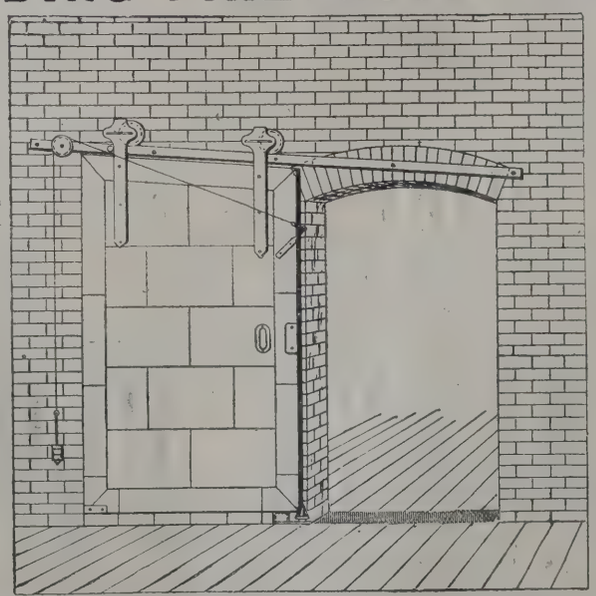
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The door we fitted in these works, although subjected to a heat intense enough to melt brass taps and fittings near it, withstood the heat perfectly, and can now be inspected at our works in Manchester, fit for duty. The metal sheets have expanded without becoming detached, whilst the wood is simply charred to a depth of about ⅛ of an inch.

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VARIETIES.

A KURSAAL on the continental plan is to be erected at Folkestone. It will be built in a sheltered position under the cliffs, with a road leading down from the famous Leas.

THE building operations at Hertford House are fast approaching completion owing to the mild winter and absence of frost, and it is hoped that most of the Wallace collection bequeathed to the nation will be on view this summer.

THE new Union Infirmary at Wakefield was opened on the 19th inst. The building, which also includes a laundry, adjoins the workhouse. It has been fitted with all the latest improvements, and the estimated cost is 37,000*l.*

AT the monthly meeting of the Mytholmroyd Urban Council it was resolved to apply to the Local Government Board for powers to borrow 12,423*l.* for the carrying out of the proposed sewerage scheme. This does not include the cost of the outfall works.

THE new bridge (erected on the site of an older structure), which spans the Don at the bottom of Marchgate, and connects Doncaster with the country, was opened on the 19th inst. The new bridge is 12 feet wider than the old one, and the watercourse has been increased by one-third.

THE Queen is to visit Ryde for the purpose of formally opening the new Diamond Jubilee Wing of the Isle of Wight County Hospital on Wednesday, February 8. Her Majesty will be accompanied by Princess Beatrice and by the members of the household in waiting.

INVERUGIE CASTLE, Peterhead, the home of the Earls Marischal, and one of the old historic ruins of Scotland, has had to be pulled down, it having been rendered dangerous by the recent storm. The structure dates as far back as 1380, and part of it was even of earlier origin.

ANOTHER misfortune has befallen the parish church of St. Nicholas, Strood. At Christmas the tower was burned out and the turret and bells destroyed. During the recent gale, in the early morning, a portion of the tower was blown down. A heavy piece of masonry crashed through the roof and fell on the floor of the church, narrowly missing the font.

THE second portion of the scheme for the interior decoration of St. Andrew's parish church, Halstead, Essex, has just been completed. The north chancel wall has been painted and decorated with an elaborate diaper and appropriate texts; also a large-sized painting of a figure of David, standing under a canopy in the fifteenth-century style. The south wall has been treated in a corresponding manner. The fine oak roof has been partially gilded, and the chancel arch has been redecorated with elaborate monograms and emblems of the patron saint.

THE new bridge erected over the Cart at Millbrae, between Glasgow and the district of Newlands, at a cost of 4,353*l.*, by the Corporation of Glasgow and the County Council of Renfrewshire jointly, was opened on the 20th inst. for traffic. The bridge is of one span, of Locharbriggs sandstone, with the facing of the arch and the parapets in grey granite, and a width between the parapets of 50 feet.

IT is intended to construct a tunnel through the Quirinal, Rome, a measure which is shortly to be accomplished under the all-embracing formula of municipal improvement. The Quirinal Tunnel is to be about 20 yards wide, and will serve as a thoroughfare for pedestrians, carriages and a new electric tram line. The execution of the work will, it is estimated, take some seven months to accomplish, and the municipality of Rome will place it in the hands of private contract. The Quirinal Tunnel is not to be a horizontal cutting; it will have an ascent through the Quirinal Hill to the higher ground of the Viminal and the Esquiline, uniting by tramroad and footpath the higher parts of Rome with the town districts lying in the plain. The new Quirinal electric tramway will start from outside to Porta del Popolo to the north of the Imperial City and end at the Porta San Giovanni in the south.

HOUSE REMOVALS IN AMERICA.

AN extraordinary piece of house-moving was successfully carried out in New York a few days ago, says the *American Architect*. In consequence of the widening of a street it was necessary to remove a block of four five-storey brick houses. The street was to be increased in width 40 feet on each side, and the most available new lot to set the houses on was at some little distance, so that it was necessary to transport them 115 feet; but the only alternative was to pull them down entirely, and as they cost 64,000 dols. to build, the owner decided to take the risk of trying to move them. Under the direction of a clever architect, a plan was devised for transferring them on greased ways, instead of the usual rollers, and the scheme was carried out with complete success. The first step was to insert 375 jack-screws successively in

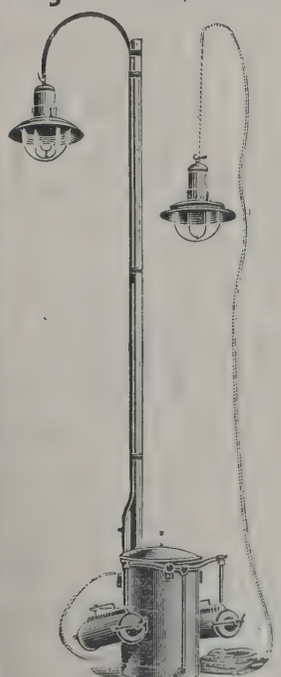
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openings made for the purpose in the foundation walls. By means of the jack-screws the whole block was then raised 4 feet, and the ways, of heavy timber, well lubricated with soap, were placed beneath, and the houses lowered upon them. As soon as the weight rested firmly on the ways the jack-screws were taken out and applied to pushing the building laterally. In this way the block was pushed back 40 feet. The ways were then shifted to a position at right angles with their former direction, and the houses pushed 75 feet in the new direction, until they reached the new foundations which had already been built to receive them. It was then an easy task to lower the block on the new foundation walls, reconnect pipes and flues, and make the houses ready for occupancy. It is said that the work was done without causing a single crack in any of the houses, and, as the cost of the whole operation was only 10,000 dols., a considerable sum of money was saved. Although the celebrated moving of the seashore hotel on Long Island by means of a gang of locomotives was a more picturesque performance, it was hardly so serious as that of shifting a block of brick houses, and the operation attracted much attention. The inspector of buildings actually concluded that the experiment was too hazardous to be allowed, and ordered the work stopped before the moving had fairly begun, but an appeal was taken from his decision to the Supreme Court, and after six weeks' delay the Court reversed the inspector's action.

INLAND NAVIGATION IN ENGLAND.*

IN all the countries which have been considered a considerable inland navigation traffic exists, but the large traffic is confined to certain waterways suitably situated for securing a large traffic in bulky goods. Also in all these countries, with the exception of England, after a period of indifference on the advent of railways, strenuous efforts have been made in recent years to improve, render uniform, and complete the main waterways of the country, thereby securing a benefit to the trade of the country, providing a useful automatic check on the railway rates, and serving to relieve the railways of somewhat burden some traffic.

* From the paper read by Mr. L. F. Vernon-Harcourt, C.E., at the meeting of the Society of Arts on the 18th.

In the early days of canal enterprise, the waterways of a country formed the chief routes of economical carriage, but on the introduction of railways the scope of waterways became necessarily restricted. Where the population is scattered and there is an absence of minerals or manufactures of bulky goods, and especially where the country is also somewhat rugged, a railway which can follow more nearly the irregularities of the surface, by gradients in place of level reaches, and can adopt a more direct course, serves more suitably the requirements of the district, and has better prospects of a return on the expenditure. Old waterways in such situations might advantageously be maintained, at a moderate cost, to serve the immediate district they traverse; but a large improvement of such waterways would not be economically justifiable.

In the present day, in face of the competition of railways, the primary requirement for a waterway is the existence of bulky goods which it may convey to large towns, or from inland mining or manufacturing centres to a seaport. Without such traffic a very commodious waterway will languish; whereas with minerals or bulky manufactures even a waterway of very inadequate width and depth may maintain a good traffic, as evidenced by the Birmingham, the Leeds and Liverpool, and other English canals. The second requisite to enable a waterway to compete successfully with railways and enlarge its traffic is uniformity of dimensions along the whole course of its main line, with a good depth and width and ample size of locks, so as to afford a passage for large barges, and expedite their transit. Great differences of level on a waterway are prejudicial to its prospects of traffic; for not only do such conditions greatly increase the cost of first construction and subsequent enlargement, but unless inclines are adopted, or costly hydraulic lifts, there is a great delay in the passage through flights of locks and a large expenditure of water. Canals, under these circumstances, which might be expected to form useful links between important navigations, fail to attract trade—such, for instance, as the Ludwig Canal, connecting the Rhine and the Danube; whilst a second-class waterway, with a more moderate summit-level, may be preferred to a first-class waterway, as in the case of the Loire lateral Canal, which secures the greater part of the traffic between the Saône and the Seine, though there is a shorter and larger waterway by the Bourgogne Canal. Every improvement in the main waterways of Germany has been accompanied by a large increase in traffic; and the enlargement, extension and progress towards uniformity of

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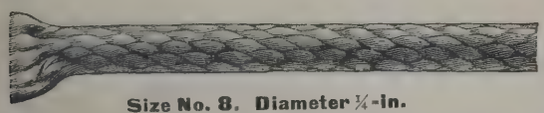
the main lines in France and Belgium has been attended by a remarkable growth of traffic.

The experience gained from a review of the traffic returns of all the countries for which such statistics are available shows that the improvement and unification of dimensions of English waterways should be confined to those waterways included within the zone of the mining and manufacturing centres, or leading from them to the Mersey, the Humber, the Thames and the Severn. These waterways should form the subject of a careful and thorough inquiry, in order that the improvements needed, their extent and their cost may be accurately ascertained as portions in each case of a complete scheme. England does not possess the magnificent natural waterways of North America, the large rivers of Germany, or even opportunities for such long artificial waterways as France; but it possesses in an eminent degree the requisite traffic, within a limited region, in bulky goods, which even the neglect of about three-quarters of a century has not sufficed to drive away from its antiquated waterways; and it is evident that the enlargement of these waterways, if feasible within reasonable limits of expenditure, would even at this late period, judging by the experience of the Weaver, the Aire and Calder, and the principal waterways of Europe, be attended by most satisfactory results to the waterways themselves, the trade of the country and the population in general. If the future water-supply of London is considered of sufficient importance to engross the attention of two Royal Commissions, it cannot be too much to ask that a Commission may be appointed to hold an inquiry on the best means of promoting inland navigation in the industrial centres of England, a subject which has been considered worthy of the cordial support of the Governments in the other foremost countries of the world, and which has an important bearing on the trade of the country and the general prosperity of the community. In the meantime, considering that the statistics of the canals and navigations of the United Kingdom are already ten years old, are acknowledged to be incomplete, and do not afford any indication of the distribution of the traffic on the several waterways, the Board of Trade might be urged to collect a fresh set of complete statistics to assist the labours of the proposed Commission, to indicate the growth or decrease of traffic on the waterways since 1888, and to afford suitable statistics as to the distribution of traffic on the waterways, as furnished by the Governments of the United States, Germany, France and Belgium. Ways of communication are to a country like the arteries to the body; and the waterways which affect the central and most flourishing and industrial portion of England cannot, any more than the arteries near the heart, be suffered with impunity to be paralysed by neglect.

LEEDS BUILDERS' EXCHANGE CLUB.

THE seventh annual meeting of the Leeds Builders' Exchange Club was held on Wednesday evening, in the club rooms, Boar Lane. Mr. S. Blunt presided over a numerous gathering of members. The report contained the following:—"The finances of the club are still far from satisfactory. The fault lies not with the merchants connected with the club, who do their utmost for the welfare of the building trade in Leeds, but with the builders themselves, for whom your committee have done so much good. Anything appertaining to the building trade has been taken up by them in earnest, and they therefore ask for the support of every builder. During the year the Yorkshire Building Trades Federation has been put on a firm basis, and a branch has been formed in Leeds. The whole of the members of the club had been enrolled, and their subscriptions paid out of the funds of the club. All builders or builders' merchants who now became members of this club will be enrolled as members of the Federation, without additional cost of subscription. The objects of the Federation are well known by every business man, and the builders of Leeds will be able to appreciate the labours of the executive of the Federation in case of any unreasonable demands being made upon them by the various unions of workmen, or in case of a strike." There was a lengthy discussion on the report. Mr. W. Nicholson expressed the hope that the committee would be strengthened, and the club and its finances conducted in a more business-like spirit. He urged that the speculative builders should support the club better than they appeared to do. His desire was the welfare of the club and the trade, and the speculative builder was likely to be in a position during the present year to appreciate the benefit that combination would confer.

The chairman, replying to a question by Mr. Nicholson, said that, so far as his memory served him, they were not losing members to any considerable extent, and as a matter of fact the receipts during the past year had been greater than in 1897. The committee would be glad of guidance and assistance, and would welcome the co-operation of the Master Builders' Association.



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It was urged during further conversation that it was extremely important to get better premises for the club—premises which would afford them a good commercial room and committee-rooms for each section of the trade. It was also pointed out that in matters connected with the building by-laws the committee had done good work for the speculative builders. The report and balance-sheet were adopted.

The officers were then appointed as follows:—President, Mr. Wm. Bower; vice-presidents, Messrs. C. F. Wilkinson, W. H. Vickers, J. Matthews, George Burnell, and J. Wilby; committee, Messrs. E. Umpleby, W. Lolley, I. Rishworth, J. N. Smith, A. Wheater, A. Lambert, and W. Nicholson; treasurer, Mr. Arthur Mountain; secretary, Mr. J. Jackson; and auditor, Mr. F. A. Holdsworth, chartered accountant.

THE CARPENTERS' COMPANY.

A COURSE of lectures on matters connected with building will be given at Carpenters' Hall, London Wall, on Monday next and the four succeeding Mondays, at 8 o'clock. On January 30 the lecturer will be Mr. J. Mansergh, and the subject "The Bringing of Water to Birmingham from the Welsh Mountains." The Master of the Carpenters' Company will preside. On February 6, when Cardinal Vaughan will take the chair, Professor Banister Fletcher will lecture on "Ornament." On the 13th, under the presidency of Sir Arthur Arnold, Mr. Basil Mott will describe the building of an underground railway. On the 20th Professor Roger Smith will speak on "Terra-cotta, its Nature, History and Use." Mr. Walter Crane will preside. On the 27th Mr. William Poel, director of the Elizabethan Stage Society, will lecture on "English Playhouses in the Sixteenth, Seventeenth and Eighteenth Centuries" Sir Squire Bancroft will be the chairman. Each lecture will have lantern illustrations. Admission can be obtained gratuitously by ticket to be obtained at Carpenters' Hall.

SHREWSBURY AND DISTRICT MASTER BUILDERS' DINNER.

THE annual dinner of the Shrewsbury and District Master Builders' Association was held at the Lion Hotel, Shrewsbury, on Wednesday evening. The President, Mr. W. T. Williams, was in the chair, and the Vice-President, Mr. H. Price, in the vice-chair. Supporting the President were Alderman Blockley and Councillors J. Gethin and H. Farmer.

After the dinner the President proposed the loyal toasts, which were duly honoured, and Alderman Blockley proposed the health of the President and Vice-President, to which those gentlemen responded.

The toast of "The Visitors" was proposed by the Vice-Chairman, and responded to by Mr. H. Payne, Baschurch.

Mr. Rhys proposed "Success to the Shrewsbury Master Builders' Association."

The President, in reply, said though the Association had been in existence for a number of years, it was still practically in its infancy. They all knew the troubles and trials they had to contend with from their workmen, though he did not wish to say a word against their employés. The masters, however, had had some very hard battles to fight, and they could only win their battles by sticking together. They had had in that a great lesson from the recent strike of engineers. In some towns the master builders had to put up with great tyranny from the men, and were therefore bound to do something to protect themselves and the interests of their customers. Their erring brothers, he hoped, would come into the fold, and so help in securing fair play. As masters, they were quite willing to pay the men fair wages, and all they wanted in return was fair treatment. He considered their Association was deeply indebted to their secretary, Mr. C. E. Morris; for its present high position was in a great measure due to his exertions.

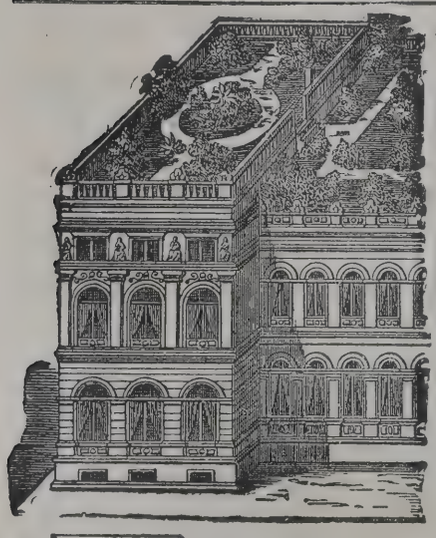
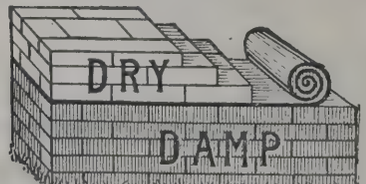
Mr. H. Mudd proposed the health of the hostess, and Mr. Jones, on Miss Rudkin's behalf, responded.

During the evening songs were contributed by Messrs. Charles Jones, R. Price, Alf. Morris, H. Mudd, Rhys and Harris. Messrs. F. J. Rowlands and Allen were the accompanists.

STREET HOARDINGS.

THE attention of the works and general purposes committee of the Vestry of St. Margaret and St. John, Westminster, having been called to the risks to which the public have been exposed during the recent high winds by reason of the excessive height to which hoardings upon the public highway are carried, the committee will bring the matter before the Vestry at its meeting on Wednesday. In their report on the subject the committee state that several cases have been brought to their notice in

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which hoardings were brought down and the débris carried about the public highway by the gale on the 12th inst. The licenses issued by the surveyor in certain of these cases properly limit the height, but the committee say they are informed that the limits prescribed are frequently disregarded by the licensees. They will submit a recommendation to the effect that it be a standing order of the Vestry that no hoarding upon or over the public highway be sanctioned under any circumstances of a greater height than 12 feet without the previous sanction of the works committee; that every hoarding be required to be surmounted by a sufficient "fan," of such width and at such angle as will insure the public safety, and that proceedings be forthwith taken against licensees in all cases of infringement of conditions and regulations upon which the licenses are granted.

THE DISPUTE IN THE BUILDING TRADE.

THE lapse of a few days has effected nothing in the way of improving the position in the building trade, writes a special correspondent of the *Times*, although it is, no doubt, true that the public realises more thoroughly than hitherto the main facts with which the employers of the eight classes of men employed in the building trade have long been sorrowfully familiar. It is now admitted and well known that the plasterers at the three establishments selected as fields of battle struck simply because their employers would not compel their foremen to become members of the National Association of Operative Plasterers. It is also notorious that this body, which will be called for the future the Plasterers' Union—the phrase is short and the word "operative" is likely to be inapplicable very soon—is a fiercely aggressive union addicted to narrow restriction of apprentices and audacious enough to fine employers who break union rules which they have had no share in enacting. It is also known that this strike, which was declared by the union officials, or some of them, is reprobated by those persons who are, as a rule, thick and thin supporters of strikers, and that the officials are said to have been forced into action against their wishes by their followers. If this be so, then, as the attempt to inaugurate a piecemeal campaign calls to mind the opening of the engineering dispute, so these leaders who ask against their better judgment for that which they think there is no chance of getting occupy in January 1899, and in London, much the same position which Mr. William Abraham, M.P., and his colleague occupied in March 1898 Meanwhile it is certain that no step has been taken in the direction of peace or conciliation by the officials of the men's union.

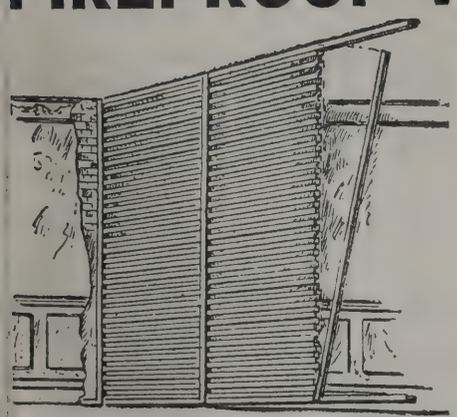
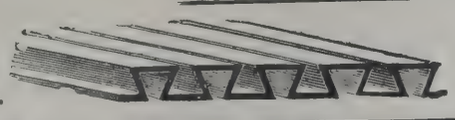
But the employers have not been idle. The battle has been forced upon them as clearly as battle has ever been forced upon any employers, and, as becomes prudent men, they are arming themselves and collecting a special war fund. I say "war," because there is no manner of sense in mincing words or in talking of peace where, to all appearance, there is no peace. The master builders and other employers of plasterers in the metropolitan district held a private meeting at St. Martin's Town Hall on Tuesday. I was not present at that meeting, but I am able to give some account of the proceedings. The meeting was largely attended, it was enthusiastic in tone, and its tone was that of men convinced that firm resistance to aggression was imperative as a measure of self-defence. Moreover, it was a meeting thoroughly representative of the substantial firms engaged in the metropolitan building trade. The persons present agreed by unanimous resolution to adopt and carry into effect at the earliest possible moment the policy pursued by the Central Association of Master Builders in London. That policy, as has been stated before, is to lock out all the members of the Plasterers' Union in London first, and probably in the country later, unless the union is prepared, not only to drop absolutely the preposterous demand that the foremen shall be enrolled on its list, but also to relinquish sundry other pretensions which, to one who is not a plasterer, seem outrageous. It is quite likely also that there may be other trouble, for there is news of murmuring among the carpenters, and the bricklayers, with their restrictions upon the amount of work a man may do in a given time, run the plasterers hard in point of aggressive tendency.

Also, it is to be observed, the master builders and others opened a large special fund on the spot, and subscriptions came in at Tuesday's meeting with a rapidity which demonstrated the mood they were in. The pocket is less readily stirred than are the emotions, and the rapid growth of that special fund is significant. They mean business; but they will not act precipitately. "The earliest possible moment" would be one hour after work should begin; but the lock-out will certainly not begin until after the National Association of Master Builders has met on January 31. There appears to be no probability that the National Association will disapprove of the policy of the metropolitan builders. Rather is the

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contrary probable, for the provincial builders suffer more severely, if possible, than their brethren in London from the tyranny of the unions, of which the plasterers' is the worst. A decision to lock out plasterers all over the country is the most likely outcome of the meeting of the 31st, unless things change much in the interval. Nor can the situation be described as hopeful. But there is a ray of hope, or at any rate a possible path towards peace. In the spring of 1896 the Master Builders' Association had a tussle with all the unions. At the end of May a deputation of provincial tradesmen (in the Scotch sense of the word) visited London. A ballot was taken. The carpenters and joiners came to terms with the employers; the bricklayers followed suit. The plasterers, who were said to be in a "truculent mood" when the other trades had agreed to a *modus vivendi*, had to yield at last and the strike ended. The point is that provincial influence was exercised in favour of peace. It is at least permissible to hope that it may be exercised in the same direction again, and that some 8,000 men in the provinces—I divide the 13,000 plasterers roughly—objecting to be locked out, as they are likely to be, may succeed in persuading the London plasterers that their claims are untenable, and that, by persisting in them, they will impair not only their own position, but also that of others. Thus, a second time, provincial common-sense may come to the rescue of metropolitan hot-headedness.

THE LONDON WORKS DEPARTMENT.

AT the meeting of the London County Council on Tuesday the finance committee presented the half-yearly statements of works executed by the Works Department up to September 30. They showed a balance of loss of 21,000*l.* on the twelve estimated works reported upon. Of these works four were commenced before the reconstruction of the department in February 1897, and they exhibited a balance of loss of 24,720*l.* On the remaining eight works, which were commenced under the present management, there was a saving or balance of cost below estimate of 3,720*l.* The chief loss, amounting to 22,924*l.*, was made on one work—the construction of the Lewisham sewer.

Mr. White said that since its commencement the department had made a loss of between 40,000*l.* and 50,000*l.* The question now was, were they going on losing money at the same rate or at an increasing rate? There was a loss of 22,000*l.* on the Lewisham sewer. That loss was not made on the cost of materials, but in wages and charges, and he should like to suggest that the workmen were lax in the way they discharged their duties to the Council. The Council were a good deal to blame for that, because when they initiated the Works Department they clearly gave the workmen to understand that they would not be required to exert themselves or put themselves about very seriously, and that the Council were going to improve the conditions of labour by requiring less work from the men than was the case with the ordinary employer. Had the Lewisham sewer gone to a contractor they would certainly have got it executed within contract price. A number of works which had been refused by the department had subsequently been carried out by contractors for less than the engineer's estimate. Only a short time ago an expert had been employed to report on the comparative quality of the work done by the Council and that done by contractors. That expert had reported in regard to selected works, that as far as brickwork was concerned there was nothing to choose between the two, but that the joinery work of the department was distinctly inferior to that of contractors, and that in regard to certain work carried out by the Council at Colney Hatch Asylum, on which there was a loss of 5,000*l.*, it was the worst work he had ever seen.

Mr. John Burns, M.P., said that one reason for the loss on the Lewisham sewer was that the work was originally taken by the department at too low a price. Mr. White forgot to tell the Council that the loss on the Lewisham sewer took place at the time when the department was in a state of utter anarchy. In the case of the Clerkenwell Fire Station the estimate was 6,200*l.*, and the contractor's bill was just coming in for 11,089*l.* He (Mr. Burns) complained of the money spent in the department on what he thought was needless supervision of works. If they had a manager with 1,500*l.* a year, surely he ought to be entrusted to carry out the works without a crowd of clerks about him. This over-supervision had been the cause of the men doing less work than they otherwise might have done, because they had felt that if the Council could afford three or four clerks of works on small jobs they were rich enough to allow them to do less work or to be longer over it.

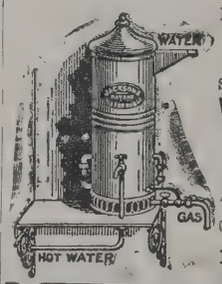
Mr. Cohen, M.P., said the management of the department by the finance committee was little less than a deception. What he desired was to put an end to the present method of control, which from its beginning had been nothing less than a lamentable and crass failure.

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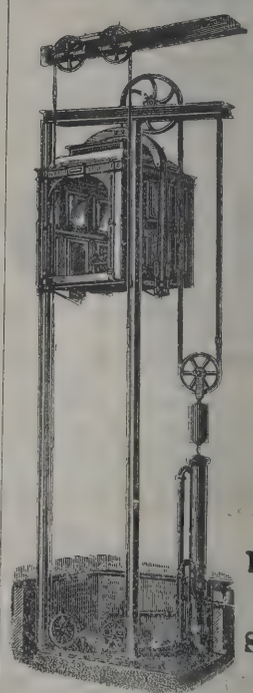
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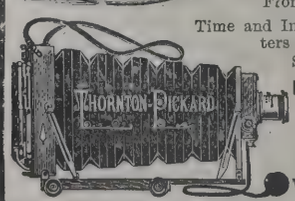


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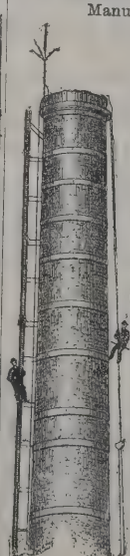


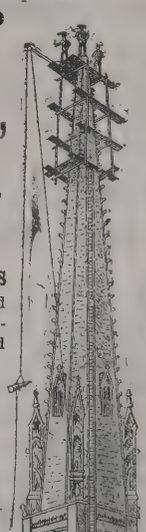
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Dr. Collins said he always thought that they were using ords very idly in speaking of profit and loss in connection ith the works carried out by the department. It might seem aradoxical, but the real test of the value of the Works Depart-ient was one which could never be applied, namely, what ould have been the cost of carrying out the works by con-actors if the Council had not possessed the means of stepping , when it knew that inflated tenders were going to be sent in, nd saying, "We will do the works ourselves."

Mr. Ward pointed out that in regard to jobbing works the epartment had all along shown a profit, and in regard to the ther works there were more favourable conditions apparent r the future, and he thought it probable that the department ould be able to make considerable profits.

Lord Welby (chairman of the finance committee) said that Ir. White had mixed up the results of the department under ie old and the new management. He might call attention to ne single figure illustrative of the manner in which the new anagement carried on its work. On works estimated to cost 2,000*l.* the actual expenditure had been 33,000*l.*, showing a aving of 9,000*l.* That was a significant indication of the anner in which the department was now carrying on its usiness. In the case of the Lewisham sewer the amount of ie deficit chargeable to the new management was very small, mounting to only between 2,000*l.* and 3,000*l.* Even if they ent further back and examined the whole management of the epartment, the expenditure of something like 750,000*l.* ex-eeded the estimate only by something like 40,000*l.* Upon the hole range of work the expenditure had exceeded the estimates y only about 5 per cent. He admitted that the establishment harges were high, but he hoped to lay before the Council esults which would convince members that they were not nfair.

The statements were received and adopted, and excess votes o cover the losses shown were agreed to.

THE LABOUR PROTECTION ASSOCIATION.

HIS Association, which has for its principal objects—

"1. To test systematically the efficiency or otherwise of the existing laws for the protection of workmen, and, if necessary, to obtain an amendment of such laws;

"2. To watch all strikes, and insure the observance of the law in all disputes between employer and employed; and

"3. To oppose all legislation injuriously affecting the trades and industries of the United Kingdom,"

has just issued its report for 1898. The name of the Association has hitherto been the "Free Labour Protection Association," but to obviate the confusion existing in some quarters with regard to its constitution and objects, it has been decided to adopt and use henceforth the name "Labour Protection Association," dropping the word "Free."

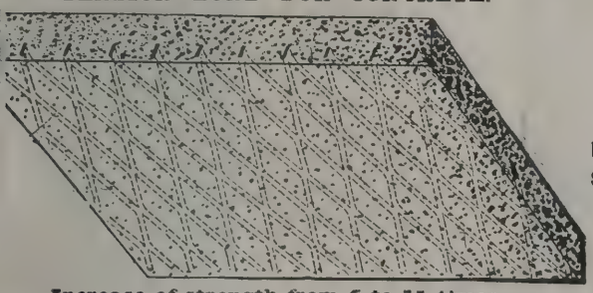
A full account is given of the strikes and labour disputes in regard to which the Association took action during the year. The principal of these was a strike of porters, shunters, signalmen and permanent-way men on the Cork, Bandon and South Coast Railway, which took place in January of last year. Application was made to the Association, and men were at once obtained and despatched to Ireland in charge of "emergency men." The report calls attention to the outrages of various kinds which accompanied this strike, including the attempt to wreck a train and the brutal assault upon a party of military recruits who were supposed to be "blacklegs" from London. After being out for some months the men gave way, and those for whom there were vacancies returned to work on the old terms.

The Association also provided workmen and "emergency men" in connection with a colliery strike at Shirebrook in Nottinghamshire, the bone brush makers' strike in London, moulders' strikes at Mansfield and Clerkenwell, a strike of tailors at Limerick, and a number of smaller disputes.

A large amount of Parliamentary work was done during the Session. A summary of "Objections" to the Mines (Eight Hours), Workmen's Houses Tenure, and other Bills injuriously affecting trade and industry was sent to members of Parliament and the press, and, by the assistance of several members of Parliament, the Bills were "blocked" on every occasion they appeared on the Orders of the Day, with the result that not a single one of the measures made any progress.

A most important step was taken by the Council of the Association in calling a meeting of representatives of all the industries of the country with a view to the formation of a Parliamentary Council for the purpose of opposing or amending any Bills injuriously affecting the interests of trade, or which seek to violate the principles of free contract or free labour. As a result of the meeting, which was held on November 15, the Employers' Parliamentary Council—a body now entirely

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PRICE LIST AND ESTIMATES ON APPLICATION

ndependent of the Labour Protection Association—has been formed, and arrangements have been made for carrying on the work which this new body has undertaken.

Attention is called to the change of feeling both on the part of the public and of the magistrates in regard to intimidation during trade disputes, which is attributed in great measure to the wide circulation of literature by the Association and to the Association's action in counter-picketing pickets. The report concludes with a strong protest against the charge of "union-smashing," and reference is made to the opinion of Mr. James Mawdsley, the well-known representative of the textile workers of Lancashire, who wrote in the public Press in September 1897 that the Association expresses "no intention of any description other than that of doing work which is well known appertains to all employers' associations." In conclusion, attention is called to the fact that the chairman of the Association (the Earl of Wemyss) was himself a member of the Trade Union Commission which reported in favour of the legalisation of trade unions. This should be a sufficient guarantee that an Association of which he is the head will not embark on a "union-smashing" policy.

BACK-TO-BACK HOUSES.

THE town clerk of Leeds (Mr. Jno. Harrison) has received a lengthy communication from the Local Government Board refusing to sanction the erection by the Corporation of back-to-back houses in the York Street insanitary area. This decision, says the *Leeds Mercury*, comes as a great surprise, as the deputation who recently waited upon the Board's representatives in London returned to Leeds feeling confident they had made out such a strong case that the Local Government Board would make an exception in their favour and grant their request. But the Local Government Board have preferred, it seems, to stick to their general rule and prohibit such structures. The matter, it will be remembered, has reference to the clearing of the York Street insanitary area. In that part of the city the Corporation have received permission to demolish property which now provides shelter for 3,800 people on condition they provide new and conveniently situated dwellings to accommodate 2,000 of the displaced tenants. The sanitary committee, after lengthy deliberation, came to the conclusion that through houses could not be built to let at anything like the small rental the displaced tenants have been in the habit of paying. Further, they objected to the construction of flats, as they thought such premises were too much like barracks and too little like homes. They felt they had but one course left, namely, to provide the accommodation required by the erection of well-ventilated back-to-back houses. The Local Government Board's decision naturally places the committee in a dilemma. The expense of building through houses would be considerably beyond their anticipated expenditure on the scheme, even if they could obtain the necessary land for their requirements, which is doubtful. Their only way out of the difficulty seems to be the provision of flats. The deputation who recently inspected such structures at Glasgow came away with a very poor opinion of them. The resources of architecture, however, are by no means exhausted, and possibly some more acceptable dwellings may be devised than those at Glasgow.

THE MANCHESTER INFIRMARY.

ON Monday Mr. F. Brocklehurst, one of the representatives of Harpurhey Ward in the Manchester City Council, addressed a meeting of his constituents. He said the question of the Infirmary site was a very important one, and a crisis had been reached in the history of the negotiations. He moved, "That, subject to the acquisiton of the Infirmary site at a reasonable price, this meeting of the electors of Harpurhey endorses the scheme propounded by Councillor Brocklehurst, whereby the Infirmary will be placed in healthier surroundings, the hospital work in Manchester perfected and simplified, and the literary and artistic needs of the community met and supplied." He contended that it was one of his most important duties as a public representative to awaken the keenest possible interest in all that concerned the affairs of the city, whether commercial, or literary, or artistic, or the back-door drains, or sewage, or the provision of newspapers or light. As negotiations had to be continued with regard to the purchase of the Infirmary site, he wished to avoid the possibility of creating friction in the matter. He submitted that the basis of the reopened negotiations was on the lines he suggested last May. He was glad to see the scheme had received so much public support, and believed it would receive increased support. It involved the transference of the Infirmary from the present site. He considered they had the opportunity of a century to carry out a much-needed hospital reform. There was great confusion in the public mind as to

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where and when to go to the out-patients' departments connected with the various hospitals. By the transfer of the Infirmary from its present position, the sale of the site and the consequent acquisition of funds provided a most excellent opportunity for correlating all these scattered out-patient departments, bringing them under one roof, where all manner of diseases might be treated on every day of the week, and forming an institution that would, as it were, be known as a medical clearing-house for the whole of the Manchester poor. He did not say it should supplant the hospitals for special complaints. The public money was not spent as wisely as it would be if it were spent to pay the rent of this large central building. He did not suggest that the out-patients' building should be erected on the Infirmary site, though he did not think it would be too large, but he was anxious it should be in the centre of the city. If the clearing-house was erected on the Infirmary site the Infirmary authorities would be without any source of income for building their new Infirmary, and would have to appeal to the public. The sale to the Corporation would provide them with more than enough to build a palatial Infirmary on the outskirts of the city, and at the same time it gave to Manchester an opportunity which it had never had before of putting up a decent building where it might be seen. He admitted it was largely a question of cost, and it might amount to three-quarters of a million or a million sterling. He did not wish to forestall the negotiations, but he would point out that this was a great public question between two public authorities. They were two sets of trustees, neither of which had a selfish interest in obtaining or giving more than was necessary. Neither of these bodies in his judgment ought to make a profit at the expense of the rates. He believed he voiced the wishes of many people in saying that a desire existed that the Infirmary authorities should in regard to the price of the site deal if anything generously with the Corporation. They were not hampered for funds. They had money in hand, and they had a site offered in Stanley Grove on which to build a new Infirmary, and therefore would not have to spend money on the acquisition of a new site. They would require money to erect the new building, to arrange the out-patients' department and the accidents and emergency ward, and so long as these things were secured the Infirmary authorities would not in his judgment be traitors to the future if they accepted a sum which would enable them to carry out those projects with ease. And yet on the most favourable computation, granted that the site was obtained for a reasonable price, there was a great problem to be faced and a considerable burden to be put upon the rates. It was for them to say whether they were prepared to make the sacrifice. If they were not, the movement, so far as he was concerned, was at an end.

The resolution having been withdrawn, the meeting shortly afterwards terminated.

MASTER PLUMBERS' ASSOCIATION.

THE annual dinner of the Glasgow and West of Scotland Master Plumbers' Association was held in the Windsor Hotel, St. Vincent Street, on the 19th inst. The president, Mr. J. T. Renfrew, occupied the chair, and Mr. William Mackie (vice-president) and Mr. J. M. Symington (treasurer) were croupiers. Bailie Dick gave the toast of the evening, "The Master Plumbers' Association," and in the course of an able speech remarked on the importance of the Association as representing the craft in Glasgow and the West of Scotland. The Chairman, in responding to the toast, stated that the Association at present was in an exceedingly flourishing condition; that in the past year no less than twenty-two new members had been added to the roll of membership. He stated that while originally the Association's bounds were confined by the suburbs of Glasgow, it had of late years extended throughout the whole of the West of Scotland, and that there was at the present time a movement on foot to reach the whole of Scotland. Mr. William Rattray afterwards gave "The Lord Provost, Magistrates and Town Councillors," to which ex-Bailie Primrose responded. Parish Councillor Hendry gave "Kindred Associations," and Messrs. Jas. Ferguson (president Master Wrights' Association) and James Goldie (president Master Brickbuilders' Association) replied. An excellent programme of song and story was introduced between the toasts.

COPLAW HILL ELECTRICITY STATION.

AT a meeting of the electricity committee of the Coplaw Corporation there was submitted a report by Mr. W. A. Chamen, the electrical engineer, and Mr. Andrew Myles, the architect of the new generating station at Pollokshaws Road. The report states that the plans, which had already been before

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the committee, comprised complete engine-house, boiler-house, coal stores and battery-room, and also sundry offices, workshops, covered-in yard and delivery yard and stores. The roof of the boiler-house was constructed of strong steel girders supported by heavy cast-iron columns, designed for the purpose of carrying large open water-tanks in which the condensers or cooling towers would afterwards be placed, and there were similar columns and girders for carrying the overhead coal tanks. Two chimneys, each 11 feet in diameter inside and 20 feet outside, and 200 feet in height, were also included in the plans. The total cost of all the buildings, including engine foundations, boiler foundations and boiler settings for the whole plant which might ultimately be put into the station, and which would amount to about 15,000 horse-power, would probably be 49,051*l.*; but this estimate did not include the cast-iron tanks over the boiler-house, nor did it include a new line of railway siding which would require to be run from end to end of the buildings, nor certain hoists for coal trucks, sundry rails, coal tanks and appliances for dealing with the fuel supply over the top of the coal stores. These accessories would in all probability cost a further sum of about 10,200*l.*, thus bringing the total for buildings and condensing and coal store facilities up to 59,251*l.* In Mr. Chamen's report, dated April 26, on the proposed extension of works for supplying current within the whole municipal area, a provisional sum of 16,000*l.* was allowed for the first section of the Pollokshaws Road buildings. At that time no plans had been prepared, and it was impossible to say what the ultimate and most advantageous arrangement of the buildings would require to be. It was now evident that the workshops and offices which were included in the present designs, and which were situated at one end of the site, were required very urgently; while, on the other hand, it was necessary that the battery-room and delivery yard, which were situated at the other end of the site, should be got ready with the least possible delay. It was also extremely desirable that the first instalment of engines, boilers and dynamos should be put down near the centre of the buildings for the sake of convenience in extending and for a proper and symmetrical arrangement of plant when the whole was ultimately completed. If the committee decided not to authorise the construction of the whole buildings and coaling facilities now, the following parts of the work might be dispensed with in the meantime:—(1) One of the chimney stalks, except the foundations to ground level; (2) nine sets of double boiler settings; (3) part of the columns and girders to carry water tanks, including two of the tanks themselves, and part of the roof over the boiler-house; and (4) a portion of the concrete of the engine foundations. The items which might thus be left over in the meantime would amount to a reduction of about 14,000*l.*, but if the committee proceeded in this way it would be necessary for them again shortly to give instructions to proceed with the remainder, and this remainder would probably then cost more than if the whole was proceeded with now. In these circumstances Messrs. Chamen and Myles recommended that specifications and schedules for the whole work should be at once prepared and tenders advertised for at the earliest moment. The works would of necessity take some considerable time to complete, say from two to three years, and possibly, judging from the experience connected with the buildings at Port Dundas, even longer; and they did not think that, in view of the enormous and rapidly-growing demand for electric supply, any risk should be run of being further hampered, as the department had been up till now, for want of the necessary buildings. Although the completion of the whole buildings might take from two to three years, sufficient progress might be made to allow of the first portion of the plant being erected, though perhaps under temporary covering, within a period of nine months from the date of acceptance of tenders.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C. from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

474. Ench Springborn. for "New improved material for manufacturing bricks and the like."

762. John Thompson, for "Thompson's safety brake for suspended shutters, sashes and doors."

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CATHEDRAL SERIES, No. 193.—DURHAM: GALILEE, LOOKING SOUTH-EAST.





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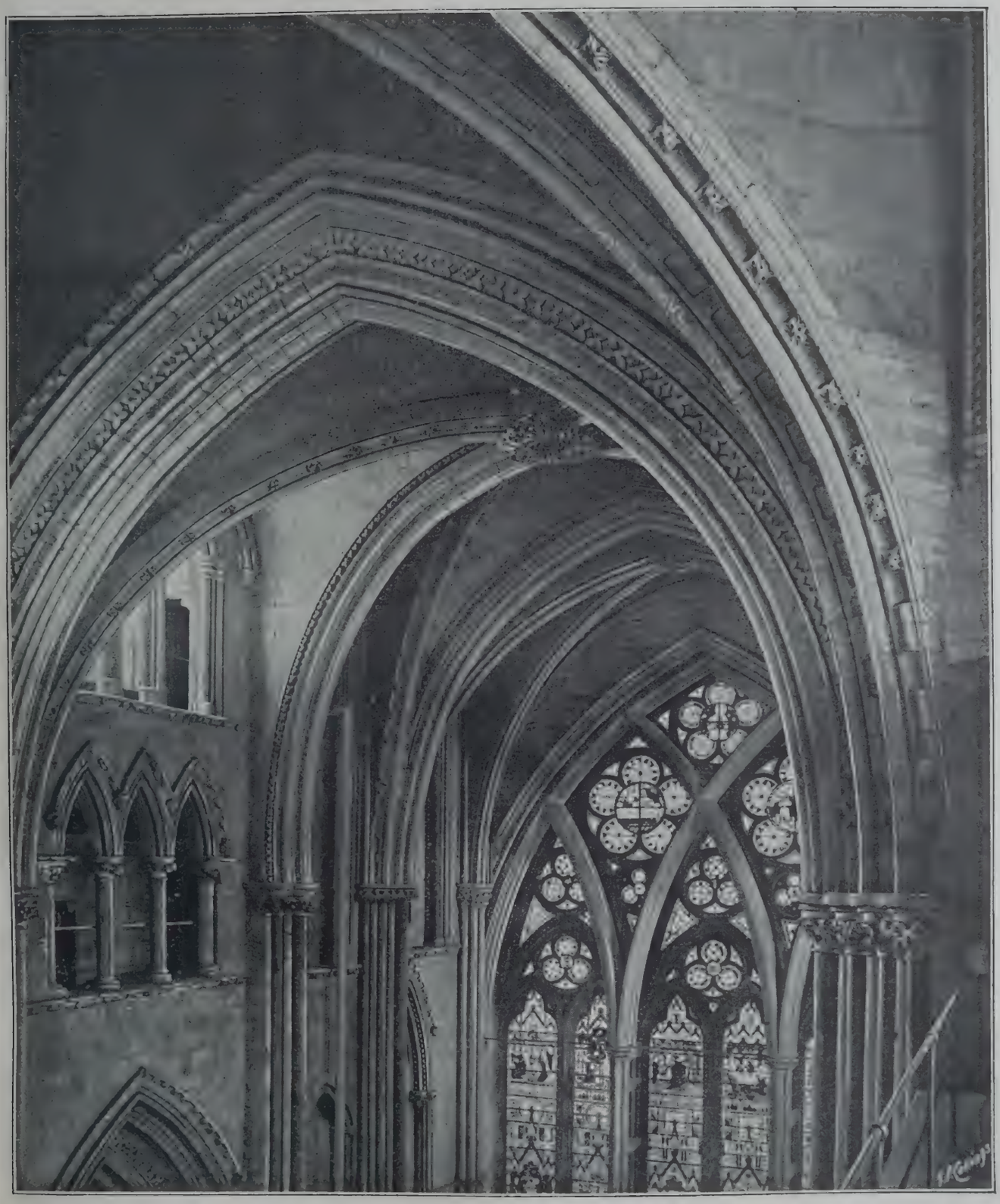
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GARDEN VIEW: "LANGLEY," WEST HILL, PUTNEY HEATH, S.W.

WALTER E. HEWITT, A.R.I.B.A., Architect.

The Architect.

THE WEEK.

THE death of Mr. HARRY BATES on Monday is a loss to English art which architects can more easily understand than the public in general. He was one of those sculptors in whom there was faith that he would always loyally co-operate with architects in adorning a building with such work as they contemplated. He was in the prime of life, for he was born in 1850. A great many of his years were spent in feeling his way, and his whole career as a sculptor was confined within a term of sixteen years. Twenty years ago he entered the Lambeth school as a student. There, fortunately, he came under the influence of M. DALOU, who was driven to London by his politics. Afterwards HARRY BATES was admitted into the Academy school. He carried off the Gold Medal and Travelling Studentship in 1883 by his *Socrates Teaching*. He spent the greater part of his journey in Paris under M. RODIN. In his studio he executed the three small panels from the Odyssey, which, under the Chantrey Bequest, were at once purchased on their exhibition. As, however, they were not executed in England, the money could not be paid. In succeeding years he exhibited reliefs, for which his skill as a decorator qualified him. But the work he exhibited in 1892—*Hounds in Leash*—demonstrated that he was no less competent to deal with the round. The group gained for him his Associateship. The trustees of the Chantrey Fund compensated for their misadventure by purchasing his *Pandora*. His immense equestrian statue of Lord ROBERTS when placed in the courtyard of Burlington House was a triumph for the sculptor. It will bear comparison with FOLEY'S *Lord Hardinge* and *Sir James Outram*. It was so successful that a commission was given to him for a similar memorial of Lord LANSDOWNE. The pursuit of sculpture is in this country followed with difficulty, and for a man like Mr. BATES it was a victory to make his expenses correspond with his income. In such cases an artist's family can look to the Royal Academy for support, and a stronger claim could hardly be presented than that of the widow and child of HARRY BATES.

THE decision of Mr. PAUL TAYLOR, the magistrate at the Southwark Police Court, will not please metropolitan vestries. The surveyor of roads to the Newington Vestry was summoned because he did not give notice respecting two underground inspection chambers which were constructed in Newington Causeway. The chambers were to be used in connection with the electric light which the Vestry had undertaken to supply. The Building Act says, "That for every building or structure or work about to be begun a notice is to be served on the district surveyor." The question then was whether an inspection chamber came under one of those categories. The Vestry submitted that if notice was required in the two cases in question they would also have to be given for each sewer inspection chamber. The district surveyor replied that there was a difference between the two classes of inspection chambers, and those for which the summons was granted had a roof beneath the footway. The magistrate came to the conclusion that the chambers were included among the building or structure or works of the Building Act, and a nominal penalty was imposed of 1*s*. and 2*s*. costs in each case. He also declined to state a case.

IT is to be hoped the London County Council will endeavour to comply with the request conveyed in the memorial of London architects which was presented at the meeting on Tuesday. Illuminated advertisements are not only a nuisance and degrading to streets, but they are sources of danger to many people. They help to make darkness more intense by the contrast they offer, and people whose eyes are weak become more exposed to the risk of accident from vehicles. While there is no question about their character, it will be allowed that in London, at least, they arise from what must be admitted to be a defect in building. Blocks which are intended to be occupied as offices are, in general, too high. The exteriors may have a grandiose effect, but that does not prevent the upper storeys from remaining without tenants. In residential flats a top floor has advantages which are recognised sufficiently to preserve a tenant from being considered a poor man should he dwell there. But there is no allowance of that kind made for the occupant of a topmost office, unless he should follow a business which needs peculiar light or air. The rooms in consequence are to be obtained at a nominal rent, and owners prefer to take all the risk of depreciation from garish advertisements rather than allow a part of their property to remain vacant. There are always people to take advantage of unsuccessful property, and the illuminated lettering is only one case. Years ago Paris set the bad example, but in London we have gone beyond the practice of that city. If the County Council will take up the subject with zeal the evil is sure to be overcome. The sky-signs were not more of an eyesore, and they vanished as soon as it was ascertained the Council had resolved to oppose them. The illuminated signs are not likely to offer more resistance to Spring Gardens if the authorities will act with resolution.

THE National Society for Checking the Abuses of Public Advertising propose to meet the difficulty by a process of minimising, viz.:—"(*a*) A limit of height to be prescribed, above which there should be no exhibition of letters or other speaking emblems. (*b*) A limit to the size of letters in any position. (*c*) A rule that the space occupied by advertisement placards or letters should not exceed a certain ratio to the size of the building to which they are affixed." Doubtless, if the upper parts of buildings could not be obtained, the illuminated signals would not be used, for in those parts alone is the space to be granted on economical terms. But the danger to people would be increased in proportion as the signs were brought nearer the street level. Limiting the size of letters and insisting on a fixed proportion between them and the size of the building would also be fatal to that method of advertising. People do not wish to see an abuse put down by indirect means. It would be more straightforward to say certain signs are not adapted to uphold the amenity of the Metropolis, and that ground should be a sufficient justification for their removal.

OUR readers may have some recollection of the *fiasco* connected with a competition for a State Capitol in Harrisburg, Pennsylvania. The building which served that purpose was burnt down two years ago. The architects who succeeded in the competition were supplanted, and, after a series of lawsuits, it was decided they were without any rights. The building which was erected was opened a few weeks ago, or rather, we suppose, a part which will suit temporary needs. The Governor, at the inauguration, said there were scores of barns in the country which were far more attractive in appearance, for it looked like a hastily-erected factory building, and was repulsive to the eye. The financial arrangements are as strange as the design. The expense was fixed at 550,000 dols., which, according to the commissioners, was a sufficient sum to erect a building for the Legislature and its employés. The Governor says a sum of 2,500,000 dols. must, according to one estimate, be spent on the building in addition to the money already laid out on it. But he believes that twice the sum will have to be provided. The Governor considers the commissioners had no right to foist upon the taxpayers of the commonwealth an incomplete structure, which will require an expenditure of at least a million of dollars to make it habitable under their present plan, and millions more to add the wings as set out in their drawings. They had not the right to expend the money appropriated in such a way as to compel the legislative branch of the Government either to tear down and render comparatively valueless all that has been done, or to add millions of dollars to carry out their ultimate design. Finally, the Governor recommends, for the sake of economy, that every part above the foundation walls should be demolished, for in the end it will be better to sacrifice the amount already wasted than to continue the system which was adopted by the commission. In the whole history of competitions, there is not a more curious chapter than that relating to the Pennsylvanian Capitol.

THE STRENGTH OF MATERIALS.*

WHEN we find it requires ten years to exhaust the first edition of so important a work as Professor Unwin's on "Testing of Materials," it is evident that the subject is one of those which architects and engineers leave to specialists. Although they might be desirous to be assured of the strength of the stone, brick, concrete and metals which are employed in the structures they design, yet they cannot spare the time or possess the apparatus required for experiments. An enthusiast like Tredgold can at all times contrive to gain knowledge about materials, although living in a state of poverty; but martyrs to science of his class are likely to be few. Besides, such experiments as he engaged in would not satisfy modern needs. They were inspired by an aim that differed from that of the earlier investigators of the subject, for Tredgold wished to be useful to practical men, while his predecessors were more anxious to exhibit some phenomena of matter. Eaton Hodgkinson was able to operate on larger specimens than Tredgold, for he had Fairbairn at his back, who allowed him to employ the appliances which were in the Manchester works, and constructed others specially for the testing. Yet when a novel structure like the Britannia Bridge was proposed, it was necessary to institute a costly series of experiments in order to determine anew problems of tensile and transverse strength of which solutions could be deduced to some extent from the information which was already in print. During the last half-century experimenting has not ceased, and yet, if we may judge by what is being done every day in America and Germany, it becomes evident that more reliance is placed on a special test by means of one of the latest varieties of machines than in all the recorded results which can be produced from books.

In cases like the Britannia and the Forth Bridges, where novelty of construction is desirable, testing is indispensable. For the cloud-capped layers of offices which are being raised in America it is always wise to ascertain what weights are required to crush the materials that have to sustain the greatest load. It is also well to discover whether some new kind of material, natural or artificial, has as much strength as ordinary materials which resemble it. But at a time when parsimony inspires many of the arrangements for building, it is hardly desirable that materials should be strained under the warrant of science to a degree that approaches danger. Get a reasonable amount of work out of a steel or a timber joist, but do not make it a scientific marvel in order to exemplify how far it is possible to go without a collapse. That seems to be a not uncommon practice in America, for the love of risk which at one time gave interest to journeys in steamers is now seen in buildings and other structures, which occasionally collapse when a slight additional weight comes upon the materials. The desire for saving is so general in some classes of construction, if it were not for Building Acts and by-laws the loss of property and of life would occur more often than is now recorded in newspapers. The practices dignified by the title of "economical building" are too often dangers to the State, although they are supposed to be sanctioned by science. The Tay Bridge, for instance, was the work of a mathematician, and was supposed to comply with the conditions which theory as taught in universities demanded, but it was no more adapted to the needs of a material world than those lines which have length without breadth.

What surprises may be devised in engineering nobody can foresee, and for the engineer experiments in testing must accordingly become suggestive. The fact that undoubted changes sometimes leave no outward or visible sign, only incites to further inquiries. For example, we are told by Professor Unwin that "a bar subjected to so many repetitions of loading that it is known to be on the point of breaking, or a piece of a bar already broken in an endurance test, gives in the testing machine no indications that the strength or ductility has been altered." That sort of anomaly will not be taken as an obstacle to research; new machines will be devised to deal with it, and observations with more powerful microscopes or other means will be employed to explain why there is such a variation from what appears to be an universal law. To the engineer, many of whose structures are subjected to dynamic force, it is important not only to know that iron or steel can be fatigued, and become less capable of performing its allotted task, but it is well to have the knowledge verified and confirmed in several ways. Iron or steel as employed in buildings does not undergo the toil which is common in railway bridges, although if what is called the "safe load" is much exceeded, as is too often the case, fatigue is as inevitable as in the case of girders over which locomotives pass several times in an hour. The architect has not, therefore, continual interest in the fracture of bars. He works on a small scale, and has not those "perils which environ the man who builds with naught but iron."

But the architect can hardly fail to remember that at one time buildings were erected of a very complicated sort, and he must ask himself by what process was the strength of materials in novel forms determined. Was it by means of repeated failures? Viollet-le-Duc tells us: "It was necessary to rebuild all the flying buttresses in the early Gothic monuments some years after their construction; and then men either contented themselves with raising the summit of these buttress-arches, or they doubled them by a second arch." It is evident, however, that at an early period of Gothic they were able to realise not only the resistance which had to be offered by a mass of masonry, but the part which every course had to sustain. Sometimes they preferred small stones with thick mortar to large stones. As Viollet-le-Duc says, when they used soft stones for points of support height was given; hard stones were kept to be used for ties or lintels. He points out how "a Burgundian architect in the twelfth century did not build at Dijon as at Tonnerre, for if we find in the same province the influence of the same school in the execution of the masonry, we remark considerable difference resulting from the nature of the stone employed. But as in each province there is one prevailing kind of material, the architects adopt a method of building in conformity with the nature of those materials. Burgundy, so rich in stone of a superior quality, furnishes us with the most proof of this fact."

The only machines and apparatus existing in Mediæval times which bore any resemblance to those now employed for testing materials were the appliances for torturing men in feudal dungeons, and it might be imagined it was from the operations on the human body that the pulling, twisting and compressing of materials in engineering laboratories were derived. The common-sense of the builders inferred from the evidence afforded by the examples of masonry they saw around them, principles of construction which could not be easily improved by the assistance of testing machines. In engineering structures of steel, or sometimes even of timber, it is possible to anticipate the work which has to be done, and experiments on specimens become, therefore, indications of what will occur. With masonry, on the contrary, preliminary trials are not of much use in revealing the future effects. Professor Unwin acknowledges this when he says, "It is quite impossible in any actual structure to secure a simple condition of crushing stress. Settlement, imperfect bedding, unequal compressibility of different blocks, and other causes introduce unforeseen and incalculable straining actions." It is well to bear these facts in mind, for of late years there are exaggerated notions abroad concerning the advantages which science can confer on architecture. As yet chemistry has not done much to encourage architects to devote their attention to it, and there is more likelihood of ensuring the erection of buildings that will endure from a study of ancient examples than from crushing large or small specimens of stone and cement. The pedant in the ancient comedy who expected people to judge of the character of his house from a single brick was not considered to be a wise man. But he is hardly as ridiculous as the young man who, from seeing a few bricks succumb beneath pressure, poses as a representative of the new school of architecture which, like an old-fashioned Adelphi farce, is to be based on the smashing of things.

It is right, however, to have bricks and other materials smashed to pieces. At a time when science enables men to make worthless products appear to have the qualities

* *The Testing of Materials of Construction: a Text-book for the Engineering Laboratory and a Collection of the Results of Experiments.* By William Cawthorne Unwin, F.R.S., &c. Second edition. (Longmans, Green & Co.)

which are most desirable, it is well to employ science as a detector. To know how a brick, a piece of stone or timber, or a part of a girder, will conduct itself when operated on by a testing machine, is desirable information for an architect. The result is not a guarantee that all the materials which are represented by a few victims taken at random are satisfactory; but there is, at least, the satisfaction of knowing that an effort was made to arrive at the truth. The tests, however, should be left to experts. Pupils would, of course, be glad to have occasional opportunities of discovering what the breaking weight of a building material is, but an ordinary office is not adapted for the efforts required to overcome cohesion. A trustworthy machine is, moreover, costly, and only in cases of large works is the expenditure on one to be recommended.

The book by Professor Unwin will have most value for those who make testing their life-work. In the pages will be found not only a record of his own wide experience with a variety of materials, but of the results obtained by other experimenters. It would be wrong to suppose that only professional testers can turn the pages to account. Herschel long ago pointed out the difference between the notion which the word "iron" suggests to the gaoler and to the electrician. To one it is an obstacle to movement, whereas the other accepts it as the freest channel of communication. In the same way, after having experience of the behaviour of materials in testing machines, one cannot help always realising that the strongest substances are frail, and endurance is merely a question of degree. War, too, is always going on, and it is only by mutual checks that stability in structures is guaranteed.

The chapters at the beginning of Professor Unwin's book could be introduced in any treatise on construction. The "mechanical properties of bodies," the "plasticity and hardness of materials" are subjects which can be considered by themselves. "Testing machines," "measuring instruments," "autographic recording apparatus," "procedure in ordinary testing" are of another character. In a third class we can place those on "elastic constants for metals," "cast-iron," "iron and steel," "timber," "stone and brick," &c. In the last division more especially the architect and engineer will find matter which interests them. The results of many investigations are given in the pages, and the differences between the figures are perhaps most instructive, although they are occasionally inexplicable. For instance, it is allowable for anyone who has witnessed the process of iron making to conclude that a plate is homogeneous, and that a strip can be cut from any part to serve as a test-piece. But there can be variations in the strength and other qualities of a plate. The Professor says:—

> Some experiments seem to show a more or less considerable difference of quality in pieces cut from the same plate. No doubt in some of these cases the differences are due to errors in testing. If the testing machine is not itself inaccurate, still imperfect centring of the specimen in the machine, or imperfect gripping of the specimen in the shackles, may give rise to considerable apparent differences of strength. But in other cases there appear to be real differences in the quality of the material, and the limits of such differences are not at present determined. Sir B. Baker has stated that entire bars, 16 feet long, 10 inches wide, and 1 inch thick, gave an average tenacity of 19 tons per square inch; while ordinary test-pieces cut from the same bars broke at a stress 35 per cent., and even in some cases 75 per cent higher. An iron plate was cut up in the workshops of the Compagnie des Chemins-de-fer de P.L.M. into thirty-two test-pieces. The strength lengthways varied from 20·32 to 29·21 tons per square inch, and crossways from 20·32 to 23·50. The stretch varied from 12·5 to 21·5 per cent. lengthways, and from 7·0 to 14·5 per cent. crossways.

The figures are remarkable and important as showing that uniformity in the quality of a building material is assumed rather than proved by experience. What is true of iron is exemplified in a stronger degree in other substances. It is, therefore, well to realise that testing, like other processes gone through in pursuit of truth, has its limitations, and when all is discovered we have gained no more than will enable us to strike an average. As Stuart Mill says, the practical knowledge of mankind is composed of approximate truths. Those who are sanguine that science is to lead them to a new and nobler architecture than the world has seen will do well to remember that fact. And here it may be well to mention a curious circumstance. A piece of Scottish iron deeply corroded was found on the shore of Loch Maree where in the sixteenth century iron forges were in operation. It was tested, and the tenacity was found to be 25·4 per square inch, or as much as is now attainable with scientific processes and costly machinery. The co-efficient of elasticity was 13,600 tons per square inch.

A tree grows under such variable conditions of wind and weather, it never answers to be dogmatic about the powers of timber. We are informed that "the deflections of timber are never quite regular, and, strictly speaking, timber has no elastic limit; it is not a homogeneous material, and different parts give way differently." With a material that is so irregular there should be allowed a large margin for safety, and the proportions adopted in structures that have stood well should not be abandoned in haste.

At the present time people are often heard to say that additions can be made to Portland cement which increase its value as a building material while diminishing the cost of production. Professor Unwin does not adopt that view. He offers the following remarks on the subject, which deserve attention:—

> Adulterants are in some cases added to Portland cement in order to cheapen its cost. Of these, blast-furnace slag is one of the commonest. Although certain qualities of slag have, when ground and mixed with lime, a considerable value as cement, and might under proper conditions be added to Portland cement without danger; nevertheless, as commonly used, slag is a mere adulterant of little more value than an equal quantity of sand, and it contains ingredients likely to be dangerous. In the opinion of some manufacturers, the addition of Kentish ragstone to Portland cement increases its strength. The inquiry carried out by Messrs. Stanger & Blount shows that a perfectly sound cement is weakened by an addition of ragstone. Cement not perfectly sound may be temporarily improved by the addition of a proportion of ragstone. But if the cement is rendered sound by aëration this advantage disappears.

Any one of the extracts we have reprinted will give an idea of the spirit which inspires Professor Unwin. He does not attempt to exaggerate the advantages of testing or to conceal its shortcomings. The pages are judicial in tone, and the conclusions are not arrived at without impartial consideration of evidence. The book is, therefore, adapted to be a standard with which any new facts that further experiments can elicit should be compared, although it is not likely any of the inferences of the Professor will be set aside.

SYSTEMS OF DISTRIBUTING AND GENERATING ELECTRICITY.

By F. J. Warden-Stevens.

(*Continued from page* 60.)

In considering the generation of electricity the question of the motive power has to be dealt with. Now, there are two practical sources of power—water and coal—and it is certain that only capital outlay, cost of working and reliability, should be allowed to influence the decision as to which is adopted. The motive power which will give the best return consistent with reliability is required.

Water Power.—Wherever water power, of whatever quantity, is available, it should be dealt with carefully. It is not necessary that the power should be sufficient to supply all the probable demand, neither is it necessary that it should be absolutely reliable, in order to make it worth while to consider its adoption.

The chief characteristic of water power is that the coal bill is removed, usually at the expense of the capital outlay. The total saving in the cost of working by adopting water power wholly or partially must, in every case, be more than sufficient to pay the capital charges involved. If it is, then the extra capital outlay will be well advised.

The total capital outlay must be ascertained for two schemes—one with the water power, and the other without—using the most favourable site for each scheme, and the cost of working in each case must be obtained. It is then easy to see which scheme insures the largest return.

The use of water power may make it worth while to take the site of the works outside the town, and so increase the cost of mains and perhaps machinery; it may make it worth while to go to the expense of erecting a building on expensive land, and perhaps to expend a large sum on foundations for buildings owing to unsuitable ground, or a large amount on earthworks in order to utilise the water power. It is evident that this question can only be decided by an expert.

There are two points of view from which water power may be considered—(1) as a primary source of motive power, (2) as a secondary and auxiliary. For instance, it might be quite economical, where the alternating system is to be used, to run the day demand from a small amount of water power, which may be easily obtained, while it may be impossible to erect a water-power plant to supply the whole of the demand at a reasonable expenditure, especially if the supply of water is in any way uncertain.

Should the supply not be equal to the maximum demand, it is quite sufficient if it is fairly proportional to the demand—that is, more should be obtainable in the winter than in summer, or at least a slight scarcity in the summer will not be so serious as a stoppage in the winter. However, even if floods are fairly frequent, it may be economical to erect a water-power plant with a reserve, assuming the cost of earthworks is not too high.

The essentials of a reserve are that the plant shall not be expensive, but it must be reliable; and in this connection it may be of interest here to suggest that where the gas supply is in the hands of the local authority or in that of a friendly company a satisfactory and inexpensive reserve are engines supplied from the gas mains, as the cost of plant is very low, power is available at any moment, and as it is not used for many days in a year the cost of working will be low. The gas undertaking benefits to some extent at least, whereas if it is suspected that the supply cannot be relied upon because of opposition, the gas authority will lose some revenue and will gain little in any way, as gas plant is not essential to a gas supply from the mains. Cheap "producer" gas is an exceedingly good and cheap substitute for the town gas, and the reserve plant is not even then so expensive to erect as an ordinary steam plant would be; in fact, the saving is about equal to that of the cost of the chimney-shaft. If steam turbines are used there will be little, if any, difference in cost.

After preliminary investigation, if it is decided that water power by itself, or in combination with a reserve, is available and will be financially successful, it is then worth while to discuss the necessary arrangements for utilising it.

Where the maximum power available continuously is less than the maximum required, it may be utilised in two ways—(1) by storing the water day and night, and then by letting it run through rapidly in the evening when the light is required; (2) by keeping the machinery running day and night, and storing the electrical energy. In case (1) a large turbine plant, large earthworks, &c., will be needed; and in case (2) the plant will be small, but a large battery of accumulators will be needed. It is not necessary that water should be turned into the river after use; for instance, it may be practicable to deflect water from a river and turn it into the sea by a short cut when the river does not reach the sea for miles. Again, it may be feasible to turn water from a river into a canal or into another river. The important point is that the water shall fall as great a height as possible. The power available from a given flow of water is directly proportional to the height through which it falls. It is usually a condition that when power is obtained in any large amount from a river the water shall find its way back to the river again after use. If this were not insisted upon, the bed of the stream might be dried up for miles. It is, however, often possible to take a small proportion of the water from a river entirely without doing much harm.

In considering the question of storage, it is, of course, necessary to dam the stream in order that the water shall run into the reservoir, and in many cases the stream itself is used as a reservoir in this way. The only object or use of a reservoir is to enable the user to obtain a larger power for a shorter time than is normally available continuously from the flow of water. It is in many cases very necessary that the water should be so used as not to interfere with the use of water lower down the stream, and in this case, of course, storage is of little use. It is then better to pass the water through the turbines when required, and allow it to run over the weir at other times. The result will be that the use of water lower down the stream will not be affected. The question of water *v.* electrical storage is best settled for each case. It may be said that it is a question of capital outlay and attention required in each case.

Water Races.—Too much attention cannot be given to the earthworks for utilising water power. It is very necessary that the races be large enough to allow of the largest quantity of water flowing with as little loss of head as possible. The loss of head can be reduced to any extent by the expenditure of capital, and in each case the exact amount to which it is desirable to reduce the loss can be calculated. It must be remembered that if there is a fall of 10 feet, and 1 foot head is lost in the races, 10 per cent. of the power is lost. If now there is the same quantity of water, but a 40-feet head is obtained, the same race will, roughly speaking, carry four times the power, but the loss of head will only be 1/40, *i.e.* 2½ per cent. It is therefore evident that the races must be very much larger for small heads than for large, and in a greater proportion than that in which the head diminishes. For half the fall, then, for a given power, twice the quantity of water flowing is required, and the loss is double the percentage of the whole power. The races should be four times as large at least. It is as necessary with modern machinery that the tail-race (that leading the water from the turbine) shall be as large as the head-race. This means in most cases that the tail-race must for a long distance be cut to the depth of the fall, and also in addition a distance equal to the depth of the head-race. For this reason a long head-race and short tail race are advisable.

Open races are used for falls up to, say, 30 to 40 feet, but for higher falls than these it is usually cheaper to provide closed ones. In this case the laws are just the same, except that the pipes may be laid on the surface of the ground and need not be level. The height of the turbine cannot be more than about 24 feet from the lowest point of the closed tube, otherwise the water will form a vacuum, and the head will be lost.

It is essential that the water shall enter and leave a turbine slowly, otherwise there will be loss of energy.

The race walls should be as smooth as possible, free from bends (every bend means loss of head, due to the friction and eddies caused by the change of direction), and should be of the same size all along, as whenever the speed of water is changed there is a loss of energy. The bottom should be kept free from weeds, and a proper grating must be provided to prevent any refuse, weeds, &c., from entering the turbines.

It is necessary that the type of turbine be chosen before the shape of the flume is decided. Turbines are now universally used for large power works, and there is no need even to discuss the water wheels of antiquated construction.

Turbines.—Turbines are really scientifically designed water wheels, and are constructed on two principles—the action and reaction type. In the action turbine the water is allowed to impinge on suitably arranged vanes under atmospheric pressure, and the power is transmitted to the wheel by the energy of motion, or kinetic energy, of the water. In the reaction turbine the wheel is under pressure and the pressure of the water is used to cause rotation of the wheel.

The action turbine is usually used for high falls, while the reaction turbine is more applicable for lower falls owing to its high speed of rotation.

A high speed, if it can be obtained without loss of efficiency, is preferable to a low speed for electrical work as both the turbines and dynamos are less costly if made to run at a high speed. There is, however, a limiting speed above which it is not desirable to run dynamos of any size, namely, about 1,000 revolutions per minute for small, and 400 revolutions per minute for large units; so for the high falls an action turbine is more suitable.

The question of the variation in the quantity of water available is also a factor in determining the type of turbine, and if it varies greatly the action turbine is preferable, as its efficiency is not altered by the quantity of water flowing. On the other hand, reaction turbines are more applica

for low falls and for situations where the tail-race varies in level, as they work well if placed some distance above the tail-water, and run at a higher speed with a given head than action turbines.

The very low falls which prevail in England are not generally utilised, owing to the difficulty of obtaining turbines which will run at a fairly high speed, and also at a constant speed with the varying heads met with. The usual requirements are turbines which will run at a constant speed with heads varying from, say, 10 to 3 feet, which will give the highest efficiency at the highest head, and will give constant power at all the heads.

There is one type of turbine, in which the water passes through the wheel parallel to the axis of the shaft, which meets with these conditions fairly. The best speed of a reaction turbine is that at which the periphery of the water inlet is running at an absolute velocity equal to that of a falling mass when the distance through which it has passed is equal to half the head of water available. The speed thus increases with the head. In this turbine there are one or two rows of passages at different diameters round the wheel. If there are two, the inner ones are closed gradually when the fall rises, and thus the wheel is one of large diameter and slow speed. As half the turbine is closed, it takes little water, and is efficient. At the lowest head the whole turbine is in use, the average diameter is small, and the speed is consequently high for that head. As the whole of the turbine is open a large quantity of water can be passed, and so both the speed and power are kept up to that available at the highest head. As a rule the head is lowered in flood time, and consequently there is plenty of water available to make up for loss of head and efficiency.

It certainly appears that this class of turbine should enable many water-power plants to be erected where they would otherwise be impossible.

Gearing for Water-power Plant.—In this country, as before mentioned, the majority of the water-power sites are so situated that the falls available are low and vary considerably. It is essential in such cases, where there is a possibility of the power proving insufficient, that a turbine be laid down which can be used with as little gearing as possible, to reduce the losses.

As dynamos are essentially high-speed machines, for low falls turbines of as high-speed as possible must be erected. Wherever practicable, direct coupling should be adopted, in which case a horizontal shaft turbine is usually erected. Even for falls too low to allow of the turbine speed being sufficient for direct coupling, it is preferable to adopt the horizontal shaft type of turbine for all falls where the dynamos can be driven by a belt from the turbine shafts.

For lower falls than the above (about 10 feet) the horizontal shaft type of turbine becomes impracticable, and the vertical shaft type has to be adopted. When these are used, it is usual to adopt bevel gearing and a countershaft; but toothed gearing is to be avoided as much as possible, as it is expensive and inefficient, and often the cause of trouble through noise.

It is a matter of the greatest importance that the best turbines for the special conditions to be fulfilled are adopted, and it is not advisable to make a point of cost in this case. The most expensive turbine may be the cheapest; several otherwise promising water powers have been unsuccessful because of unsuitable arrangements.

The largest electricity supply works utilising water power in this country is at Worcester. The water here utilised is that of the river Teme, a tributary of the Severn, the site being about 2½ miles from Worcester. The power normally available is 480 horse-power, the fall being 10 feet; the proximity of the Severn, however, causes this fall to be considerably reduced at flood time; the turbines are worked down to a fall of 3 feet, and then shut down when the fall is less than that. As there is no large reservoir, the works also suffer from drought; for these reasons auxiliary steam power is provided, so arranged that the dynamos can be driven from the steam engines or from the turbines, or both simultaneously.

There are four turbines, mounted on vertical shafts geared to countershafting, from which the dynamos are driven by ropes; the steam engines can also be coupled to the same countershaft as auxiliaries, or to drive the dynamos alone when the turbines are not working.

The speed is kept constant with varying load by raising or lowering the admission gate, and so varying the quantity of water. The capital cost and the cost of production are increased considerably by having a reserve steam plant, but in most cases this has to be provided.

On the west coast and in Ireland there is much more water power available, owing to the regularity and amount of rainfall. Several water-power stations are at work, including Galway, Carlow, Killarney, Fort William, Windermere, Keswick, and Lynmouth.

The water supply at Galway is so regular that no reserve plant need be used, but gas plant has now been erected for extensions.

(*To be continued.*)

THE BRENTWOOD INDUSTRIAL SCHOOL.

At last week's meeting of the London School Board the works committee reported upon a question of drainage in connection with the Board's Brentwood Industrial School. The report stated that the whole of the drainage at the school was reconstructed under the supervision of Mr. H. Bradfield, then superior officer for repairs, at a total cost of 503*l.* 17*s.* 8*d.* During last summer an outbreak of illness occurred at the school, and the medical officer of the Board, who was requested to inquire into it, submitted reports, in the course of which he stated:—"It would be well to take the opportunity to have the drainage system thoroughly examined and tested by a competent person; and if it could be arranged for the soil-pipe, which I have already mentioned, to be removed to an external situation, so much the better. I would also advise the committee to take steps to obtain a thorough examination of the drainage system of the school, as in many respects this requires alteration." On these recommendations Mr. Bradfield, assistant architect for repairs, was instructed by the sub-committee on repairs, sanitary works, &c., to make inquiry and to report, and on November 15 last he submitted the following report:—"I have carefully examined and tested the drainage and sanitary arrangements, both with testing-tubes, smoke, and water, but fail to find any defects or leakages. The whole of the drainage was reconstructed under my supervision some five years ago; the pipes are all laid in concrete and jointed in cement. Inspection chambers are provided at all important points. There is a proper and efficient system of inlet and extract ventilation, which I find to be in perfect working order. All wastes are disconnected and discharge over outside gullies, and the whole system is disconnected from the main drainage by a proper intercepting chamber and interceptor. I cannot see that any alterations are required. The medical officer and sanitary surveyor are arranging, I believe, to visit the school this week, and make another inspection and test." The medical officer of the Board, however, was not satisfied, and requested that a further investigation should be made. Thereupon Mr. Peacock, the Board's sanitary surveyor, was instructed by the industrial schools committee to examine the drainage system, and on November 22 he reported serious defects in the drainage. This report was so inconsistent with that of Mr. Bradfield that the works committee determined to consult an independent sanitary expert. Mr. G. A. Pryce Cuxson, F.S.I., A.R.I.B.A., was called in, and the two reports of Mr. Bradfield and Mr. Peacock were submitted to him without names, and he was requested to make an independent inquiry. This was done, and the report of Mr. Cuxson confirmed that of Mr. Peacock. The committee asked Mr. Bradfield for his explanation, but he adhered to his former statement. The committee, believing they could no longer repose the necessary confidence in Mr. Bradfield as their adviser, accordingly called upon him to send in his resignation. Mr. Bradfield, however, had declined to take this step, and it became necessary therefore to recommend the Board to confirm the action of the committee.

The medical officer of the Board reported that, after a careful consideration of the whole of the facts of the case, he was of opinion that the outbreak of illness at the school was to be ascribed to the defective drainage arrangements, aggravated by the overcrowded condition of the school, whilst the school provision for the water supply was not altogether free from suspicion. He suggested that the whole system of drainage should be remodelled under proper skilled supervision, and, pending such a revision, that the boys should not be allowed to return to the school. He also recommended that a material reduction be made in the number of boys at the school, and that more efficient ventilation be afforded in the dormitories. He thought it right, however, to point out to the committee that, in view of

the fact of the school being situated at the bottom of a valley, a ditch receiving the sewage from the houses in the upper part of such valley running immediately beneath it, that the soil upon which the school was erected was doubtless much polluted, and that this unhealthiness of site must necessarily continue, whatever expense was incurred in rectifying the drainage arrangements, and that consequently the wisdom of the retention of the building at all as an industrial school should be considered.

Professor Corfield also reported upon the matter. He stated that he had examined the sanitary arrangements and had read the reports of the sanitary surveyor and Mr. Cuxson and the remarks of the assistant architect for repairs on those reports. At the end of his report Professor Corfield says:—"In conclusion I consider that the drainage and other sanitary arrangements have been well planned and carried out, although certain minor improvements might no doubt be made, as is always the case in buildings where the sanitary arrangements have been carried out so long as seven years ago, and especially where some of the old fittings have been left, in order to save expense, but the alterations required are in my opinion few and inexpensive, and there is no reason why this school should not be a perfectly healthy one. I see no reason at all for any reorganisation of the drainage arrangements, which I consider quite unnecessary."

Lord Morpeth (chairman of the works committee) moved: "That the Board confirm the action taken by the committee in calling upon Mr. H. Bradfield, assistant architect for repairs, to submit his resignation." He went at considerable length into the facts of the case, and said that after a consideration of those facts the committee had arrived at the conclusion that they could no longer have any confidence in Mr. Bradfield. As to his previous service they had no fault to find, and Mr. Bradfield had been a satisfactory officer; but in the matter before the Board he had committed a grave error of judgment. The Board were responsible for the lives and health of the children and for the sanitary condition of their school buildings, and the committee felt that they could take no other course than that recommended.

The Rev. William Brown moved as an amendment that the matter be referred back to the committee for further consideration and report He referred to the qualifications of the experts who had been called in and to the nature of the various reports, and said that the case was surrounded by doubt. There was a great conflict of testimony on very important matters.

Mr. Barnes seconded the amendment.

The discussion was adjourned on the motion of Mr. Costelloe, who said he had never seen a case in which there was a clearer conflict of testimony.

LORD LEIGHTON'S HOUSE.

IN a letter to the *Times* Mrs. A. Orr and Mrs. A. N. Mathews the sisters of the late Lord Leighton, write:—

Three years have now elapsed since our brother Lord Leighton's death, and during this period the atmosphere has never been free from absurdly mistaken reports concerning him. We have hitherto refrained from public notice of these, because we trusted to the energy of our friends and the good sense of the majority of the public to ensure their ultimate extinction; but the climax which they have reached in their latest form makes further silence impossible. According to it the 10,000*l.* which our brother on his death-bed bequeathed through us to the Royal Academy represented no gift at all, but simply the payment of a debt incurred by him during the building of his house. Will you grant us the publicity of your columns for an emphatic denial of this assertion? Our brother was in debt to no man. How often and for what amounts he remitted debts to himself is perhaps irrelevant to the question.

We take this opportunity of contradicting another arbitrary statement which to our knowledge was current up to a recent time—that he would have objected to the preservation for national purposes of his house, and that in supporting the project we were, if not wilfully opposing his wishes, allowing ourselves to be persuaded into doing so. May we assure those of your readers whom it can in any way concern that we are not amenable to this kind of persuasion, even supposing that those who are working in pure regard for his memory could be considered capable of applying it? We have never on any essential point surrendered the duties or the rights of our executorship, and those friends whose assistance in the first stress of our work and sorrow we have always gratefully acknowledged did not ask us to do so. In so far as these rumours affect our brother himself, they are almost beyond the pale of discussion. He had built his house, as it now stands, for his own artistic delight. Every stone of it had been the object of his loving care. It was a joy to him until the moment when he lay down to die. When that moment had come, he bowed to what seemed to him the necessity for its sale. A conscious regret for it at such a crisis would have proved him a smaller man than he was. But to declare that he would rather have seen it thrown into the market than reverently preserved for the use and pleasure of lovers of the beautiful like himself is to put forth an unredeemed paradox, and surely a most foolish one. Whoever first promulgated the idea may have had some fancied reason for its conception. We are all at times subject to impressions which we cannot logically defend. But in matters of business such impressions can have no part. There is in our brother's case no room for them. For the spirit, as for the letter, of his unwritten instructions there exists but one authority—ourselves; and if the person who knew us best thought us competent to the duties of the trust he was laying upon us, no misgiving need be entertained as to their fulfilment. If these simple facts could have been more generally realised some irritation would have been spared to us, some wearing obstruction to the friendly labours of the Leighton House Committee.

A series of lectures is to be given in February and March for the benefit of the fund which is being raised for the maintenance of the house by the Leighton House Committee. "The Art of Floral Decoration in Japan" will be treated by Mr. Kajima, of the Japan Society; "Chinese Architecture," by Mrs. Archibald Little; "The Art of Lord Leighton and Sir John Millais," by Mr. Whitworth Wallis, director of the City of Birmingham Museum and Fine Art Galleries; "Some Literary Associations with the Lake District," by Canon Rawnsley. Miss Wakefield will also lecture on "Schumann," illustrating her discourse by songs. Lady Strachey will give a reading of "The Broken Heart," by Ford.

HEVER CASTLE, KENT.

THE Society for the Protection of Ancient Buildings has had many inquiries as to the alterations to Hever Castle now being carried out by Captain Sebright, the present owner. Hever Castle was built in the fifteenth century by Sir Geoffrey Boleyn, great-grandfather of Anne Boleyn, the hapless mother of Queen Elizabeth, and thus appeals in a peculiar manner to the feelings and sentiments of Englishmen. It must not, however, be forgotten that it is now private property, and, in approaching Captain Sebright, the Society could do no more than entreat a reconsideration of some rumoured intentions, such as the removal of the guard-house, and offer to make a survey of the building and a report upon its condition in the same way as it had lately done in the case of Haddon Hall. Captain Sebright has evidently devoted much study and research to Hever Castle, but it was pointed out that as several of the members had spent years in endeavouring to preserve all that is valuable in such buildings, while at the same time adapting them to present needs, a union of their experience with his knowledge might be the means of solving the difficult problem of saving the old while providing for the new more completely than either party could do alone.

This offer has been declined. No amount of knowledge and research can alone, says the secretary, afford a guarantee against the real interest of our historic buildings being swept away by even the best-intentioned restoration, as was abundantly proved by the restoration of the Château of Pierrefonds by Viollet-le-Duc, the French architect, who had spent his life in the study of Mediæval fortification, and whose works upon the subject are of such absorbing interest.

ARCHÆOLOGICAL EVIDENCE.

ON Saturday a lecture was given in Glasgow by Dr. David Murray, under the auspices of the Corporation. He said that our knowledge of past times is derived primarily from history, the written memorial of human activity, of the events and incidents which make up the lives of nations and of individuals. Such record is necessarily limited in time and in scope. Tradition, the handing down of verbal communication from father to son, from generation to generation, of the recollections of what they have seen and heard, to some extent supplements the written record, but it is obviously less reliable. A more trustworthy source of information is to be found in the monuments which our forefathers have left. The buildings they erected, the works they constructed, the tools they used, the coins and medals that they struck, the figures they carved, the inscriptions they cut, are witnesses of facts which they will faithfully communicate to those who have the skill to interrogate them. Referring to the past as seen by the archæologist, Dr. Murray said, like the poets, archæologists have divided the past into ages—long periods of uncertain duration following each other in a more or less marked sequence. With the poet the ages marked the steps of decline; with the archæologist they indicate the growth and development

human culture, steps in the progress from a lower to a higher civilisation. With both poet and archæologist the last is the iron age, and its predecessor was the age of bronze. But these agree only in name, while in lieu of the golden age the archæologist finds an age of stone. The foundation of the division is the use of stone, bronze and iron for utensils. There was a time when the use of the metals was unknown, and stone alone was employed for tools and weapons. Stone was gradually superseded by bronze, and bronze by iron. This, generally known as the three-age system, is an arrangement of the stages of culture-history which has been placed on a scientific basis only comparatively recently. Thereafter the lecturer dealt with the geological record, the advent of man upon the earth, and the relics which have been discovered of the river-drift men, cave-men, &c. In conclusion, he said that Palæolithic man was not confined to France and England, as might be supposed from the fact of what has been said being founded on material drawn from these countries. On the contrary, his remains are found over great areas of the world; in Europe from Spain to Greece, in Africa from Morocco to Egypt, and in South Africa, in Palestine, in Arabia, and in India. He wandered all over the peninsula from Madras to the Valley of the Nabara, and lived alongside of animals now extinct. From what point man set out upon his wanderings, it is impossible to determine; but it is perhaps probable that it was from Central Asia, and that he gradually spread westwards from India to Palestine, and along both shores of the Mediterranean, and eastwards to China. The period occupied in this dispersion must have been very great, and it is not unreasonable to suppose that man may have set out on his journey to Europe long before the glacial period had closed with us, and that Neolithic man had appeared in the east and in the south, whilst the Palæolithic still occupied Central Europe. The lecture was illustrated with lantern slides.

YORKSHIRE ARCHÆOLOGICAL SOCIETY.

THE thirty-fourth annual meeting of the Yorkshire Archæological Society was held on Thursday in last week at the Society's rooms, Park Street, Leeds.

The annual report stated that owing to deaths and resignations, partly compensated for by the addition of twenty-five new members, the membership had been reduced from 598 to 585 during the year. Three parts of the Journal, Nos. 56, 57, and 58, the last two being the first two parts of Vol. XV., had been issued. It was intended that one of the excursions this year should be to Bolton Priory and Skipton. Of the Record Series two volumes had been issued, namely, Vol. XXIII., being the second volume of the Yorkshire Inquisitions, and Vol. XXIV., another instalment of the Index of the Yorkshire Wills. Another volume of the Index would be issued in the course of a few months. The second volume for 1898 would soon be ready. It was the "History of some Early Yorkshire Schools," by Mr. A. F. Leach, F.S.A., and would comprise copies of charters and other documents relating to St. Peter's School, York, and to some or all of the following schools:—Archbishop Holgate's, Leeds, Ripon, Beverley, Rotherham, Sedbergh, Giggleswick, Hull, Bradford, and Wakefield. The first of two volumes of the Chartulary of the Cluniac Priory of St. John at Pontefract would probably be ready for issue about midsummer; it was under the editorship of Mr. Richard Holmes.

The Chairman (Mr. E. Wilson), in moving the adoption of the report, spoke of the need of an increase of members and the infusion of additional life into the Society. They had 585 members, but that was not sufficient, and if they could increase the number by one-half they would be able to do a great deal more printing than they were now able to do. They should aim at issuing every year one volume bound. This was far better than sending out their publications in parts, in paper wrappers, for these were very liable to get lost. The idea had occurred to him that as the bulk of the volumes put out by the Record Series committee related not to Yorkshire only, but to the North of England generally, they should endeavour to get the support of the other counties in the work. He alluded more particularly to the Index of Yorkshire Wills. Although kept at York, these wills referred to the whole North of England, and why should Yorkshire incur the whole burden of doing the valuable work of making these wills accessible? The Society were rendering accessible for the whole North of England a collection of wills extending over something like 500 years, and if they could enlist the co-operation of other counties they should be able to do the work more rapidly. One of the most important objects which the Record Series was intended to attain was the publication of parish registers.

Dr. Collins seconded, and said he would like to see a society formed to take in hand the printing of the parish registers for the whole of Yorkshire.

The Rev. E. H. Sankey observed that they had been promised for twelve years a volume on church plate, but they had not got it yet. Nothing was said in the report either as to the photographic survey of Yorkshire. If these things were failures, would it not be better to let them drop? If not, they ought to be prosecuted with more vigour. He had recently seen Sir Benjamin Stone, who had asked what was being done in the photographic survey of Yorkshire, and who had offered to come and give a lecture in Leeds or some other centre of population.

It was explained that the compiling of the material for the work on church plate, which would be published in three volumes, was very nearly completed.

Mr. E. A. Fry (Birmingham), hon. secretary of the Parish Register Society, advocated the formation of such a society for Yorkshire. The great difficulty was to find honorary secretaries to do the work, but in a large county like Yorkshire the difficulty ought not to be very great. He thought that in Yorkshire they should have a separate organisation, with a distinct set of members, but the Parish Register Society would be glad to assist in the formation, and it would for the first year bear half the expense of printing parish registers up to, say, 50*l*.

Dr. Eddison asked whether the Parish Register Society had any limits which prevented it from dealing with the North of England. They did not so much need to print the parish registers as to take care of them, for it was a serious thing that it should be in the power of any scoundrel to alter the originals. It always seemed to him a pity to multiply societies, but it would be for the council to consider the question. They might ask the County Council whether they would erect a building for the safe custody of the parish registers of the county.

Dr. Carter Mitchell said the care of the registers was a work for the country rather than for the individual.

Dr. Collins observed that the parish registers were the only history we had of the people, as to 90 per cent. of whom we knew nothing beyond what the registers contained.

Mr. Fry said the operations of his society were not confined to any part of the country. As to the preservation of parish registers, the council of the Parish Record Society had passed a resolution, alluding to the recent Shipway pedigree case, in which it was shown that documents were forged and stolen, and urging the Government to appoint a Commission of Inquiry as to the better custody and preservation of deeds, wills, parish registers, and other public documents.

The Rev. T. T. Smith and Dr. Carter Mitchell cited instances in their personal experience of carelessness on the part of those responsible for the preservation of parish registers.

A resolution was adopted that the council of the Society be requested to appoint a committee to inquire and report as to what they considered would be the most useful line of action to adopt.

The Rev. E. S. Gough said that information as to registers and church plate could easily be obtained through the Rural Deans, and if this were done it would stir up the clergy to take special care of the registers in their keeping.

DUNDEE INSTITUTE OF ARCHITECTURE.

AT the opening meeting and lecture under the auspices of the Dundee Institute of Architecture, Students' Section, Mr. T. Martin Cappon, F.R.I.B.A., delivered the opening address. Mr. J. J. Henderson occupied the chair, and there was a large attendance of members. Mr. Cappon, in the course of his remarks, impressed the students with the great importance of the architectural art, the magnitude and extent of its influence and bearing upon the history of humanity. Architecture, in the general sense of the word, was the art of erecting durable, commodious, beautiful and handsome buildings of all kinds. Architecture could be divided into civil, military and naval classes, any one of which gave scope for endless study and instruction. The architecture with which that Society was associated was civil, including the designing of all buildings to supply the wants of men according to the age, culture and civilisation. Architecture had become by degrees a fine art, differing from the other fine arts in the respect that it was based upon utility, and that it elevated mathematical laws to rules of beauty. Painting and sculpture were only the expression of the feeling of the beautiful, and any creation of architecture must appear to have utility in view. Every feature should have a meaning, and every part of a building ought to show the purpose for which it was designed. A glance at prehistoric ages showed that the caverns and mounds of the Egyptians, the tents of the Chinese, wooden cabins of the Greeks, and the bower of trees of the Goths had all formed the model of their more refined and opulent posterity. Architecture was, therefore, a development of constructive art, with nature as its ideal for proportion and beauty, and each nation had interpreted the art according to its climatic conditions, the materials found in it, its natural characteristics, and such other influences as colonisation, commerce or conquest brought to bear upon them.

NOTES AND COMMENTS.

REGISTRATION of architects is becoming more general in the United States. A Bill has been introduced in the Missouri Legislature which proposes to inflict rather heavy penalties on those who dare to practise without having their names on the register, kept by an official of the State. Anyone in that position who prepares a plan for a new building or for altering a building already existing is liable to fine, varying from 10*l.* to 100*l.* per week. To superintend works is no less criminal. The placing of a brass plate on a door, a card in a window describing the unregistered individual as an architect, or other advertisement, involves similar punishment. Apparently an architect's name must be inscribed in the books for every State in which he undertakes a commission, otherwise he must put up with pains and penalties. The Americans should know their own business, and apparently men like Mr. HANNIBAL CHOLLOP still survive, who declare, in spite of all enactments, "You are not now in a despotic land; we are a model to the airth, and must be jist cracked-up, I tell you."

THE risks from using defective mortar are numerous, for local authorities have in most places absolute power for dealing with it. A decision which was given this week by Mr. Justice BRUCE in SMITH *v.* JOHNSON reveals that a building owner can also have his remedy against a contractor who is not careful in using such mortar as is considered necessary for safe building. The plaintiff contracted with the defendant for mortar which was to be used in the extension of a dormitory attached to a lodging-house in Whitechapel after the completion of the work. The plaintiff was ordered to take down and rebuild the dormitory because the mortar did not correspond with the requirements of the Building Act. According to the by-laws the mortar to be used must be composed of freshly-burned lime and clean sharp sand or grit without earthy matter in the proportions of one of lime to three of sand or grit. The dormitory was rebuilt as ordered. Then the plaintiff sought to obtain from defendant the money expended on the work as well as a sum for loss of rent. It was maintained that the quality of the mortar could not be detected because it was in a wet state. Counsel for defendant maintained that when the contract was made it was not understood that if the mortar was unsuitable it would be necessary to take down and rebuild the dormitory. Besides, the plaintiff should have rejected the mortar when it was supplied. Plaintiff's counsel held that the defective quality of the mortar could not be ascertained until it was used, and as the rebuilding was the result of defendant's acts, he must be held liable for the cost of the rebuilding. Mr. Justice BRUCE considered that, according to the evidence, as the mortar was in a wet state, no reasonable diligence on the part of the plaintiff could have discovered the defects until the mortar was used. The plaintiff was therefore entitled to recover the expense of pulling down and rebuilding, as well as damages. His Lordship assessed the amount at 101*l.* The case is novel, and we hope it will compel builders to give more attention to the ingredients of mortar.

THE election of Associates of the Royal Academy which took place on Tuesday is likely to cause some surprise. A great many artists could be named whose names and works are more familiar to the public than those of Messrs. ARTHUR S. COPE, painter, ALFRED EAST, painter, and W. GOSCOMBE JOHN, sculptor. Having entered within the magic circle they all may acquire new powers, and perhaps surprises await visitors to this year's Academy. M. JULES BRETON, the French painter, well merits his choice as an honorary foreign Academician. He has been one of the most sincere artists among his countrymen. His *Bénédiction des blés dans l'Artois*, which appeared about forty years ago, was a revelation. It startled amateurs and critics by its realism. There was, however, nothing repulsive about it, for M. BRETON'S works are not adapted to serve as illustrations to such a book as M. ZOLA'S "La Terre." The artist has studied peasant life with as much devotion as MILLET, but he does not take so pessimistic a view of their condition as the Barbizon painter. M. BRETON is also a writer of charming poetry, and not long since we gave an account of one of his prose works, which contains an exposition of his principles as a painter of rural France and its inhabitants.

THE United States Consul at Chemnitz reports that the German iron manufacturers are alarmed at the capability of the Americans to compete with them in the German markets. Measures are to be taken to combat the imports by producing iron and steel at the lowest rates. The change has already taken place in some varieties of the iron trades. The Consul is sanguine about the victory. He says:—"If there is one word more than another of importance for our manufacturers it is the word which urges them to meet German manufacturers in South America, Russia, Australia, Africa and the East. Millions of dollars' worth of our tools will be taken just as soon as offered in these markets. If we can send steel to Germany, England and Scotland, surely we should undersell all Europe in far-off countries, which need the tools and implements of mining and husbandry."

A PERIODICAL which has upheld the reputation of Boston, U.S.A., is the *Architectural Review*, which hitherto has appeared eight times a year. For the future it will be published monthly. The change will not, we are confident, have any effect upon the leisurely criticism or the reserve shown in selecting illustrations. The world is in such a hurry it is always refreshing to come across writing and drawing which suggest deliberate work.

THE resolve of the London County Council to offer a yearly salary of 2,000*l.* to the superintending architect is satisfactory. There may be a change in the class of candidates who will apply for the appointment. But an architect who now makes 2,000*l.* a year in private practice can reasonably expect to gain a larger income, and his business after a number of years will have a market value. He will also escape the anxiety to satisfy a great many masters, and it will not be necessary to perform the juggling feats with estimates which would appear to be necessary as long as there is a Works Department. The position of supervising architect is more remunerative than that of a senior surveyor in the Office of Works, but the duties to be performed by the former are less satisfactory, while the tenure is more precarious.

ALTHOUGH the ideal may be banished from most parts of the world, we expect it will still find a home in Germany. But if Professor VON TSCHUDI, Director of the Berlin Academy, can have his way it will be evicted from the Fatherland. According to him, England now exercises the principal influence on Continental art, and that is owing to the common-sense character shown in its art. Idealism and cognate qualities were not sought by English artists, and compared with them the Germans were colour-blind. What the public wanted was to see nature represented as they saw it with their own eyes, and until that was accomplished in Germany the art would not be in keeping with the time.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: SOUTH AISLE, LOOKING WEST. ENTRANCE TO CHAPTER HOUSE. GALILEE, NORTH-EAST CORNER.

"LANGLEY," WEST HILL, PUTNEY HEATH, S.W.: DRAWING ROOM. DINING ROOM.

THE DENE, NEW FOREST: DINING ROOM.

THE fireplace in the dining-room, shown in the illustration, is built of Corsham and red Corsehill stone, with a plinth of bue bricks set in Parian cement, and its interior is lined with ordinary local bricks laid as headers, showing their silver-blue semi glazed ends. The walls are finished with rough orange-coloured stucco, and the cornice is of wood bulged out at the centre, coloured light blue and white, with a rail of dark oak.

The contractor is Mr. H. E. HALE, of Totton. The stonework has been executed by Messrs. GARRET & HAYSOM, the architect being Mr. R. M. D. LUCAS, of Southampton.

AMBERLEY HOUSE, NORFOLK STREET.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &C.

(*Continued from page* 67.)

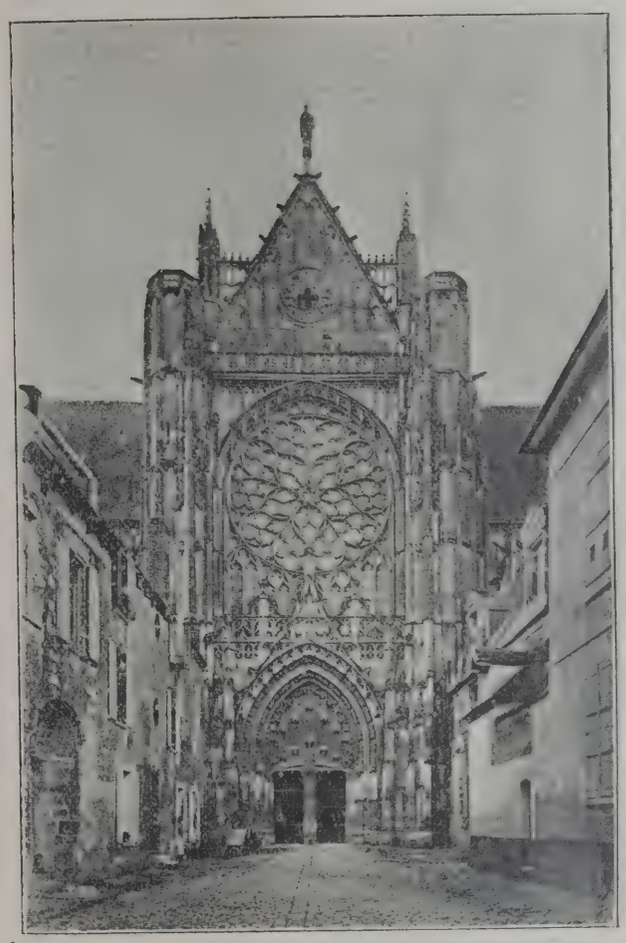
XI.

Sens—Joigny.

PLEASANT it is on the morrow of a long day among the ecclesiological treasures of Paris to wake up at Sens, and see the grey west front of the cathedral rising above the tiled roofs of the Hotel de L'Ecu, against a background of sky, purest cobalt. I am soon out, and in the cathedral. By half-past eight I have had a good two hours' work with note-book and pencil, and then return to a light meal served in the courtyard, "assisted at" by the dog, cat and parrot of the establishment. The first lays his head on my knee, the second purrs on the edge of the table, and the third, having descended from his cage, waddles, with as much grace as a swan on a gravel path, about the pavement in front of the *salle à manger* windows, presently partaking of chocolate from a spoon, of which, says Madame, he is very fond, and evincing a desire to swear eternal friendship. About 9 o'clock a big bell—whether Savinienne or Potentienne * I know not—sends its voice over the city, and I re-enter the cathedral with pleasurable anticipations of hearing some good plain chant for an hour or so. I seat myself in front of the choir-screen, but its gates remain unlocked; the huge antiphonarium and graduales are unclasped; the bass-viols, propped up against the lecterns, repose in their green great-coats; and the altar candles are unlighted; so I come to the conclusion that the capitular offices at Sens are not sung *in choro*, but in one of the chapels. And there, sure enough, in that of St. Savinien—which in this cathedral takes the place of the chapel usually appropriated to the Blessed Virgin—I find the canons saying their Mass with the curtains snugly drawn behind the eighteenth-century screen. Having greatly looked forward to hearing the daily offices at Sens chorally rendered, I am much disappointed at not being able to furnish any notes thereon,* so must give a somewhat detailed architectural account of this noble building, whose interior in many points vividly recalls the eastern portion of our own glorious choir of Canterbury, the work, as everyone knows, of William of Sens,† and specially valuable and interesting as being one of the comparatively few specimens of Transitional architecture on a large scale that we possess. The exterior of St. Etienne at Sens, like those of most French cathedrals, suffers from a want of completeness. In common with Auxerre, Meaux, Soissons and Troyes, it has but one western tower, and that has been finished off by an architect of the Flamboyant age; his turret on the south-west corner combining boldness with elegance. The northern tower was for some reason or other demolished early in the "forties"; yet on the whole the west front of Sens Cathedral—with its fine though sadly mutilated First Pointed triple porches, almost classical in their sculpture; its large Geometrical western window; its truncated northern tower; its modern "Majesty" in the gable, and niched figures of bishops in the west and south faces of the great tower—is imposing. Much additional breadth and grandeur is imparted to it by the "Palais Synodal," which, with its six Geometrical Decorated windows, flanks it on the south, presenting a fenestration for grandioseness barely equalled. There is no central steeple at Sens, nor do the roofs of nave, choir and transept meet even in the simple flêche, the absence of which feature imparts an air of great sameness to the outline of so many great French churches.



SENS CATHEDRAL: WEST FRONT.



SENS CATHEDRAL: NORTHERN TRANSEPT.

Perhaps the grandest view of Sens Cathedral is to be had from the small enclosed piece of ground on the north side,

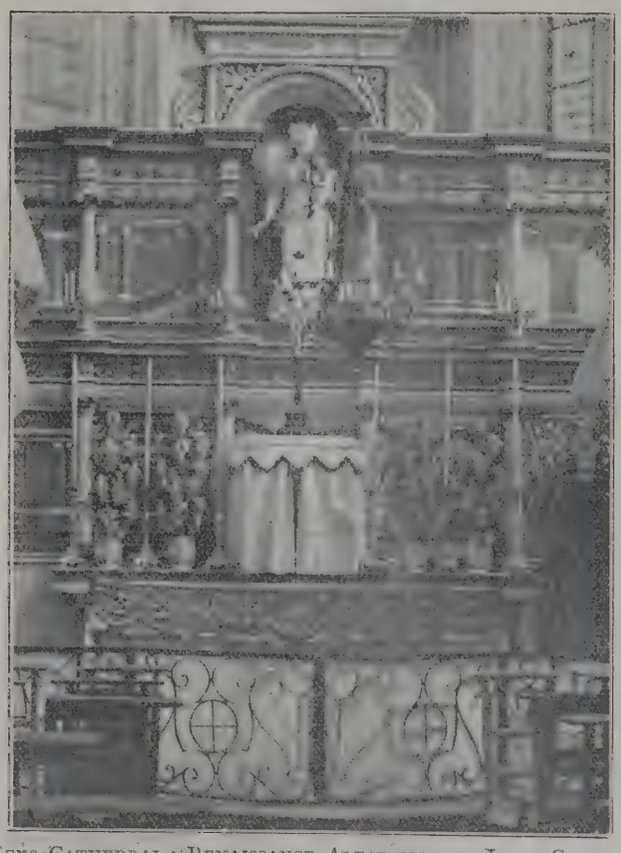
* These two *bourdons*, founded in 1560, escaped the Revolutionary fury. They derive their names from two early Christian missionaries to Sens—Savinien and Potentien.

* I was more fortunate on a subsequent visit to Sens. It was a Sunday afternoon. There had been heavy showers all the morning at Auxerre, but, arrived at the archiepiscopal city, the clouds had rolled off, and lay in Alp-like silvery masses on the horizon. The vast Transitional building was flooded with sunlight when I entered it about three, and the majestic hymn for the Vespers of the Transfiguration, "Quicumque Christo quæritis," was echoing grandly along the vaulted roof.

† Sens was in building 1143-68; Canterbury choir 1174-84.

entered from the narrow stony street leading up to the glorious Flamboyant transept façade by a picturesque Renaissance gateway. Another tolerably general view can be had from the opposite side, standing in the garden of the archiepiscopal palace, a ragged, ill-kept-looking place not to be named in the same breath with one of the prebendal houses in an English cathedral close.

Immediately on entering Sens Cathedral by the western doors its resemblance to the corona of Canterbury strikes one most forcibly. The great circular columns, with their Corinthianising capitals, are set in pairs back to back; the rings on some of the smaller shafts, and the same system of vaulting are features common to both churches. Yet I do not think the detail has the delicacy of that at Canterbury, nor has the whole so airy and *élancée* a character, on account of its greater breadth. Until 1864 or thereabouts the nave aisles opened into Middle Pointed chapels; these, solely from the desire of the architect to bring back this part of the cathedral to its primitive state, have been demolished (O fie! M. Viollet-le-Duc), Romanesque windows reintroduced, and the wall space below pierced with triple arcades opening into low cavernous-looking chapels lighted by small lancets, in which is excellent stained glass by Didron. Of course all this work is good of its kind, and uninterestingly respectable; but the loss of these chapels in an historical point of view is much to be regretted.



Sens Cathedral: Renaissance Altar-piece in Lady Chapel.

Against one of the piers on the north side is a fine but sadly mutilated reredos. This piece of sculpture formed part of the tomb erected by an Archbishop of Sens—Tristan de Salazar—in memory of his parents. Terribly mutilated during the Revolutionary fury, it was stripped of its statues; but two, that of the B.V.M. and St. Stephen, were restored subsequently. To my disgust, I find all the part of this reredos within pencil-reach scribbled over with names, a pastime which one inseparably associates with the British Protestant public; but, it appears, one is mistaken.

The glories of Sens Cathedral are undoubtedly the great rose windows in the transept—whirlpools of gorgeous, though somewhat coarse, sixteenth-century stained glass, executed by Jean Cousin, a native of Soucy, near Sens. The Flamboyant architect has almost transformed this portion of the cathedral, and one wonders that M. Viollet-le-Duc, with his love of uniformity, has not transmuted it into Transition! Great curiosities exist in the Decorated chapel opening out of this transept on its eastern side, viz. a fourteenth-century statue of the Blessed Virgin, and the Lady altar-piece, a very early specimen of Renaissance brass work, singularly free from the vulgarities and extravagances of the later school.

Tall iron gates admit to the choir aisles from the transepts. The southern aisle contains a staircase leading to the treasury through three beautiful round-headed arches on slender shafts; the northern one, some splendid old thirteenth-century stained glass with subjects from the life of St. Thomas à Becket. He fled here in 1164 to escape the wrath of Henry II., and in the treasury I am shown his mitre, alb, girdle, maniple, stole and chasuble. Like Canterbury, Sens Cathedral was originally planned with a single chapel at the east end, but during the Renaissance period another was thrown out to the south with windows in grisly imitation of Romanesque. In similar style is the chapel to the north, containing Coustou's monument of the Dauphin, son of Louis XV. and father of Louis XVI., properly removed here in 1856 from the choir, where it occupied a far too conspicuous position. There are also fine kneeling effigies of the brothers Jacques and Jean Perron, Archbishops of Sens; also the tomb of the Chancellor Duprat, a plain marble sarcophagus surrounded by bas-reliefs representing events in his life—one his entry into Paris as legate, the other into Sens as archbishop. The central chapel (1206) is dedicated to St. Savinien, and a somewhat painful sculptured representation of his martyrdom forms the reredos, to the concealment of some of the lovely old painted glass in the windows, which, as well as those in the clerestory throughout the building, are of an early Geometrical character. The background to this subject is a drapery in stucco. Seen from the west end of the cathedral, it has exactly the appearance of a piece of sail-cloth temporarily suspended to facilitate repairs. Like those of most French cathedrals, the sanctuary fittings at Sens are in the First Empire style, with spindle-shanked crimson velvet-covered stools for officiants and servers, and so on. The high altar is Classical, a baldacchino on the *motif* of that in St. Peter's at Rome, and the work of Servandoni, 1742, surmounting it. Although, of course, opposite in feeling, this really fine work harmonises better than one would expect with the Corinthian-like Transition columns of the apse and sanctuary,



Sens Cathedral: Nave, looking East.

besides imparting an air of greater length to the choir. A cardinal's hat is suspended just above the high altar. Ten Archbishops of Sens have attained this dignity, and one has reigned as Pope, under the title of Clement VI. (1342-52). The choral arrangements do not call for a detailed notice. The high close screen and gates, and the wainscotted stalls, which whilom concealed the beautiful pillars, have given place to a low screen of wrought iron, quiet and unobtrusive. This is carried right round the apse, where it branches up into coronæ of candles.

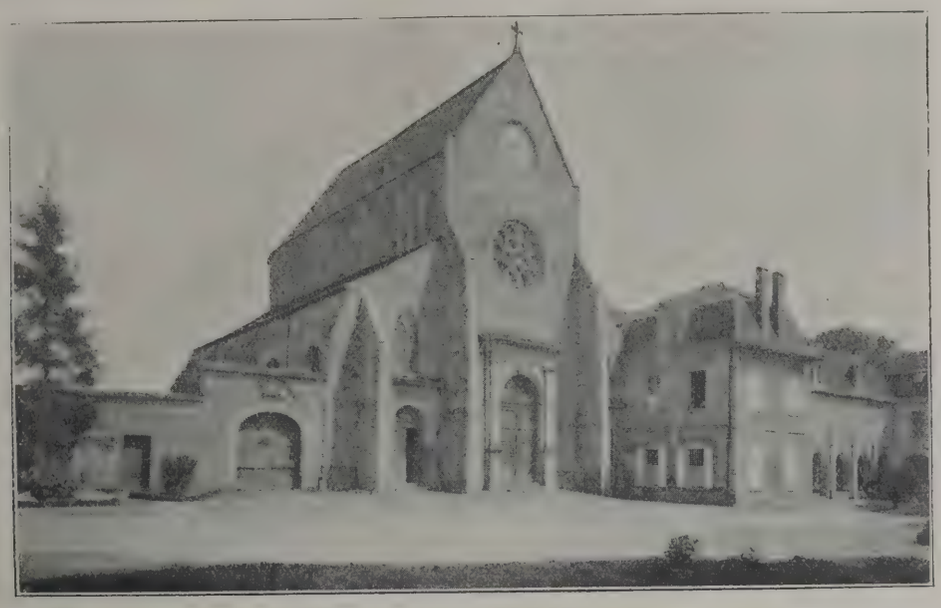
The churches of the city of course sink into insignificance beside the cathedral, yet they are worth visiting ; some feature of interest being presented by all. Here are a few notes. St. Jean, standing picturesquely to the east of the cathedral, with its severe-looking western façade and unbroken line of roof, is but a fragment of a once noble church, a mixture of the Pointed of Champagne and Burgundy. The apse and eastern chapels remain *in statu quo*, and so do the huge pillars and arches opening into the transepts, which, as well as the nave and central steeple, have disappeared. One long roof is carried over the whole structure, which now serves as the chapel of the Hôtel Dieu. In the western front is a round window with tracery clumsily but by no means badly imitated from First Pointed. Internally the detail of the apse, which in *motif* recalls Pontigny, is most delicate and refined.

Returning to the western part of the city, and remarking, *en passant*, the noble view of the cathedral from the Place Drapes, I find St. Pierre, a church chiefly of Flamboyant character, and consisting of a nave with north aisle. Here is some interesting coeval painted plass, good eighteenth-century grilles stretching right across the church, and a very fine Corinthian wainscot carried along the whole length of the south wall below the windows. A lofty Corinthian altar-piece, a large eagle lectern in the midst of the choir, a plain barrel-shaped roof with tie beams, and a large circular window with eight cusps, at the west end of the north aisle, are the remaining features which evoke my attention in this church.

During a pleasant stroll in the outskirts of Sens I make the acquaintance of three very good specimens of Modern French Gothic, viz. the chapels attached to the religious seminaries of the Sacré-Cœur, L'Immaculée Conception and Saint Esprit. The stained glass in the last-named, from the atelier of Didron, is by itself worth going to see.

I must not forget that close to the river, which is spanned by a picturesque bridge, sustaining an iron crucifix, stands the little church of St. Maurice, with some thirteenth-century remains in the shape of arcades. For the purpose of widening the river at this point the apse has been demolished, and a clumsy square eastern termination substituted, thus depriving the building of much of that picturesqueness which in its pristine condition it must have presented. A small flêche rises om the roof. With the exception of an hour's visit to the curious and interesting Romanesque church of St. Savinien, to which (standing as it does in the private garden of a conventual establishment) I was able only to obtain admission after wandering round and round for a long time in search of some means of ingress, I spend the remaining hours of my stay at Sens in the cathedral, taking chairs and viewing it from every possible point.

I quit Sens with many regrets early in the forenoon of Wednesday, August 3, and, once more strapping on my knapsack, descend the straggling Grande Rue for the last time. An Englishman in this comparatively little visited old French cathedral city is something of a *rara avis*, and I find that my comings and goings attract a considerable amount of public curiosity. I take off my hat to the great cathedral as the train slowly leaves the station, and as it passes close by the old church of St. Savinien I am able to get a last look at that too, with its beautiful old Early Pointed tower, and low spire rising between the nave and chancel, the whole presenting a very imposing appearance, chiefly from the absence of transepts, the nave aisle being carried along the side of the tower in lieu of them. Another grand church comes into view at Villeneuve, but I do not break the journey (which is a most pleasant one) here. On my left the Yonne dances and sparkles in the glorious summer noontide almost the whole way, until the train reaches Joigny, where I find that railway arrangements enable me to spend a clear five hours in wandering about its steep crooked streets, in which something picturesque occurs at every turn, making one long for the pencil of a Pugin, a Nesfield or a Norman Shaw.



Sens: Chapel of Hôtel Dieu, formerly St. Jean.

The old town, which lies on the other side of the river, possesses three churches, not particularly interesting from an antiquarian, but extremely so from an ecclesiological point of view. Of these churches—all Late in style—I will describe one, St. John Baptist, the largest, and one of the most extraordinary structures of the kind produced by the Renaissance that I have ever seen. St. John Baptist at Joigny is both substantial and lofty, having a nave and choir (with aisles and chapels), both under one line of roof, and a western tower. The clerestory, consisting of large four-light windows in a very coarse kind of Flamboyant, but undeniably imposing, is carried upon arches whose mouldings die off into the piers in lieu of being brought down upon capitals—a very common feature of late Continental Gothic. Between each clerestory window is a slender Tuscan half-pillar, from which the vaulting springs, similar to that in the great Wrennian church of St. James's, Piccadilly ; the aisle's vaulting is, however, much purer. Coloured figures of the Apostles are niched above the nave piers ; and the fittings of the nave and chancel, the latter with return-stalls, are solid and handsome. The apse clerestory windows differ from those in the nave, and are very curious, consisting of two square-headed lights under a round arch, the intervening space being occupied by a simple circle. St. John

Baptist's evinces traces of an earlier building, for there are some good attached columns on either side the nave; one bay (the easternmost) on either side is Middle Pointed, and the remains of a fine tomb and effigy of a knight are embedded in the wall of the tower. At St. Thibault's, the purest of the three churches, the most remarkable feature is the flight of steps inside the west door, recalling All Saints', Hastings.

These extraordinary churches haunt me, and, desirous of procuring photos, I scour Joigny with that object. I inquire at shop after shop, but the answer is, that they have never been "done," or that they never kept them; or last week they had more than they knew what to do with; that they expected plenty more the day after to-morrow, and so on; till I give up the search in despair. No one on the way from Paris to Dijon should omit visiting Joigny; it furnishes an excellent example of an old French town, with its walls and its gates flanked by sugar-loafed turrets, outside which the boulevards, completely encircling the place, make a most enchanting foliaged walk; here, having exhausted the ecclesiology of Joigny, I stroll for a considerable time, book in hand, until five o'clock, when I am once more in the train, *en route* for St. Florentin.

I catch a glimpse of a church or two. A very fine one occurs just before reaching the junction at Laroche—long, cruciform, with a low central octagonal tower and pyramidal capping. There is a short wait at Laroche, while the engine goes off on some unknown errand. Walking up and down the platform, it is amusing to watch the occupants of the train, which is a very long one, bound for Marseilles. Soon it is off again, and St Florentin, with its great Beauvais-like church perched on top of one of the two hills on and between which the town stands, comes into view about six o'clock. Here again the railway is still further removed from the town—quite a mile and a half of dusty road intervening between it and the station, so I am glad to avail myself of the omnibus. Mounting to the box, and chatting with the driver—an Alsatian, who amuses me not a little by his endeavours to spell out the titles of the few books which I carry strapped together—the drive from the station to the town of St. Florentin proves a very pleasant one, the declining sun throwing a glorious flood of light over the flat country. Bedroom inspected and the dust of travel removed, I descend to the *salle à manger*, Madame informing me on the way thither, with an air of great importance, that I shall meet three English Messieurs at table. As they "speke the Angleish," I suppose they are all one to Madame, but the said Messieurs turn out to be Americans—three very gentlemanly young fellows, whom it is a real pleasure to meet and converse with once more in the mother tongue. So animated gossip ensues pending the arrival of, and during, dinner, which is served in the pleasant *salle à manger*, whose windows command a fine tract of open country lying north of St. Florentin.

(To be continued.)

SOCIETY OF ARCHITECTS.

ON January 26 a meeting of the Society of Architects was held in St. James's Hall. Mr. Walter Emden, president, was chairman. The following paper was read by Mr. David Lyon, clerk to the Edinburgh Dean of Guild Court:—

The Supervision and Regulation of Building Operations, as Exercised by the Edinburgh Dean of Guild Court.

Before dealing with the jurisdiction and functions of the Dean of Guild Court of Edinburgh as they exist at the present time, some short account of the origin and nature of the Court may be of interest to you, as, so far as I know, no similar tribunal exists in England.

The Dean of Guild Court derives its name from the title of its president, the Dean—or Lord Dean of Guild, as he is by courtesy styled. The Dean is the head of the Guildry of the city, a corporation or municipal body of great antiquity. The history of guilds is a very interesting study, on which a great deal has been written, and there is no doubt that from the earliest times merchants and skilled craftsmen have banded themselves together in these associations or unions for the preservation and promotion of manufacturing and trading interests. I suppose one of the earliest of these guilds may be said to have had its origin at the building of Solomon's Temple, and still survives in the shape of the Freemasons' craft. Another occasion on which we get a glimpse of the existence of such a society occurs, as you will remember, when Demetrius the silversmith, alarmed by the new doctrines preached by St. Paul, called a meeting of the trade, and roused them to action by the cry that the craft was in danger. Since those times guilds have existed in most civilised countries and for many purposes, and you have here in London at the present time many examples in your wealthy and powerful City Companies.

In the case of Edinburgh, the Guildry consisted, so far as we are concerned to know, of the merchants of the burgh, and, as this corporation contained within it all the men of substance and standing in the burgh, they appear to have assumed, or been vested with, the power of regulating the public affairs of the community. For convenience, no doubt, their business was conducted and disputes were settled by the Dean and a small council or committee, and in this way was originated the Court of the Dean of Guild.

There existed at the same time other magistrates in the Lord Provost and bailies or bailiffs—corresponding to the Lord Mayor and Aldermen of the English burghs—who were appointed by the King to collect all rents and customs payable to the Crown, and who also exercised jurisdiction in criminal matters, and were responsible for the defence of the city—our friend the enemy in those days being usually the English—but the Court of the Dean of Guild had always an extensive jurisdiction in mercantile and maritime cases, and an exclusive jurisdiction in what are called cases of neighbourhood.

Lord Deas, one of the judges in the Supreme Court, said: "There has been immemoriably recognised in the royal, burghs of Scotland what is called the law of neighbourhood, or good neighbourhood, with regard to buildings particularly as to their height, safety, and boundaries, under the jurisdiction of the Dean of Guild, and we have both ancient and authoritative confirmation in our Institutional Writers of this being the law and practice."

Lord Erskine, one of the earliest and most famous of the Scots Institutional Writers, says: "The Dean of Guild is that magistrate of a royal burgh who is head of the Merchant Company; he has the cognisance of mercantile causes within the borough, and the inspection of buildings, that they encroach neither on private property nor on the public streets, and he may direct insufficient houses to be pulled down. His jurisdiction has no dependence on the court of the borough or Bailie Court."

He refers to an Act of the Scots Parliament of 1593 as the first statutory authority for the Court, but in 1584 the Dean of Guild Court of Edinburgh had already framed certain constitutions of bye-laws for its guidance, section 3 of which enacts that the Dean of Guild and his council shall "bear the haill burden of deciding all questions of neighbourhood." These constitutions were ratified by an Act passed by the Scots Parliament in 1598, and from that date onwards the Dean of Guild of Edinburgh and his council or Court seem to have exercised such jurisdiction.

I may say that I have in my custody the minute books of the Court in a practically unbroken series from 1529 to the present day, in spite of the proclivities of the English, who had a most provoking habit of ransacking our archives and destroying our records in the course of their incursions.

Dean of Guild Miller, who retired from office in November last, has in his book on the Edinburgh Dean of Guild Court made a most interesting collection of decisions by the Court in those early times, showing the varied nature of its judicial functions. Among the matters dealt with I may enumerate uninhabitable houses, questions between master and apprentice, questions of nuisance, the uses of buildings, obstruction sewers, signboards, weights and measures, questions between merchant and merchant and merchant and mariner, and unfree trading, or the exercise of a trade or craft in the burgh by a person who was not a freeman or burgess of the burgh, or not a member of the incorporation of that particular trade or craft; and it should be borne in mind that at that time all merchants and traders and craftsmen had to belong to the incorporation of a particular trade or craft before they could engage in business.

Mr. Miller quotes one rather quaint instance of a question of neighbourhood which I am induced to relate to you. In 1696 James Duke of Queensberry complained that Mungo Malloch had several windows opposite the Duke's "great lodging in the Canongate," so that the Duke could not "shift himself"—which in English may be interpreted "change his shirt"—or do any other thing, but he is exposed to the view of Mungo Malloch and his tenants. A decree was accordingly issued by the Court ordaining that frosted glass should be put in the windows, or such glass as would not be transparent, and it was ordered that, if the Duke should not be satisfied with that, the windows were to be closed up with stone and lime.

With the advance of the times, which brought with it the institution of popularly elected Town Councils and the establishment of properly constituted legal tribunals for the disposal of all civil cases, the Dean of Guild was gradually stripped of his powers, and his jurisdiction was narrowed down to regulat-

ing buildings within burgh, whether in repairing or taking down and rebuilding old buildings or erecting new ones, and these practically are the functions of the Court to-day.

The Guildry, I may say, still survives, and the members annually elect the Dean of Guild; but here, I think, its public duties cease. The qualification for a Guild Brother, as a member of the Guildry is called, is that he has been in business in the city for one year, or has been a householder and paid rates and taxes for three years; and his election costs him one guinea.

The Dean of Guild, I ought also to say, is *ex-officio* a member of the Town Council.

This short account of the origin of the Court will show you that when the powers and duties of the Court came to be defined by statute, which occurred in 1879, the Court had already, by usage and precedent, acquired a jurisdiction at Common Law, which was reaffirmed in each charter granted by the Court to the burgh of Edinburgh, and was explicitly recognised by the judges in the Supreme Courts.

This brings us now to 1879, when the Court was constituted in its present form. The Edinburgh Municipal and Police Act of that year enacts that:—"From and after the first Friday following the election of councillors in the month of November 1879 the Dean of Guild Court as at present constituted shall cease and determine, and shall on and after that date consist of the Dean of Guild, appointed by the Guildry of the city, as use is, and of ten members then and at the corresponding date in each succeeding year to be appointed by the magistrates and council, five of the said members being councillors, and the other five registered electors of the city, not being councillors, and of whom three shall be persons carrying on, or who have carried on, business as architects, civil engineers, ordained surveyors, or master builders; and three members of the Court, with or without the Dean of Guild, who when present shall preside, shall form a quorum; and the said Court shall have power from time to time to appoint one of their number to preside and act in the Court in (as interim Dean of Guild) the absence of the Dean of Guild; and such Court, as so reconstituted, shall possess and exercise within the burgh all the rights, powers, privileges, functions, and jurisdictions which are possessed and exercised by the existing Dean of Guild Court, by law or usage, within the limits of its present jurisdiction, which are not inconsistent with and which are by this Act conferred." So that, you see, when the Court was reconstituted care was taken to preserve to it all its inherited and Common Law powers.

You will also observe that the Act prescribes that three at least of the members of the Court must be architects, civil engineers, ordained surveyors, or master builders; but, as a matter of fact, the importance of securing that this Court shall be one composed of practical men is so well recognised in the Town Council that the proportion of these is always much higher than the law requires.

For instance, the present Dean of Guild is an ordained surveyor, and of the ten members of his Court there is one architect, one civil engineer, four master builders, one plumber and sanitary engineer, two house and property agents, and a marble merchant. Some of these gentlemen are retired, but the majority are in business, and all are men of standing in their various professions and callings, and of repute as citizens.

So much has the practical nature of the Court impressed itself on the judges in our Supreme Courts, that in a recent appeal against a judgment of the Dean of Guild Court dealing with a practical point the judges in dismissing the appeal put it upon record that "they will be slow to interfere in a matter of this sort with the decision of the Dean of Guild and his council, who are practical men, skilled and experienced in the building trade and other trades connected therewith."

Of course, if, as sometimes happens, a member of the Court is in any way interested in a petition before the Court, he must withdraw during the consideration of the case.

While the Court, however, is more particularly fitted to deal with the practical aspect of the cases which come before it, it may competently, and does constantly, decide the legal questions which may arise in these cases. Obviously in cases of neighbourhood intricate questions arise, involving the construction of titles and the application of the law of servitudes; but in dealing with the legal aspect of a case the Court is advised by its legal assessor, who is always a member of the Bar—an advocate, as he is called in Scotland, the equivalent of your barrister. Only on one point has the Court no jurisdiction, and that is when a conflict of title arises, when two parties produce titles apparently applying to the same property. In such an event the Dean of Guild Court must delay the disposal of the petition until the right of property has been decided in a competent Court.

Although the members of the Dean of Guild Court, with the exception of the Dean himself, are now elected by the Town Council, and five of the ten are members of the Council, I wish to make it clear that the Court is wholly independent of the Council; and while the Council is made a party in all proceedings before the Courts, its position is the same as that of any other party, neither more nor less.

The officials of the Court consist of the Master of Works, the Procurator Fiscal and the clerk, and I shall briefly describe their duties.

The functions of the Master of Works are to report to the Court upon all plans lodged with petitions, and to see that the orders made by the Court are duly executed, and from time to time to inspect the works in progress, in execution of plans for which warrant has been given by the Court; also to report to the Procurator Fiscal any deviation therefrom. He is prohibited from engaging directly or indirectly in any service or employment connected with the professions of architect, civil engineer, or surveyor, or from being connected directly or indirectly with or interested in any contract or works belonging to any branch of the building trades. He, of course, has a staff of inspectors to assist him in his work. I may state that the Master of Works in Edinburgh is also the burgh engineer, and the combination of the two offices has been found of immense advantage in the supervision and inspection of work authorised by the Court and in the detection of unauthorised building operations. This combination has the further recommendation of preventing the friction and overlapping occasioned by two officials with distinct staffs of assistants engaged in work very similar in character. Both systems have been tried in Edinburgh, for in 1879 an independent Master of Works was appointed, but in a few years the friction and overlapping to which I have referred became so apparent that the offices were conjoined, with the most satisfactory results.

The next official is the Procurator Fiscal, or Public Prosecutor. His duty is to take proceedings against any person contravening the law by building without a warrant or deviating from the plans in conformity with which any warrant of Court has been granted, also against the proprietors of a ruinous or dangerous building or structure, to have the same taken down or secured; and generally it is at his instance that all offenders against the Dean of Guild Court law are brought before the Court. He is called the Procurator Fiscal for the Public Interest, and he represents, as his designation suggests, the interests of the public in the enforcement of the law. This, I may tell you, is the practice in all Scots Courts, and you will permit me to say that it is one which might with advantage be adopted in England. In Scotland all prosecutions proceed at the instance of a Public Prosecutor. The vindication of the law is, we hold, a matter of public interest, quite distinct from individual considerations of injury or damage to person or property; and the theory of Scots law is that in the public interest any breach of the law ought to meet with its appropriate penalty, apart from any action which an individual may take at civil law to obtain redress or to secure compensation for any damage he or his property may have sustained. I have made this digression to help to make clear to you the importance of the duties discharged by the Procurator Fiscal in the Dean of Guild Court.

Lastly, there is the clerk of Court, who is expected to guide the Court in matters of procedure. He has always to keep a record and minutes of all proceedings before the Court, including an index—open to the public—of all warrants granted by the Court. He is charged with the safe custody of all plans passed by the Court, which, I ought to say, remain permanently in the possession of the Court for reference. While this is, of course, necessary for the purposes of the Court, it is at the same time of great public convenience. I need hardly say that petitioners do not lodge their principal plans, but only tracings.

Having explained the constitution of the Court and enumerated the officials, I purpose now to deal with the class of cases submitted to the Court, and with the method of their disposal.

The section of the Act prescribing the operations in respect of which a warrant of Court is necessary is as follows:—

"Every person who proposes to erect any house or building, or to alter the structure of any existing house or building, or to use for human habitation any existing house or building which had not been previously used for that purpose, or to alter the mode of occupancy of any existing house in such a manner as to increase the number of separate houses or occupiers, shall lodge with the clerk or Dean of Guild Court a petition for warrant so to do, and such petition shall set forth a description of the intended house, or building, or alteration, and shall be accompanied by a plan of the site showing the immediately conterminous properties, and also the position and width and name of any street, court, foot-pavement, or footpath from which the property has access or upon which it abuts, and also plans, sections, elevations and such detailed drawings as are necessary to show the height and mode of structure and arrangement of the intended house, or building, or alteration, and the lines of the intended drainage thereof, and the levels thereof relatively to the street, court, foot-pavement, or foot-path, and to the sewer or drain, and with which the soil-pipes and drains of the property to be built or altered are intended to be connected, and in regard to any building intended as a place of public resort such plans shall show the arrangements for

ventilation and heating, and the provision intended to be made for ingress and egress ; and all plans to be lodged as aforesaid shall be drawn to a scale of not less than 1¼ inch to every 10 feet, except plans of the site, which may be to a scale of not less than one-fourth of that of the other plans; and such petition, plans and sections, with such alterations thereon as may be made as after provided, shall be registered and indexed by the clerk of the Dean of Guild Court ; and the said petition, plans and sections, and register and index, shall be open to inspection by any owner or ratepayer upon payment of a fee of 1*s*, provided always that the Dean of Guild Court, on a written application, may, in the case of any alterations of any house or building which do not affect the property or the rights of other owners, and which in the opinion of the Dean of Guild Court are of minor importance and extent, remit such application forthwith, with such instructions as he may think fit, to the master of Works, who may thereupon grant warrant for the execution of such alterations ; and which warrant shall have the effect in all respects of a warrant of the Dean of Guild Court, and be subject to the provisions of this Act in the same way as if such warrant had been granted by the Dean of Guild Court ; and all such alterations shall be executed to the satisfaction of the Master of Works, who shall make a report to the Dean of Guild Court."

To this section an addition was made requiring that all plans shall set forth thereon the material proposed to be used in the construction of the elevations of any house or building, and prohibiting any person from building, altering, or rebuilding any house or building until the approval of such material has been given by the Court.

A warrant of Court is also now necessary for excavations intended to be made for and in connection with houses or buildings intended to be erected.

I wish more particularly to direct your attention to the clause dealing with the material to be used in the elevations of buildings, because it makes an advance on the primary function of the Court, which is to secure efficiency of structure.

The power to control the material used in the elevations may, I think, be said to go beyond mere considerations of stability and security, and to confer on the Court a discretion which will to a certain extent entitle it to be reckoned with as a court of taste, because, as far as stability is concerned, I suppose a building may be equally well constructed of stone, brick and cement, iron or wood, or of a combination of any of those materials.

I need scarcely say that in Edinburgh we are proud of our picturesque city, and that there is a strong bias in favour of the use of stone, at least in the elevations of our buildings, along with a desire to secure some measure of architectural feature in their appearance, so that when some more than usually plain or ugly building is erected, the desire is often publicly expressed that the Dean of Guild Court should have the power to consider the architectural character of the plans submitted to it. Now, while we are generally agreed that this would be desirable, and while the Court does as far as possible use its influence in the direction of persuading the speculative builder and the utilitarian to spend a little money on architectural feature and decoration, we have to recognise that a prosaic legislature will not give to any Court or local authority the power to dictate to the individual in such matters. I suppose this is inevitable, because it does seem inequitable to compel any private individual to erect beautiful but probably unremunerative structures for the public delectation, and also because we must admit the force of the maxim that there is no disputing a matter of taste, and on a question so elusive and so personal we can never hope to have unanimity of opinion. We may be assured, then, that the Dean of Guild Court will never be a court of taste in this sense, and this power even of controlling the material of elevations is one which, I am satisfied, it will not be permitted to exercise arbitrarily ; but so far as reasonable men may endeavour to preserve amenity and congruity without entailing undue expense on the owners of property, to that length, I believe, the action of the Court will be sustained.

There is also a proviso in the section of the Act I have just read which I wish you to notice, and that is the clause which deals with warrants for alterations of minor importance and extent, and which was inserted for the following reason:—It was urged that in a large number of cases the alterations proposed, although they were structural, were of such a trivial character that it seemed a hardship to insist on the proprietor of the property being put to the trouble and expense of presenting a petition in the ordinary way to the Court ; accordingly this proviso was inserted, allowing a person in such a case to lodge a simple sketch, accompanied by an explanatory letter, and so obtain the sanction of the Court without incurring much expense or loss of time. This method has been readily taken advantage of, with the result that a class of case which occasioned much trouble to the Court and its officials through the difficulty of deciding whether or not it came within the scope of the Act of Parliament has been provided for in such a simple way that people have freely availed themselves of the facilities thus afforded them for obtaining the sanction of the Court, and I believe that very few even of the most unimportant alterations are carried out without this sanction.

I now propose to deal with the manner of bringing cases into Court and with the procedure of it, and I shall begin by describing the petition, which is the foundation of all proceedings there.

This petition is prepared in accordance with an Act of Sederunt of our Supreme Court, which prescribes the forms of procedure in Courts of royal burghs. It is therefore a paper which would properly be drawn by a lawyer, but for convenience a printed form is issued by the Court, which may easily be filled up by any intelligent person. It consists of three parts—(1) The petition proper ; (2) a statement of facts ; and (3) the pleas in law. The first portion describes the proposals of the petitioner, and also contains a list of the neighbouring proprietors and others whom the petitioner may consider have an interest in the proposed operations, including in each case the Lord Provost, magistrates and council of the city, and craves an order of the Court to serve a copy of the petition on these respondents, as they are called, and to ordain such as have objections to the petition to lodge a note of these within a specified time after service of the petition, the time usually fixed being four days.

The second portion, the statement of facts, describes the property to be built or altered, with its boundaries, and states that the respondents enumerated in the petition are the only parties interested in the proposed operations.

The third portion, the pleas in law, contain what may be described as the legal propositions of the petitioner. The first is that, as the operations proposed are confined to the petitioner's own property, and can be executed without danger, the petitioner is entitled to warrant as craved. The second is one which you will find at the end of all judicial petitions of this kind, and is to the effect that anyone opposing the application should be found liable in expenses.

The clerk of Court, having received the petition and plans, writes the necessary order for service on the petition, which is then put into the hands of the officer of the Court whose duty it is to serve a copy of the petition on each of the respondents named in it.

As I have said, a copy of the petition is in each case served on the Town Council, and this seems the most convenient place to make clear the position of the Town Council or Corporation in the Dean of Guild Court. In the Corporation is vested all public rights and property, and among the rest is the right to the *solum* of the streets ; they have, therefore, naturally an interest to see that public property is not to be encroached on in the course of any building operations. But, besides this, the Corporation has various statutory powers, giving them the control of the laying-out of new streets, and of the height of the buildings to be erected in them, and also of the height of existing buildings which are being enlarged. It has to be satisfied that public sewers are not to be interfered with, that bakehouses and dairies are being constructed conformably to its requirements, and generally that the provisions of the Municipal Acts bearing on such matters are being observed.

The reason therefore for the Corporation being a respondent in each case will be evident to you, but it comes into the Dean of Guild Court just on a par with any other objector, and must maintain its rights there in the same manner as any other respondent.

After service of the petition has been made, the clerk of Court must give notice to the burgh engineer, whose duty it is before the petition is heard to report to the Court whether, in his opinion, the plans are in conformity with the provisions and requirements of the Edinburgh Municipal and Police Acts, and this report is submitted to the Court when it meets to consider the petitions and plans.

Between the time of the service of the petition and the first meeting of the Court thereafter, the respondents are expected to examine the plans of the operations in which they are interested, and to formulate their objections, if any ; and for the Corporation the plans are examined by the city architect. He makes a report of any objections he may have to the town clerk, who represents the Corporation in these proceedings.

The Court sits weekly all the year round, with the exception of the month of August and September, when the meetings are held fortnightly. Before the Court sits in public the members meet and consider all applications, so as to inform themselves as to the proposals of petitioners, to go over the plans, and to receive the reports of the burgh engineer. Each case is carefully considered, and notes are made by the Dean of Guild as to whether or not the plans are such as may be passed, and also of any improvement in architectural detail or internal arrangement which the Court may desire to suggest. The public Court is then held at a fixed hour. The clerk calls a case, and the petitioner or his law agent, and usually his architect, appear at the bar. If the plans are all in order, warrant is granted without comment. If there are only some slight altera-

tions proposed, either by the Court or by the petitioner, to meet the objections of respondents, who are also expected to attend at this time, the matter may be adjusted at the bar and the plans passed. If, however, the objections, either by the Court or by a respondent, are vital, the case is usually continued, to allow the petitioner to decide whether he is to abandon his petition, to modify his plans, or to insist on his position and prepare to fight the case.

(*To be concluded.*)

TESSERÆ.

Conventionalised Ornament.

It is believed by those who have given attention to the subject of natural ornamentation that leaves, flowers and fruit, when selected for decorations, are conventionalised, and it is quite true that the early architects, when they sought nature for ornament, did dispose them in a geometrical manner—they did not place vegetable products upon walls, columns, bosses, &c., in an undesigned way, but they had a system upon which their proceedings were grounded. It would be futile to endeavour to secure greater beauty and precision in decoration without inquiring into those laws which directed the formation of those interesting and often beautiful natural designs of the early architects, and the nature and extent of conventionalism should be carefully analysed and separated from the mis-shapen aboriginal examples in which the early sculptor endeavoured to imitate nature clumsily and imperfectly, but did arrange vegetable products conventionally. The ignorant imitation of nature must not be confounded with the conventional or geometrical disposition. On comparing Anglo-Roman, Danish, Saxon, Norman, Early English, Decorated and Perpendicular, sculptured or carved foliage, flowers and fruit, we shall find that all are more or less conventionalised; but nature in the earlier periods is hardly known as such through the sculptor's want of imitative skill. When foliage, flowers or fruit are selected for decorative purposes they should not be portraits of any single specimen taken from a garden or hedge, but they should be ideal, in fact, more perfect than nature forms any one leaf or flower, so as to realise the remark, "Art is nature better understood."

Historic Portraits.

Archaic arts make monarchs and warriors known not so much through individual features as by generic attributes. It is true upon a temple in Egypt is a profile to which tradition attaches the name of Cleopatra. But still, speaking generally, it may be said that no trustworthy portraits can be found either among the mural paintings of Egypt or the bas-reliefs of Assyria. The same judgment, too, must be passed on the figures in that repertory of English history, the tapestry of Bayeux. The busts of illustrious men and of Roman emperors now in the Capitol museum, some of which, however, are scarcely above suspicion, rank among the earliest and most trustworthy historic portraits. Sculpture in the history of art preceded painting, and carved stone from the nature of things is more likely to endure than the substance of panel pictures; hence the earliest and truest portraits in our country have been derived directly or indirectly from figures sculptured on tombs. Among the monuments in Westminster Abbey which William Burges pronounced authentic are the portrait-effigies of Queen Philippa, Edward III., Richard II, Anne of Bohemia, Margaret Countess of Richmond and Henry VII. Still the noteworthy fact remains that while we have in the British Museum that most marvellous bust-portrait of Julius Cæsar, we are left after the Roman invasion for a period of just about a thousand years with scarcely a dozen portraits of the men whose characters and deeds are indelibly graven on the page of English history. The cause may be found simply in the fact that England was a barbarous land, lying far from the great centres of civilisation. In this pre-portrait period, however, there are at least two paintings which the world has been willing to identify with names honoured in religion and poetry. The head of Geoffrey Chaucer is said to come down to us with the advantage of three centuries of pedigree; and the portrait of John Wycliffe, widely diffused by engravings. With some such few and pleasing exceptions, however, we look in vain for a portrait illustrative of English history till the student comes down to the reign of Henry VIII., when Holbein was a pensioner at the English Court.

Delaroche's "Hemicycle."

When undertaking to execute historic frescoes in the Houses of Parliament, William Dyce, R.A., hoped to call to his aid a troop of adequately-trained pupils as assistants. He tried three or four youths, but found they could render him no help. Thus he was reduced to the needless drudgery of executing even the most subordinate passages with his own hands. Contrast the efficient assistance which Paul Delaroche was able to obtain from pupils in his own atelier when painting his arduous work in the Paris Ecole des Beaux-Arts. To four pupils—of whom the late Edward Armitage, R.A., was one—this great master could safely delegate the labour of drawing in charcoal on the wall, from a small cartoon, the full-sized outline of the entire composition. These disciples were proud of the honour thus conferred upon them; they divided the subject into four parts, and "tossed up for choice," and at the end of a month or six weeks, the outline completed, Delaroche paid them a visit, expressed himself well satisfied with their work, and, putting his hand in his pocket, gave them two or three napoleons. "We, of course," said Armitage, "ordered a good dinner at the Palais Royal, and concluded our evening at the theatre." After Delaroche had made the needful corrections in the outline, his pupils then commenced the task of painting. "A carefully-finished painted sketch," said Armitage, "was our guide, and we were left entirely to ourselves until the whole work was painted. Delaroche then joined us, and for about a year we were continually at work with him." Dyce, as we have seen, dismissed his assistants as incompetent. He, in common with the other English artists employed at Westminster, went without aid through the entire drudgery incident to large mural works, at a loss to himself of that co-operation he had a right to expect, and with still greater detriment to our young artists themselves, who thus missed the best of all possible means of growing in knowledge and gaining a much-needed power.

The Power of Chiaroscuro.

Mere exact imitation is pleasing; the transferring objects subject to continual change from their places in nature to a perpetuity on canvas, the fixing of something transient, is sure to delight the eye and mind, that ever regret that all things are fleeting. Whatever is faithfully represented, and has no accompanying dissonant objects, will be sure to be picturesque, if picturesque be what is paintable; and thus the painter, subjecting all to the common laws of the art, will work upon our natural love of imitation, and excite in us pleasure by the representation of objects in themselves ugly, sometimes even disgustingly so. But in these cases we more admire the art, the beauty of tone, of colour, and light and shade, that give a sentiment to the whole picture, sometimes foreign to, or not necessarily arising out of, the objects represented; and in these cases the apparent subject is subordinate to one that is to be felt. The painter, working with light and shade and colour, has the power to heighten or to obscure, to enrich or to subdue. And under this power many emotions may be excited that shall have reference to the objects represented. Oftentimes these objects are not the first things that strike the mind; we are pleased independently of them, and when we see them there transfer to them the pleasurable sensations that really arise without them. When the sentiment arises from tone and colour, a very high subject, and extreme beauty of composition, one in its own nature so powerful as to force and fix the mind to it would detract from the effect intended by the painter. This is exemplified by Rembrandt; the most faithful representation of really beautiful objects would dissolve by their commanding presence the mystery and magic that pervades his chiaroscuro. By the impression effected by the tone and colour, you are put quite out of the expectation of elegance or beauty; you would as soon think of finding the Venus or Antinous in an Egyptian catacomb. You would wonder how the laughter-loving goddess came there, and in the warmth of imagination, if of a chivalric spirit, might fancy you were breaking a spear with the enchanter who placed her there, and find that you had only poked a hole through the panel with your umbrella. The superstition, the mystery of Rembrandt, is the great subject; the objects must be under its influence, not above it; they must have no power of their own, but become awful for that which is about them and in them, for they breathe an atmosphere of preternatural power. There is a magic circle that separates the spectator from all that is within it; he would not, nor can he pass it, nor can he avert his eye from the mystical fascination. This great painter took care that there should be nothing superior to this effect of tone and colour. As long as all is congruous and no one thing is present to destroy the delusion, we might say all is picturesque. On that view of the term, opposite are equally the picturesque, rough or smooth, for it depends on congruity.

The Mansions of Paradise.

The Rabbinical traditions discuss largely the glories, wonders and delights of the future state. The famous treatise, "Nishmath Chajim," after announcing that there are seven regions or dwellings in the place of evil for the punishment of the wicked, cheers the true believer by telling him that Paradise is similarly partitioned and equally large. It contains seven houses or general receptacles for the blissful. Those houses are unquestionably adapted for a large population, for each house is twelve times ten thousand miles long, and twelve times ten thousand miles broad, 120,000 miles square. The first

house fronts the first gate of Paradise, and is inhabited by converts from the infidels, who have voluntarily embraced the Jewish faith. The second house fronts the second gate of Paradise. Its walls are of silver and its beams cedar. It is inhabited by those who have repented, and they are superintended by a penitent. Manasseh, the son of Hezekiah, is set over them. The third house is opposite to the third gate, is built of silver and gold, and is inhabited by Abraham, Isaac and Jacob, with all the Israelites who came out of Egypt and all that were in the desert. In this house also dwell David, Solomon and all the other sons of David, with the exception of Absalom. But those do not comprehend the whole habitancy of this well-stocked house. It contains, in addition, the whole succession of the kings of Judah, with the exception of Manasseh, who is occupied in governing the second house. At the head of this dwelling are Moses and Aaron. The fourth house fronts the fourth gate of Paradise, and is built, as the first man was framed, in perfection. It is built with oil-tree (olive) wood. But why is it thus built? Because the house is built for the habitation of the perfectly righteous, and their earthly days were bitter like the oil-tree. The fifth house is built of silver, fine gold, glass and crystal. The river Gihon flows through the midst of it. The framework is of gold and silver, with an odour far exceeding that of Lebanon wood. The couches are also more costly than those of the others, being formed of gold, silver, spice and scarlet and blue silk which was woven by Eve; and also crimson silk and the finest linen, and cloth of goats' hair which was woven by angels. In this house dwell Messiah ben David, and Elias of blessed memory; and to the chamber with pillars of silver and carpets of scarlet, where Messiah especially dwells, with Elias perpetually declaring to him, "Be at ease, for the end is at hand, when thou art to redeem Israel." Two houses remain, but description has been exhausted, and they seem to be yet either inadequately finished or inadequately filled. The sixth is for those who have rigidly walked in the path of the commandments; the seventh for those who died, whether of sorrow for the national sins, or innocent and undue victims, swept away in the times of national calamity.

Roeskilde Cathedral.

The cathedrals of Denmark are of great antiquity. Those of Ribe, of Viboig in Jutland, of Lard, Ringsted and Roeskilde, in Zealand, all date from the end of the eleventh or the beginning of the twelfth century—since which remote period, in fact, no churches of any magnitude have been erected. Roeskilde is one of the oldest cities in the kingdom. In the tenth century it was the capital. Canute the Great may be considered as the originator and founder of its existing cathedral, which was completed in the year 1054. It has occasionally undergone slight repairs, but never any material alteration. The edifice is full of monuments of the queens and kings of the ancient race of Valdemar, as well as those of the present dynasty. Some of the earliest sovereigns are enclosed within the shafts of the pillars, or in the walls themselves; a mode of sepulture, it would appear, as honourable as it is singular, since we find amongst the immured the great Svend Etridsen and other renowned and pious benefactors of the church. In front of the altar is the simple sarcophagus of Margaret, the great queen of Scandinavia, erected by her successor, Eric the Pomeranian. The queen is represented lying at full length with her hands devoutly folded on her breast. The style of Roeskilde Cathedral is pure Gothic, but in consequence of the additions which the interior has received from time to time from kings and prelates, that portion of the edifice is more remarkable for historical interest than for purity of style or architectural beauty.

Clarendon House, Piccadilly.

At what is now the south end of Albemarle Street stood Clarendon House, built, as Bishop Burnet tells us, on a piece of ground granted to Lord Clarendon by Charles II. The earl wished to have a plain ordinary house, but those he employed preferred erecting a palace, whose total cost amounted to 50,000*l.* "During the war," says the bishop, "and in the plague year, he had about 300 men at work, which he thought would have been an acceptable thing when so many men were kept at work, and so much money, as was duly paid, circulated about. But it had a contrary effect; it raised a great outcry against him." The sale of Dunkirk to the French for 400,000*l.* had taken place only three years before, and was still fresh in men's minds. The odium of this transaction fell chiefly on Lord Clarendon, who was accused of pocketing a share of its profits, and the people gave the name of Dunkirk House to his new mansion. Others called it Holland House, thereby insinuating that it was built with bribes received from the Dutch, with whom this country then waged a disastrous war. In spite of popular outcry, however, the house was completed in 1667, the year of Clarendon's disgrace and banishment. Fifteen years later, after his death, his heir sold the place to the Duke of Albemarle for 25,000*l.*, just half what it cost, and the duke parted with it for 10,000*l.* more. Finally it was pulled down to make room for Albemarle and Stafford Streets, of which latter, as appears from old plans of London, the centre of Clarendon House occupied the entire site.

Correspondence

Hull Central Library Competition.

SIR,—The present mode of forwarding designs, without motto or distinguishing mark, has some disadvantages, as I have experienced in this instance. With my plans another competitor's report has been returned. They all bear the same number, put on by the same hand. I have complained to the town clerk, but he repudiates all responsibility, and declares the alteration "was certainly not made by anyone in my office." It is too bad that competitors should be the victims of such carelessness. May I ask, with your kind indulgence, the competitor who has mine to exchange reports with me?—Yours faithfully, A. H. GOODALL.

14 Market Street, Nottingham:
January 30, 1899.

GENERAL.

Mr. Stanhope Forbes has completed his wall painting for the Royal Exchange. The subject is the *Great Fire of London.*

The Late Adolphe d'Ennery, the French dramatist, who died last week in his eighty-seventh year, it is understood has left the greater part of his fortune for the erection and support of a hospital and asylum for actors.

Mr. S. W. Williams, architect, has resigned the county surveyorship of Radnor, which he held for thirty-five years.

The Lectures for sanitary officers at the Sanitary Institute will commence on the 20th inst. with one by Professor Corfield. Mr. E. T. Hall, architect, will lecture upon "Sanitary Building Construction" on April 10.

The Late Mr. James Murray, architect, of Portman Street, W., has left property of the value of 24,599*l.* 13*s.* 5*d.*

M. Lucien Magne, architect and professor in the Ecole des Beaux-Arts, has received the appointment of professor of art in its application to industry at the Conservatoire National des Arts et Métiers, Paris.

A New Church is to be erected in Mortimer Road, Kensal Rise, by the Vaughan Memorial Committee. It will accommodate 750 worshippers, and the cost will be 7,500*l.* Messrs. Cutts are the architects.

The Joint Committee of Surrey and Middlesex having recommended that the new Kew Bridge should be widened to the extent of 10 feet beyond the 45 feet originally designed, at an additional cost approximating to 24,000*l.*, the report has been adopted.

An Exhibition of Painting and Sculpture was opened in the Palace of Art, Monte Carlo, on Saturday last. It has been organised by M. Georges de Dramard, the French painter.

M. Robert de Mols, the Belgian painter, some of whose decorative works have appeared in *The Architect,* has been nominated a chevalier of the French Legion of Honour.

The Trustees of the National Gallery last year purchased two pictures by Rembrandt, known as the *Burgomaster and his Wife,* from Lord de Saumarez, which it was afterwards found could only be effected by permission of the Court of Chancery. By a decision of the Court the sale has since been approved, and the pictures are placed in the large Dutch room.

Mr. Alexander Lang Elder has presented to the National Gallery a picture of the Spanish School, *Christ disputing with the Doctors,* by Francisco de Herrera the elder.

The Fifth Ordinary Meeting of the Liverpool Architectural Society will be held at the Law Library, 41 Castle Street, on Monday next, the 6th inst., at 6 P.M., when a paper will be read by E. Prioleau Warren on "Ideals and Realities of Modern Practice."

The Annual Meeting of the Royal Cambrian Academy of Art was held on Saturday at Conway, under the presidency of Mr. Clarence White. The new associates elected were Mr. Lester Sutcliffe, Leeds; Mr. Booth, Manchester; and Mr. Alyn Williams, London. It was resolved to have another open exhibition this year.

THE
Architect and Contract Reporter.

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to rise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

* *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 200*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

ANGLESEY.—Feb 6.—For extensions to the Welsh C. M. chapel at Benllech. Mrs. Jos. Owen, architect, Menai Bridge.

ASHTON-UNDER-LYNE.—For additions to New Jerusalem schools. Messrs. J. H. Burton & J. A. Percival, architects, 150A Stamford Street, Ashton-under-Lyne.

BARNET.—Feb. 8.—For erection of mortuary near infirmary. Mr. Geo. D. Byfield, 16 High Street, Barnet.

BARNSLEY.—Feb 8.—For alterations and additions to Hollowgates, Sackville Street. Mr. Herbert Crawshaw, architect, 13 Regent Street, Barnsley.

BIGSWEIR.—Feb. 7.—For erection of a cottage at Whitebrook level crossing, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

BLACKBURN.—Feb. 10.—For erection of cattle lairs at the Corporation abattoirs, Sumner Street. Mr. William Stubbs, borough engineer, Victoria Street, Blackburn.

BLACKWOOD.—Feb 8.—For erection of a villa. Mr. Thomas Rowland, architect, Market Buildings, Pontypridd.

BRADFORD.—Feb 7.—For erection of engine-house, mortar-pan shed, lime store, weigh-house, &c., at Sunbridge Road destructor works. Mr. J. H. Cox, city surveyor, Town Hall, Bradford.

BRADFORD.—Feb. 9.—For erection of a store in Manningham Lane. Messrs. Rycroft & Firth, architects, Bank Buildings, Manchester Road, Bradford.

BRENTFORD.—Feb. 8.—For erection of a vestry hall in the Half Acre, Old Brentford. Mr. James W. Tidy, vestry clerk, 301 High Street, Old Brentford.

CARDIFF.—Feb. 9.—For additions to Clifton Street Chapel. Messrs. Habershon, Fawckner & Groves, architects, Pearl Street, Cardiff.

CARDIFF.—Feb. 11.—For extension of the mortuary at the workhouse. Mr. Edwin Seward, architect.

CARLISLE.—Feb. 10.—For erection of a dwelling-house stable, &c., Wigton Road. Mr. A. W. Johnston, architect, 81 Castle Street, Carlisle.

CHIPPENHAM.—Feb. 7.—For alterations and additions to the passenger station and for other works, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

CORNWALL.—Feb. 11.—For erection of farm-house at Brynn, one mile from Victoria Station, on the Newquay line Mr. Sampson Hill, architect, Redruth.

CHESHIRE.—Feb. 13.—For erection of Central Hospital, Liscard Road, Liscard. Messrs. Maxwell & Tuke, architects, 41 Corporation Street, Manchester.

DEWSBURY.—For erection of two shops and dwelling-houses in Halifax Road. Mr. F. W. Ridgway, architect, Dewsbury.

DONCASTER.—For erection of Primitive Methodist church, Bentley. Messrs. Athron & Beck, architects, Dolphin Chambers, Doncaster.

DORCHESTER.—Feb. 10.—For erection of a hall and two dwelling-houses in Charles Street. Mr. A. L. T. Tilley, architect, 26 South Street, Dorchester.

DOVER.—Feb. 21.—For construction of a public convenience and an addition to the museum at Gaol Lane. Mr. Henry E. Stilgoe, engineer, Town Hall, Dover.

DUBLIN.—Feb. 8.—For erection of six labourers' dwellings as follows:—two to be erected in the townland of Blanchardstown, and four upon a plot of ground at Ballycoolen, all in the electoral division of Blanchardstown. Mr. John O'Neill, clerk, Board Room, North Brunswick Street, Dublin.

DURHAM.—For erection of block of buildings at Annfield Plain. Mr. T. E. Crossling, architect, Stanley.

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EARLSHEATON.—For alterations to High Close. Mr. F. W. Ridgway, architect, &c., Borough Chambers, Dewsbury.

EARLSHEATON.—For extension of weaving sheds. Mr. F. W. Ridgway, architect, Borough Chambers, Dewsbury.

EASTBOURNE.—Feb. 11.—For construction of a public convenience on the Grand Parade. Mr. R. M. Gloyne, engineer, Town Hall, Eastbourne.

EXMOUTH.—Feb. 9.—For erection of four shops and houses opposite the railway station. Mr. Philip Kerley, architect, Exmouth.

FLETTON.—Feb. 6-24.—For erection of three new shops with storeroom over, at Fletton, Peterborough. Messrs. Townsend & Fordham, architects, Cross Street, Peterborough.

FORDINGBRIDGE.—For alterations and additions to Napier Villa. Mr. F. Bath, architect, Salisbury.

FULHAM.—Feb. 8.—For erection of destructor and boiler-house, engine-room, offices and workshops, and disinfector house in Town Mead Road. Mr. Charles Botterill, surveyor, Town Hall, Walham Green, S.W.

GLASGOW.—March 15.—For construction of buildings in Kelvingrove Park, Glasgow, for the Glasgow International Exhibition, 1901. Mr. H. A. Hedley, general manager and secretary, 141 Buchanan Street, Glasgow.

GORTON.—Feb. 22.—For alterations and additions to buildings at the sewage outfall works in connection with the erection of sludge-pressing plant, &c. Mr. Charles J. Lomax, engineer, 37 Cross Street, Manchester.

HALIFAX.—Feb. 7.—For erection of seventeen houses at Haugh Shaw. Mr. Medley Hall, architect, 29 Northgate, Halifax.

HALIFAX.—Feb. 7.—For erection of a new bridge over Godley Road. Mr. Edward R. S. Escott, borough engineer, Town Hall, Halifax.

HARPENDEN.—Feb. 8.—For converting the old British school buildings into public hall and offices. Mr. Frederick Eyles, Harpenden.

HASTINGS.—Feb. 16.—For erection of workhouse buildings in Cackle Street. Messrs. Jeffery & Skiller, architects, 5 Havelock Road, Hastings.

HIGHAM FERRERS.—For erection of three dwelling-houses. Mr. H. Adnitt, architect, High Street, Rushden.

HOLBECK, YORKS.—For building 35 yards chimney. Mr. Fredk. W. Rhodes, architect, Upper Wortley, Leeds.

HOLBECK, YORKS.—For erection of public shelter on Holbeck Moor. Mr. Fredk. W. Rhodes, architect, Upper Wortley.

HUDDERSFIELD.—Feb. 16.—For alterations and additions to the Huddersfield Orphan Home, Fitzwilliam Street and William Street. Messrs. John Kirk & Sons, architects, Huddersfield.

HULL.—Feb. 8.—For electric-light wiring and fittings for the tramways power station, Osborne Street (the contract includes four arc lamps and about forty incandescent lamps). Mr. A. S. Barnard, city electrical engineer, Dagger Lane, Hull.

HULL.—Feb. 8.—For erection of five cottages in Hawthorne Avenue, for the North-Eastern Railway Company. Mr. William Bell, the company's architect, York.

ILLINGWORTH.—Feb. 15.—For erection of stables, cart-shed, and store-room. Mr. Medley Hall, architect, 29 Northgate, Halifax.

IPSWICH.—Feb. 20.—For erecting conveniences and making additions to upper lodge at cemetery. Mr. Henry J. Wright, architect, 4 Museum Street, Ipswich.

IRELAND.—Feb. 9.—For reconstruction of a house at Crosshaven for a dispensary. Mr. R. Evans, engineer, 53 South Mall, Cork.

IRELAND.—Feb. 10.—For additions to and alterations in the infirmary at Enniskillen. Mr. C. Wilson, registrar, Enniskillen.

KENDAL.—Feb. 10.—For erection of villa residence at foot of Arnside Knott. Mr. John Stalker, architect, Kendal.

KILBURN.—Feb. 14.—For extension of public offices in Dyne Road. Mr. O. Claude Robson, engineer, Public Offices, Dyne Road, Kilburn, N.W.

KINGSTON-UPON-THAMES.—Feb. 14.—For provision of telephonic communication between the various buildings upon the workhouse premises. Mr. W. H. Hope, architect, Union Offices, Kingston.

KNARESBOROUGH.—Feb. 22.—For erection of school buildings and headmaster's house. Messrs. Barrowcliffe & Allcock, architects, Mill Street, Loughborough.

LEEDS.—For erection of a house, Crossgates, near station. Plans, specification and quantities at 38 Belle Vue Road, Leeds.

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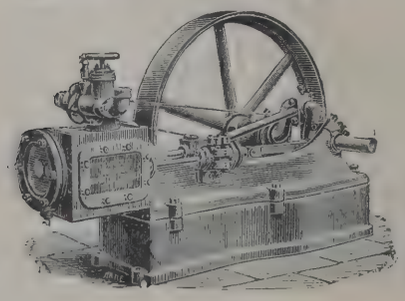
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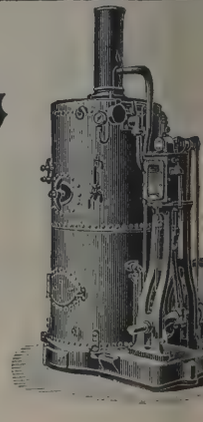
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[*Mention this Journal.*]

LEEDS.—Feb. 6.—For painting, whitewashing, and decorating Belgrave lecture-hall, and classrooms and large schoolroom under chapel. Tenders to be addressed to the Painting Committee, Belgrave Chapel, Leeds.

LEEDS.—Feb. 6.—For alteration and renovation of the public baths in Cookridge Street. Messrs. Walter Hanstock & Son, architects, Branch Road, Batley.

LEEDS.—Feb. 8.—For erection of six through houses in Town Street, Bramley. Mr. Fredk. Wilkinson, architect, 35 Park Square, Leeds.

LEEDS.—Feb. 10.—For erection of stabling and out-buildings at the Shoulder-of-Mutton Inn. Mr. John Jackson, architect, Barry Street, Bradford.

LEEDS.—Feb. 14.—For addition of an apse, clergy vestry, nave roof, new seating, &c., at St. George's Church. Mr. Henry Walker, architect, 8 Upper Fountaine Street, Leeds.

LETTERKENNY.—Feb. 15.—For plastering walls and groined ceilings of new cathedral, Letterkenny, with alternatives in fibrous plastering and wood for ceilings, in accordance with drawings and specifications to be seen at office of Mr. William Hague, architect, 50 Dawson Street, Dublin.

LONDON.—Feb. 7.—For construction, in iron and steel, of new goods shed at Paddington Station, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

MORECAMBE.—For erection of a pair of semi-detached villas on the Ferncliffe Estate, Heysham. Messrs. Walker & Collinson, architects, Market Street, Morecambe.

MORECAMBE.—For erection of two houses, Victoria Esplanade. Mr. Robert Haworth, 3 Bulton Street, Morecambe.

MORECAMBE.—For erection of two houses in Clarendon Road, West End. Messrs. Marshall Bros., architects, Back Crescent, Morecambe.

MORECAMBE.—For erection of four houses and shop in Old Street. Mr. James Hartley, architect, Bradford Chambers, Queen Street, Morecambe.

NELSON.—Feb. 14.—For supply and erection of steam dynamo, ejector condensers, &c., switchboard, overhead crane and alterations to accumulators. Mr. Wm. Foster, engineer, Nelson, Lancs.

NORTHALLERTON.—Feb. 11.—For erection of a villa residence. Mr. Wm. Perkins, architect, Bishop Auckland.

NELSON.—Feb. 6.—For alteration and additions to the Zion Baptist School Chapel, Elizabeth Street. Mr. Harry Whitaker, architect, 21 Market Square, Nelson.

NEWCASTLE-UPON-TYNE.—Feb. 6.—For alterations and additions to Spital Tongues School. Mr. W. Lister Newcombe, architect, 89 Pilgrim Street, Newcastle-upon-Tyne.

NORMANTON-BY-DERBY.—Feb. 6.—For alterations and additions at the schools. Messrs. Naylor & Sale, architects, Iron Gate, Derby.

ODSAL, YORKS.—For erection of villa. Mr. William H. Sharp, architect, 239 Rooley Rane, Bradford.

PRESTON.—Feb. 13.—For erection of cloakrooms, lavatories, &c., at the public hall, Lune Street. Borough Surveyor, Town Hall, Preston.

ROTHERHAM.—Feb. 8.—For conversion of existing premises into a caretaker's house, stabling, &c., at the labour yard, Northfield. Mr. J. Platts, architect, High Street, Rotherham.

RYTON.—For erection of two shops and houses in Elvaston Road. Messrs. Wills & Sproat, contractors, Ryton.

SALFORD.—Feb. 9.—For construction of retaining walls and embayment to canal abutting upon the Lancashire and Yorkshire Railway and the Manchester, Bury and Bolton Canal. Mr. John Holt, C.E., 6 St. Mary's Gate, Manchester.

SALFORD.—Feb. 7.—For erection of a public hall, library, &c, at King Street, Irlams-o'-th'-Height. Mr. B. C. F. Heywood, architect, Town Hall, Salford.

SCOTLAND.—Feb. 9.—For erection of New Free Church at Tayvallich. Mr. Neil Gillies, architect, Lochgilphead.

SCOTLAND.—Feb. 9.—For erection of a dwelling-house in James Street, Buckpool, near Buckie. Mr. James Perry, architect, Buckie.

SCOTLAND.—For erection of buildings at the Port, Burntisland. Messrs. Swanston & Legge, architects, Kirkcaldy.

SHEFFIELD.—Feb. 10.—For erection of a Wesleyan chapel and schools, Stafford Road. Mr. William Irons, 10 St. James's Street, Sheffield.

SHEFFIELD.—Feb. 8.—For erection of twenty-four houses at Parkwood Springs. Mr. Edmund Winder, jun., architect, Wharf Street, Sheffield.

SLIGO.—Feb. 9.—For alterations and additions for a new surgery at the County Infirmary. Mr. W. T. Vernon, registrar, Board Room, Sligo.

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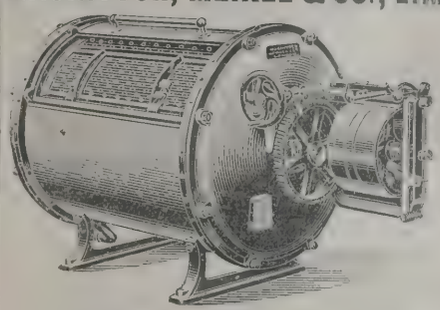
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SOMERSET.—Feb. 7.—For reconstruction of bridge over railway and extension of platforms and other works at Bathampton Station, Somersetshire, for Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

SOUTHAMPTON.—For erection of twenty-nine houses of about 16 feet frontage each on the Old Gaol site, Ascupar and Wilton Streets, St. Mary's. Mr. William Burrough Hill, architect, Southampton.

SOUTHAMPTON.—For erection of an iron frame building, with glazed roof, 100 feet by 60 feet. Mr. H. Cleaver, engineer, 52 Bridge Road, Southampton.

STOCKTON-ON-TEES.—Feb. 20.—For erection of cottage Homes, as follows:—Two pairs in Windsor Road; one pair in Hartington Road, east side; one pair in Hartington Road, west side. Mr. John Rodham, 16 Finkle Street, Stockton-on-Tees.

STOKE-ON-TRENT.—Feb. 7.—For erection of infants' school at Abbey Hulton. Messrs. R. Scrivener & Sons, architects, Hanley.

SWINDON.—Feb. 11.—For pulling-down and rebuilding the Foresters' Arms inn and adjoining house in Fleet Street, New Swindon. Messrs. William Drew & Sons, architects, 22 Victoria Street, Swindon.

SWANSEA.—Feb. 8.—For erection of power-house stack and offices. Messrs. J. P. Jones & Rowlands, architects, 58 Wind Street, Swansea.

WADEBRIDGE.—Feb. 17.—For erection of a vicarage at Egloshayle. Plans and specifications can be seen at Egloshayle Vicarage.

WALMER.—Feb. 7.—For erection of a dwelling-house in Liverpool Road, and a pair of residences in Dover Road. Messrs. Hinds & Son, Deal.

WALSALL.—Feb. 9.—For erection of Board-room and offices in the Pleck Road. Mr. H. E. Lavender, architect, Bridge Street, Walsall.

WOLVERHAMPTON.—Feb. 27.—For erection of an extension of the electric lighting station, Commercial Road. Mr J. W. Bradley, borough engineer, Town Hall, Wolverhampton.

WILTON (WILTS).—Feb. 6.—For alterations to the sick and children's wards at the Wilton Workhouse. Messrs. John Harding & Son, architects, 58 High Street, Salisbury.

WIMBLEDON.—Feb. 13.—For erection of isolation hospital, to include three ward blocks, administrative block, cottage, receiving and discharging block, laundry and disinfecting station and mortuary, on site off Gap Road. Mr. C. H. Cooper, surveyor, Council Offices, Broadway, Wimbledon.

WINDERMERE.—Feb. 7.—For erection of a bridge over the river Troutbeck, near Troutbeck Church. Mr. Joseph Bintley, county surveyor, 7 Lowther Street, Kendal.

YORK.—Feb. 10.—For erection of a fence wall, railing and gates in Kent Street, near the cattle market. Mr. A. Creer, city engineer, Guildhall.

TENDERS.

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L. Jones	980 0 0
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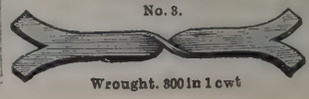
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E. J. Raybould & Co., Limited	147	10	0
H. & G. Measures	127	15	7
LOCKERBIE & WILKINSON, Limited, Birmingham (*accepted*)	124	0	0
W. Macfarlane & Co.	123	10	0

CROYDON.

For additions to the laundry buildings at the Union Infirmary. Mr. F. WEST, architect, Croydon. Quantities by the architect.

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F. W. Sedgwick	679	0	0
J. Smith & Sons	664	0	0
J. M. Card	642	0	0
W. Smith & Son	640	0	0
W. Pearce	632	0	0
W. Roberts	562	0	0
HUNTLEY BROS, Croydon (*accepted*)	559	0	0
A. P. Maeers	552	0	0

CORNWALL.

For an addition to the Churchtown school, Paul.

Accepted tenders.

C. Tregenza, Mousehole, Paul, Penzance, mason and plumber	£181	19	0
T. J. Harvey, Newlyn, near Penzance, carpenter	91	0	0

DURHAM.

For alterations to Evenwood county bridge, over the river Gaunless; rebuilding Ketton horse bridge, over the river Skerne, near Darlington; and additions and alterations to Ryhope county police station. Mr. WILLIAM CROZIER, architect, Shire Hall, Durham.

Evenwood Bridge.

P. O. Hetherington	£302	0	0
J. & W. Lant	242	2	6
R. BLACKETT & SONS, Greencroft, Darlington (*accepted*)	225	10	0

Hetton Bridge.

P. O. Hetherington	167	10	0
R. BLACKETT & SONS (*accepted*)	95	0	0

FARNBOROUGH.

For erection of two villas on the Hillfield Estate. Mr. W. E. TREVENA, architect, Southampton Road, Farnborough.

E. KEMP, Frimley (*accepted*)	£1,976	0	0

FYLINGDALES.

For erection of a seaside cottage.

E. RUSSELL, Robin Hood's Bay (*accepted*).

LEYTON.

For erection of electric wire factory. Mr. W. W. HUDSON, architect.

W. Shurmur	£10,475	0	0
F. & F. H. Higgs	10,285	0	0
S. Goodall	10,147	0	0
H. Brown	9,979	0	0
S. J. Scott	9,868	0	0

LONDON.

For drainage and sanitary work, central yard and buildings at Cleveland Street Sick Asylum. Messrs. W. S. CROSS & KEKWICK, architects, 18 Outer Temple, Strand.

LOVE & CO., Strand, W.C. (*accepted*)	£393	0	0

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LONDON—*continued.*

For rebuilding Bishop's Court. Messrs. ALDER & TURRILL, architects.

Ashby & Horner	£5,138 0 0
J. Bently	4,785 0 0
E. Lovatt	4,600 0 0
W. Shurmur	4,300 0 0
Patman & Fotheringham	3,983 0 0

For new bar-front, &c., at the Vine Tavern public-house, Broad Street, Ratcliff, E., for Messrs. Holt & Co. Mr. FRED A. ASHTON, architect, 177 Romford Road, Stratford, E.

A. E. SYMES (*accepted*) £300 0 0

For building stabling and offices, Wicklow Street, Gray's Inn Road, for Messrs. Willing & Co., Limited. Messrs. W. S. CROSS & KEKWICK, architects, 18 Outer Temple, Strand. Quantities supplied.

McCormick & Son	£4,999 0 0
Jarvis & Son	4,644 0 0
G. Neal	4,538 0 0
H. Wall & Co.	4,514 0 0
T. G. Sharpington	4,450 0 0
Love & Co.	4,700 0 0
Chessum & Son	4,575 0 0
Patman & Fotheringham	4,533 0 0
J. Carmichael	4,497 0 0
DEARING & SON (*accepted*)	4,433 0 0

LITTLE ILFORD.

For erection of school buildings, out-buildings, caretaker's cottage, &c., in the Bessborough Road. Mr. S. JACKSON, architect, 65 Fenchurch Street, E.C. Quantities by Mr. WALTER LAWRANCE, 13 Hart Street, Bloomsbury, W.C.

W. J. Maddison	£24,807 0 0
Shelbourne & Co.	24,663 0 0
G. Sharpe	22,490 0 0
F. Britton	22,275 0 0
Chessum & Sons	21,997 0 0
Harris & Wardrop	21,295 0 0
W. Shurmur	21,062 0 0
Perry & Co.	20,925 0 0
GREGAR & SON, Stratford, E.*	20,336 0 0

* Provisionally accepted, and subject to approval of Education Department.

LONDONDERRY.

For erection of shop, stores and dwelling-houses in John Street and Foyle Road. Mr. R. H. M'ELWEE, architect, 9 Carlisle Road, Londonderry.

J. FULTON, Fountain and Hawkin Streets (*accepted*) £1,275 0 0

MACCLESFIELD.

For supply of drain pipes, castings, disinfectants, ironmongery, iron and steel, horse nails, timber, hardwood, cement, bricks, and paints and oils during year ending December 31, 1899, for the Corporation.

Accepted tenders.

Gorton & Wilson, timber.
Hughes & Co., paint and oil.
Jackson Bros., castings.
W. Kenyon, horse nails, iron, and steel.
W. Slack, red bricks.
Turton Moor Sanitary Pipe Co., drain pipes.
J. H. Cutts, ironmongery.
T. Griffiths & Son, cement.
Rowbotham & Sons, hardwood.
Draycott & Co., disinfectants.

MORLEY.

For alterations and extensions to Cross Hall Board schools, Fountain Street. Messrs. T. A. BUTTERY & S. B. BIRDS, architects, Morley.

Accepted tenders.

J. & J. Sugden, mason	£509 2 0
J. Clegg & Sons, joiner	300 0 0
A. Fawcett, plumber	130 0 0
J. Atkinson & Son, slater	99 10 0
E. Wilson, plasterer	57 10 0
C. Habergham, painter	26 0 0

NEWCHURCH.

For supply of two new pumping engines, overhead travelling crane, and Galloway boiler, at Knighton pumping station. Mr. J. T. HARVEY, engineer, Ashey, Brading, Isle of Wight.

J. SIMPSON & CO., London (*accepted*) . . £4,542 0 0

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NORTH BERWICK.

For additions to the High School. Mr. R. WILSON, architect, 3 Queen Street, Edinburgh.

Accepted tenders.

R. McArthur, East Linton, Prestonkirk, joiner	£548 14 0
J. Coulter, North Berwick, builder	423 0 0
D. Purves & Co., North Berwick, plumber	134 0 0
J. Bell, North Berwick, ironwork	80 12 3
D. Montgomery, North Berwick, slater	79 17 0
J. Black, North Berwick, plasterer	38 11 3
A. Allan, North Berwick, painter	36 6 10

OLD FORD.

For erection of a factory at Stour Road. Messrs. MARK W. KING & SONS, architects.

E. Lawrence & Son	£13,335 0 0
J. Chessum & Son	12,899 0 0
H. L. Holloway	12,743 0 0
Perry & Co.	12,670 0 0
Ashby & Horner	12,572 0 0
Cubitt and Co.	12,481 0 0
W. Shurmur	12,220 0 0
J. Grover & Son	11,938 0 0
Patman & Fotheringham	11,891 0 0

ST. ANDREWS, N.B.

For construction of a storage reservoir, filters, clear-water tanks, cast-iron piping, &c. Messrs. BELFRAGE & CARFRAE, engineers, 1 Erskine Place, Edinburgh.

J. Kirk	£12,720 16 7
J. Adam & Co.	12,684 0 0
T. Munro	12,552 2 5
W. G. Flett	12,047 11 7
J. Martin	11,906 15 1
A. Brunton & Sons	11,599 4 0
A. Fraser, jun.	11,243 18 7
G. Dick, jun.	10,796 0 0
J. Kennedy	10,112 13 1
J. Kirkcaldy	9,960 5 0
J. & C. Hay	9,927 0 0
R. C. Brebner & Co.	9,452 18 0
R. Marshall	9,029 3 6
J. Angus	8,806 19 2
G. MACKAY & SON, Broughty Ferry (*accepted*)	8,514 9 3

SHEFFIELD.

For constrnction of 500 yards of roads on the Banner Cross Estate. Mr. J. DOBSON TOWNEND, surveyor, Independent Buildings, Fargate, Sheffield.

G. Webster	£2,128 0 0
B. Powell	1,950 0 0
J. E. Nadin	1,324 16 10
B. Roberts	1,276 14 10
G. Eyre	1,151 16 3
F. EYRE, Hillsborough, Sheffield (*accepted*)	1,150 17 9

SOUTHAMPTON.

For executing street works in Brighton Road. Mr. W. B. G. BENNETT, borough engineer.

Free & Sons	£621 12 1
H. Plascott	452 0 0
H. W. BULL, Southampton (*accepted*)	353 0 0

SOUTH TOTTENHAM.

For alterations and additions to the Woodberry Hotel. Messrs. EEDLE & MEYERS, architects.

Beer & Gash	£6,850 0 0
S. Goodall	6,293 0 0
F. Valler	6,051 0 0
W. Shurmur	5,997 0 0
Patman & Fotheringham	5,928 0 0
J. Anley & Son	5,790 0 0
W. H. Lascelles & Co.	5,785 0 0
Dearing & Son	5,735 0 0
Edwards & Medway	5,677 0 0

WESTMINSTER.

For rebuilding Feathers Restaurant, Great Chapel Street. Messrs. SHOEBRIDGE & RISING, architects.

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Adamson & Son	10,759 0 0	163 0 0
Ashby & Horner	10,750 0 0	305 0 0
Kilby & Gayford	10,726 0 0	295 0 0
J. Carmichal	10,675 0 0	290 0 0
W. Shurmur	10,650 0 0	300 0 0
C. Dearing & Son	10,435 0 0	300 0 0
Lascelles & Co.	10,300 0 0	295 0 0
Anley & Son	10,080 0 0	158 0 0
Edwards & Medway	9,997 0 0	147 0 0

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ELECTRIC NOTES.

THE Birkenhead Town Council has decided to apply for a license to supply electricity for lighting and other purposes to the townships of Bidston-cum-Ford and Noctorum, outside the borough boundary.

THE electric engineer of the Glasgow Corporation has been empowered to expend between 50,000*l.* and 60,000*l.* for electric mains and feeders extension in the streets, for which wayleaves have recently been obtained.

AT a meeting of the Crewe Town Council, held on February 1, it was resolved to apply for a loan of 26,000*l.* for the erection of a generating station and plant for the supply of electricity for lighting and motor power.

THE Newcastle-on-Tyne Electric Supply Company is considering the question of supplying continuous current for power work throughout its district, and has already entered into a contract to supply the current for driving an electric passenger lift, ventilating fans, &c., in the new Shaftesbury Buildings now in course of erection. It is also to supply current for over 500 incandescent lamps, with which the new range of buildings are to be lighted.

THERE have been several postponements of the time for installing the electric light at the Citadel Station, Carlisle, but preparations for the event are well advanced, and the final "switching on" of the new light may be expected shortly. One night last week all the arc lamps were turned on experimentally for some hours, and every night since some of the circuits have been in operation. All these experiments have been made with the view of perfecting the system. There are two arc lamps still to be erected in Court Square.

THE electric-lighting committee of the Edinburgh Town Council, at a meeting on the 30th ult., agreed to recommend the Council to purchase ground belonging to the North British Railway Company in the vicinity of Dewar Place electric-lighting station, so that accommodation may be had for additions to the boiler-power and for other new plant. The cost of the ground and of the properties on it is about 15,000*l.*, and it is understood that, as a result of the addition to the station, the committee will be able to make arrangements which will obviate altogether the smoke nuisance, in regard to which there have been complaints by residents in the locality. The committee further agreed to recommend the Town Council to extend the water storage at a cost of 550*l.*; to extend the storage batteries at a cost of 1,500*l.*; and to spend on repairs to the existing batteries 700*l.*

TRADE NOTES.

MESSRS. E. H. SHORLAND & BROTHER, of Manchester, have just supplied their patent Manchester stoves, with descending smoke flues, to the Billericay Union Infirmary, Essex.

MR. HENRY SELL has published a new edition of his invaluable "Directory of Registered Telegraphic Addresses." It comprises information received from the Post Office up to January 1. There is a classified business directory.

THE Ton boys' and girls' school, for the Rhondda School Board, are being ventilated by means of Mackay's patent "climax" ventilators, supplied by Messrs. Cousland & Mackay, 150 Hope Street, Glasgow. The architect is Mr. Rees, of Pentre, and the contractor, Mr. A. Richards, of Rhondda.

THE Derryloran Male and Female National Schools, Cookstown, co. Tyrone, Ireland, and the Public Buildings, Ookiep, Port Nolloth, South Africa, have been ventilated throughout on the "Grahtryx" system of ventilation, supplied by the Grahtryx Ventilating & Engineering Co., Limited (successors to Baird, Thompson & Co., Limited), 23 Sutterton Street, Caledonian Road, London, N., and at Glasgow.

"THE SURVEYOR" EXHIBITION, which will be held in connection with the forthcoming Building Trades Exhibition, will present a variety of road-making methods and appliances. The executive committee consists of Messrs. Patten Barber, C. H. Cooper, E. J. Lovegrove and O. Claude Robson. There is likely to be an interesting display which will attract municipal engineers.

MR. A. ROBINSON, of 25 Marsham Street, S.W., sends us a price list of some of his specialties in sanitary appliances, consisting of valve-closets, water waste-preventers, cisterns, tanks, &c. Among the illustrations we may specially mention that of his washdown closet and trap in one piece, County Council pattern, P or S trap, with Robinson's water waste preventer, cast-iron cistern, fitted with copper syphon, ½-inch ball

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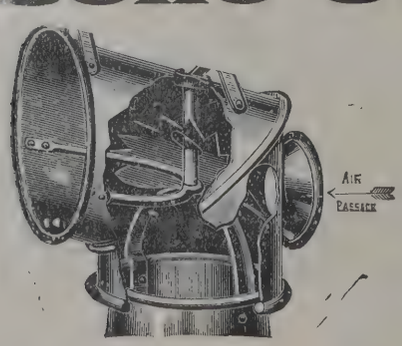
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VARIETIES.

THE first Higher Grade School at Lancaster was opened recently by the Governors of the Old Blue Coat Girls' Charity, which was founded in 1772. The premises will accommodate about 100 girls, who will receive a technical education.

DURING the work of constructing the quay in the tidal basin at Ostend it was discovered that the wall of a caisson was resting on the hull of a ship which had been swallowed up, for many centuries probably. The hull will be cut through in order to continue the work and to examine the contents of the ship.

DURING a lecture on architecture the temperature of the room was very hot. Just as the heat was almost unbearable, the lecturer continued, "And now we will turn to Greece." "You're right," said one of the audience, who was freely perspiring, "we *shall* turn to grease if we don't have some of these windows opened."

THE ancient parish church of Keston, near Boston, has just been restored at a cost of about 4,000*l*. The church up to the end of last century was one of the finest in Lincolnshire. In 1800 the parishioners pulled down the grand central tower, and rebuilt a new one at the west end. Under the restoration just completed the ancient parts of the church have been restored and the chancel improved.

THE Strand Board of Works have resolved to oppose by petition to Parliament the London County Council's Bill for the making of a new street from Holborn to the Strand, terminating on the site of the Olympic Theatre, with two spur streets running east and west, and entering the Strand opposite St. Clement Danes' Church on the east and Wellington Street on the west.

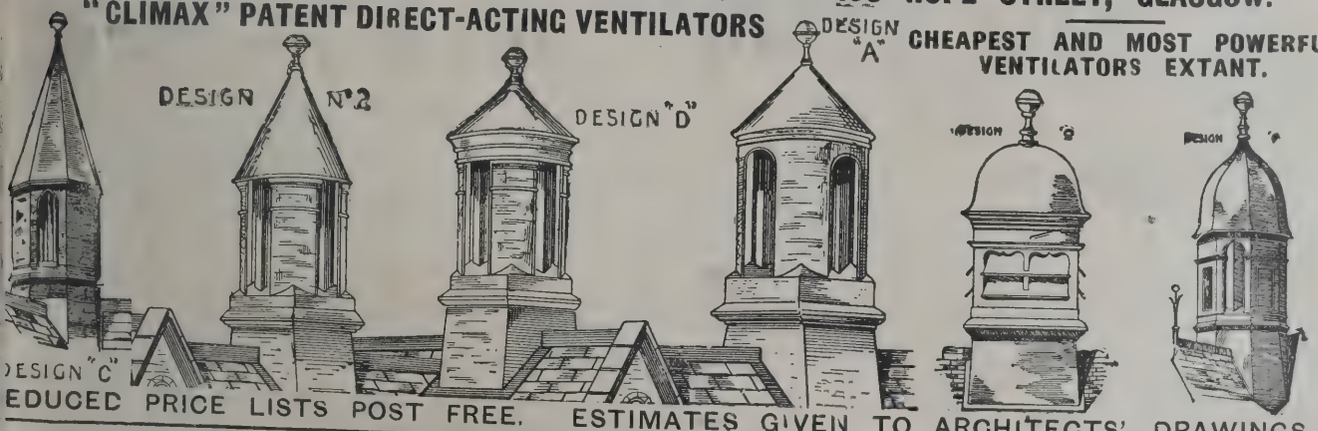
A MEMORIAL has been presented to the Government urging them to deal with the registration of plumbers in the ensuing Session, in the interests of the public health. It is signed by over sixty members of Parliament, including Mr. J. Aird, Sir Henry Bemrose, Lord Hugh Cecil, Sir W. Hart Dyke, Sir H. S. King and the Marquis of Lorne. A separate memorial has been addressed to the Local Government Board signed on behalf of the Parliamentary Bills committee of the British Medical Association, the Manchester and Salford Sanitary Association, the Royal Institute of British Architects, the National Health Society, and the Royal Institute of Public Health.

THE Countess of Castellane, daughter of the late Jay Gould, has just moved into the palace in the Avenue du Bois de Boulogne, which has been in course of construction for several years. The stone employed is similar to that of the Arc de Triomphe, and the marble came from Italy. The great feature will be the ballroom, which occupies about a third of the area. This magnificent abode promises to be one of the sights of Paris. A few days ago the Countess entertained at dinner all the workmen who had been employed and their wives, whilst for their children there was a Christmas-tree groaning under presents, and a variety show. The men went away with their pockets full of cigars, and their wives with presents.

THE Recorder of London (Mr. Charles Hall, Q.C., M.P.) and a special jury sat at the Guildhall on the 30th ult. to hear the case of the Governors of St. Bartholomew's Hospital *v.* the Corporation of the City of London, which was a claim for about 20,000*l*. compensation in respect of the acquisition of about 1,078 superficial feet of land, now forming part of the site of Nos. 90, 91, and 92 Fleet Street and St. Bride's Avenue, required for the purposes of widening Fleet Street. The jury viewed the premises, and on their return to court Mr. Cripps, Q.C, who, with Mr. James Fox, appeared for the claimants, stated that an agreement had been arrived at. The jury would be asked to give a verdict by consent for 16,000*l*. and taxed costs.

A MEETING of the Architectural Section of the Philosophical Society of Glasgow was held on the 30th ult. in the rooms, 207 Bath Street, Glasgow. Mr. P. Macgregor Chalmers presided. Mr. Edwin Forbes, Edinburgh, read a paper on "Architecture in Galloway," which, he said, was a record of his own work as a student of the Edinburgh School of Applied Art. In the course of the lecture he dealt with Sweetheart, Dundrennan, and Glenluce Abbeys, and Caerlaverock Castle, in addition to a number of minor domestic keeps and castles. One could not, he said, get finer and simpler specimens of Gothic architecture anywhere than in the South of Scotland, where a great revival took place in the beginning or early in the twelfth century.

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The new parish church at Handforth has now been completed, and the Bishop of Chester has arranged to conduct the opening ceremony early in March. The church has been erected on land near the old structure. The work was entered upon in the Jubilee year. The building is in the Perpendicular style of architecture, with "half-timber" gables and other details characteristic of the buildings of Cheshire. The walls are of brick, with Alderley stone dressings to the windows, doorways and buttresses, and the roof is covered with Broseley tiles. It is proposed to add a tower, transepts and vestries later on, and when the entire scheme has been carried out there will be about 300 sittings. The scheme will involve an outlay of about 3,000*l.* The old church is now to be taken down, and the land is to be added to the burial-ground.

The Great Western Railway at Cefn Bychan, Ruabon, has been greatly damaged, owing to the subsidence of an embankment extending from 20 to 30 yards in length. When discovered, the rails were hanging in mid-air, and both passenger and goods traffic have been greatly impeded. A house recently built for the stationmaster has collapsed, and yesterday a gang of men were engaged in clearing the débris and preparing the line for traffic. The whole of the damage is estimated at 1,000*l.* It is stated that the line in this part has been constructed on quicksand, and a similar accident occurred at the place about three years ago. It is also in close proximity to the river Dee, which flooded this point very much recently.

An accident of a somewhat peculiar nature occurred in Kirkman Place, Tottenham Court Road, on the 30th ult., some 10 feet of pavement suddenly collapsing about half-past three o'clock. Underneath the pavement are a series of vaults running on both sides of Kirkman Place, and it was the roof of the vaults on the left-hand side, entering from Tottenham Court Road, that gave way. On the right-hand side hoarding had long been erected in view of the fact that a house had been removed to make room for the extension of Tottenham Court Road police station. For a considerable period the interior of the vaults and their supports had been in a bad condition. The pavement suddenly collapsed and left a gap 10 feet by 6. Fortunately no one was seriously injured, although one workman's arm was slightly hurt. Mr. W. Davies (foreman of works) and the clerk of works to the Metropolitan Police (Mr. Ham) had rather narrow escapes.

Bradford may be congratulated on the handsome theatre with which it has been provided, and which is to be known as The Empire Palace. The building was formerly the Alexandra Hotel. The frontage is of an imposing character, and the hall has been converted into a grand crush-room. The house is a two-tiered one, but on the second-circle level a gallery is set up, thus making three tiers. There is no wood in the construction, concrete and steel being used. Electric light is to be used, with gas in reserve; and a feature of the auditorium is six lanterns, in keeping with the arabesque decorations. The auditorium is 60 feet wide and 80 feet from the curtain-line to the back rows in the pit. The capacity of the house is about 3,000. There are thirteen means of exit, and in case of fire the place could be rapidly emptied. There is a low-pressure system of hot-water heating, and a hydrant for each tier, together with a double asbestos curtain, which can be worked by one man. The grid is 60 feet above the stage level, and is fitted up with the most modern appliances. The cost, in addition to that of the old building, has been about 30,000*l.*

East Parade Chapel, Leeds, having been found somewhat inaccessibly situated as regards the majority of its worshippers, it has been decided to sell the site and erect a new chapel in a more convenient position, and an extraordinary meeting of the members was held recently in the schoolroom to consider a recommendation on the subject by the trustees. The Rev. Charles Lemoine presided. There was a large attendance, and great interest was taken in the proceedings. It was explained that sealed tenders had been invited by the trustees, and that in response an offer of 30,000*l.* had been received. This was submitted for acceptance, but as it was stated that an offer of 31,000*l.* had been subsequently sent in the meeting felt called upon to exercise its discretion in the matter. The result was that a proposal to give power to sell at 30,000*l.* was negatived. Another resolution was then submitted empowering the trustees to offer the premises for sale by public auction at an early date "with a view to the removal of the chapel to some position nearer the residences of the greater portion of the congregation," and subject to a reserve bid of 31,000*l.* This gave rise to a protracted discussion, but it was in the end carried by more than the requisite two-thirds majority—127 out of 160.

A Baptist church and schools are to be erected at Stockton, the church to accommodate 620 worshippers and the schools 300 children. The site has cost 850*l.*, and the building is estimated to cost 8,000*l.*



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BUILDING AND BUILDERS.

IN connection with the annual meeting of the Scottish Master Painters' Association, the members of the body visited the Dundee Technical Institute on Saturday for the purpose of witnessing the competitive work forwarded by the apprentices in the various districts, and ascertaining the awards of the adjudicators.

THE threatened lock-out in the Norwich building trade has been averted. The dispute arose over a demand on the part of the bricklayers that builders' merchants supplying Broseley tiles should employ bricklayers and not slaters to place them in position. The masters have conceded this point, and the men withdrawn will return to work.

THE general purposes committee recommended that the plans and specifications should be prepared for carrying out extensions to the County Council Hall in the property acquired by the Council at the corner of St. Martin's Place, Stafford, at a cost of 7,000*l.* The chairman stated that more accommodation was required for committee meetings, and a room was also needed for the convenience of members.

THE ceremony of opening the new buildings of the new Hospital for Women in Euston Road, has been postponed owing to the new structure not being quite so near completion as had been anticipated. The internal arrangements still require some finishing touches, and it is hoped that the deferred ceremony, which will be postponed for a very brief period, will be fixed for a date which will make it convenient for the Bishop of London to carry out his wish to be present at the inauguration.

THE new Central Library for Hornsey, in Church Lane, is now nearly finished, and will shortly be opened for the use of parishioners, when building operations will be put in hand for the two branch libraries, to be erected in the Stapleton Hall Road, near Harringay Station, and on the Priory Gardens Estate, Highgate, adjoining the Great Northern station. These libraries will be completed during the next eighteen months.

A TERRIBLE accident occurred last week at Old Park Works, Wednesbury. Whilst a number of men were at work on a bridge to be sent to India the scaffolding gave way, and four men fell on to the girder, sustaining shocking injuries. William Plant was killed instantaneously, being nearly decapitated. John Humphries was removed to his home in a dying state, and the two others were removed to the hospital.

A LARGE staff of workmen are engaged rebuilding the west wing of Drummond Castle, the residence of the Earl and Countess of Ancaster. The portion of the castle referred to extends from the front turret entrance-door in the courtyard south towards the famous gardens. In this wing were formerly situated the staircase and dining-room, with eight or ten bedrooms, which have all been removed. A handsome new block of three storeys in height is being erected in its place, which also occupies a part of what was the courtyard near the garden entrance. The greater portion of the ground-floor of this new wing is to be occupied by a large dining-room and a new staircase, with windows looking into the gardens and courtyard. A new library is to be placed on the drawing-room floor above the dining-room, also looking on to the gardens; while the whole of the remainder of this floor and the top floor will be taken up with bedrooms. A fine and well-lighted new billiard-room has also been formed on the ground-floor. The new wing has been designed in the same style as the present castle, and with its handsome corbelled turrets on the south angle overlooking the gardens will form a new and imposing feature in the buildings as viewed from the gardens. The buildings adjoin the ancient Castle of Drummond, which dates from the fifteenth century.

FIRE-TESTING STATION.

THE British Fire-prevention Committee, which was founded by Mr. Edwin O. Sachs, after the Cripplegate fire, to promote the purposes generally indicated by its name, has established on the banks of the Regent's Canal, near St. John's Wood Road Station, a fire-testing station which is probably unique of its kind, and of which a private view was afforded to a party of interested spectators on Tuesday last. Its object is to test various materials and systems of construction used in building practice, so as to obtain trustworthy information respecting the resistance they offer to fire. What information of this sort is at present available is, with few exceptions, the result of inquiries carried on by makers or inventors, and therefore cannot claim the authority attaching to independent investigations. At this station the tests are to be made by independent experts, who in their reports will state nothing but the bare facts, anything like expressions of opinion or criticisms being rigorously excluded. Moreover, anyone who submits an article or device to be

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tested must bind himself not to publish, or allow to be published, any account of the results except the duly authenticated official report of the committee without abbreviation With these precautions to obtain simple facts free from bias of any kind, the tests applied are to be arranged on scientific lines, though with due regard to the practical purposes in view, and to be taken with such instruments as to secure trustworthy data. They are to be under the superintendence of the members of the council of the committee, and their general arrangement is to be settled by the executive in accordance with definite principles laid down after careful study and experiment For "full-size" tests, brick huts in the garden of the institution will be used; in these, temperatures up to 3,000 deg. can be realised by means of a water-gas installation, readings being taken by automatic electrical pyrometers, and pictures of the condition of things inside the huts by photography. The expenses of establishing the station have been met by a special subscription, by which also the costs of conducting tests of general technical interest will be defrayed. Inventors or manufacturers must, however, pay for the tests they require, though the charges are so calculated as only to cover the actual cost of the investigation.

The object under investigation on the occasion in question was an ordinary pugged floor, which would meet with the requirements of the Building Act, the specification being drafted by Mr. Woodthorpe, M A, F.R.I.B.A., district surveyor for the City of London (Northern division), which includes the recently destroyed Cripplegate area. Three variations of pugging were used with wood joists.

The floor was built in the ordinary way over the testing-chamber, and had been given six weeks to dry. The test applied was a fire test of an hour's duration, at temperatures varying from 1,800 degrees to 2,300 degrees Fahrenheit, followed by the application of water under 40 lbs. pressure from a manual engine for 1 minute and 30 seconds. No load was put on the floor, nor had it to withstand the shocks of falling weights.

The general arrangements were in the hands of a sub-committee of the executive, with Mr. Edwin O. Sachs (chairman) as directing member; Mr. Max Clarke, A.R.I.B.A, who was so prominently associated with the brickwork tests of the Royal Institute of British Architects, having charge of the actual testing-chamber, and Mr. Wordingham, A.M.Inst.C.E. (the electrical engineer of Manchester), having control of the instruments Mr. Charles E. Goad, M Am.Soc.C.E., the insurance surveyor, and Mr. Woodthorpe, the district surveyor, assisted.

Mr. Monckton, the secretary, and the staff of the committee and the superintendent of the station were in attendance, and the appliances were all handled by skilled mechanics provided by the contractors or instrument makers respectively.

The arrangement of the work was in the hands of a sub-committee of the executive, comprising Mr. Frederic R. Farrow, F.R.I.B.A, Mr. Max Clarke, A.R I.B.A., and Mr. Robert Mond, M.A., F.R.S.E.

The appointment of superintendent of the station is held by Mr. Thomas Kissack.

ELECTRIC TIMBER-SEASONING.

By this term is signified one of the most remarkable inventions of this age, prolific as it has been in the fruits of inventive genius in almost every direction. For, although electricity has been successfully employed in a good many ways and for a good many different purposes, though it is in daily use as an illuminant, as a culinary agent, as a source of power, as a curative in disease, and in other ways, it would hardly have seemed probable that it could be used as a means of preserving and seasoning timber. Yet this has been and is daily being done, and by a process which, as we shall show, is very simple, as well as being marvellously effective.

In order to learn the exact nature of this process and to inspect the results which are achieved thereby, we on Wednesday last paid a visit to the works of Messrs. Johnson & Phillips, at Charlton, wherein the new method of seasoning wood was

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being exhibited. Anything very much less striking in appearance than the apparatus employed could hardly be imagined, for all which there was to see was a large rectangular tank partly full of water, in which there apparently reposed a heavy body, and to which tank was fitted an electric lead. A very brief examination, however, served to show that in this tank there was in operation one of the most extraordinary processes ever seen or effected.

The tank is of wood, and is placed on insulating feet, and in the lower part is a solution called "Bororesinate de Soude." In the bottom of the tank are steam coils, which serve to heat the solution to the required temperature, and at either end of the tank are the terminals of the electric wire with which the apparatus is fitted. The action is this. The wood being placed in the solution, the electric current passes through it, and as it does so, sucks the solution into the wood, driving out the sap, which it replaces with a solid matter which is insoluble and antiseptic. This done, the wood is taken out and allowed to dry either in the open air or by artificial means, as may be preferred or most convenient. When dry the wood is not only thoroughly seasoned—that is, deprived of the sap—but charged with matter which preserves it against moisture, decay, the ravages of insects and all other deleterious influences.

Nor is this all. Should it be desired to stain the wood all that is necessary is to add to the solution the required colouring agent, when that also will be sucked into the wood and colour it permanently and in every fibre.

This, in its broad outlines, is the process of electric timber-seasoning, and the many advantages which it secures must be obvious. To begin with, it effects an enormous saving of expense, and that not only in direct outlay, but in sunk capital. For timber which now lies in a yard for fourteen years can be more thoroughly seasoned in less than as many days. Then every builder or worker in wood can season his own timber, all that is necessary being the tank, the solution, and a supply of electricity—three necessities quite easily obtained. Moreover, the electric power required is but about 110 volts.

The advantage of the electric seasoning is manifest also in its superiority over all other systems. Drying by heat is never absolutely perfect besides being extremely costly, while injections are equally unsatisfactory and expensive, added to which both processes tend to weaken and injure the wood. The electric system, on the contrary, not only effects no injury but imparts increased strength.

The system, which has been thus briefly described, is known as the "Nodon-Bretonneau" process, and has proved an enormous success in France, so much so, indeed, that the company which was formed to work it has sufficient orders in hand to last over the next two years, and this although the works were only opened in November last. A company has now been formed in this country for the same purpose. It is called the Electric Timber-Seasoning and Preservation Company, with offices at 159 Victoria Street, Westminster, and convenient and extensive works at Charlton in Kent, close to the Thames, and the Charlton Station of the South Eastern Railway. That there lies before the company a splendid future no one who has seen the process and its results can doubt for a moment.

ACQUIREMENT OF PART OF PREMISES.

A COMPENSATION case, Hoye *v.* The Fulham Vestry, was tried before Mr. Loveland Loveland, deputy chairman of the Middlesex Sessions, at the Sessions House, Clerkenwell, on the 28th ult. It was one under Michael Angelo Taylor's Act, whereby power is given to acquire a portion only of a person's premises without taking the whole. In this case a slip of land 5 feet in width was taken from the entire frontage of the claimant's premises in Bagley Lane, adjoining the Queen Elizabeth Tavern. After the jury had viewed the premises the hearing of the case was resumed, when Mr. Klenck, of the firm of Messrs. J. M. Klenck & Co., Bishopsgate Street, City, E.C., auctioneers and surveyors, gave evidence for the claimant. He said the valuation for the present injury to the premises was £217. This was confirmed by Mr. J. H. Wheeler, of the firm of Messrs. Wheeler & Sons, Fulham Road.

After this evidence, the Vestry gave an undertaking to exonerate Mrs. Hoye from the cost of paving Bagley Lane in front of her premises, and agreed to reinstate the dwarf wall and fencing and the front wall of the stables, estimated at 80*l.*

The Vestry called to support their contention Mr. Charles Botterill, their surveyor, Mr. Boyden, of Fulham, and Mr. T. W. Biggs, of Clifford's Inn, who said there was no injury to the property, but that it would be a positive benefit to the same. In cross-examination one of the witnesses admitted it could not exceed 30*l.* After the summing-up of Mr. Loveland Loveland, the jury gave a verdict of 120*l.*, in addition to the vestry's undertaking in reference to the paving and reinstatement of the walls and fencing, which would make the verdict equal to 200*l.* The sealed offer of the Vestry was for 20*l.* only.

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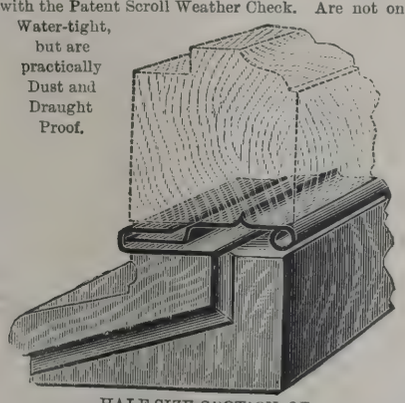
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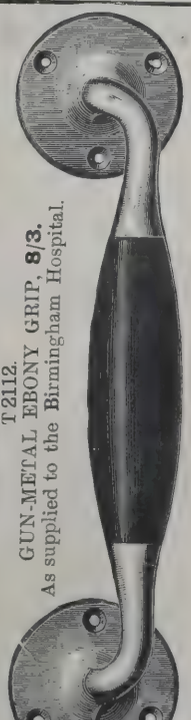


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SOCIETY OF ARTS.

The following meetings have been arranged for February and March 1899:—February 1: Mr. Dixon H. Davies, "The Cost of Municipal Enterprise." February 6: Cantor Lecture, Dr. Samuel Rideal, "Bacterial Purification of Sewage." February 8: Mr. James Swinburne, "Nernst's Electric Lamp." February 9: (Indian Section), Colonel Richard Carnac Temple, "The Penal System at the Andamans" (this meeting will be held at the Imperial Institute, South Kensington). February 15: The Rev. John M. Bacon, "The Balloon as an Instrument of Scientific Research." February 20: Cantor Lecture, Mr. Archibald Sharp, "Cycle Construction and Design." February 21: (Applied Art Section), Mr. Cyril Davenport, "Vitreous Enamels." February 22: Mr. Philip Dawson, "Electric Traction and its application to Railway Work." February 27: Cantor Lecture, Mr. Archibald Sharp, "Cycle Construction and Design." February 28: (Foreign and Colonial Section), Mr. A. Hotz, "Persian Trade Routes." March 1: Mr. Wilton P. Rix, "Leadless Glazes." March 6: Cantor Lecture, Mr. Archibald Sharp, "Cycle Construction and Design." March 8: Mr. J. H. Collins, "Cornish Mines and Miners." March 9: (Indian Section), Mr. H. A. Acworth, "Leprosy in India" (this meeting will be held at the Imperial Institute). March 13: Cantor Lecture, Mr. Archibald Sharp, "Cycle Construction and Design." March 14: (Applied Art Section), Sir William Blake Richmond, "Craftsmanship and its place in a National Scheme of Art Culture." March 15: Sir Marcus Samuel, "Liquid Fuel." March 21: (Foreign and Colonial Section). March 22: Mr. Walter Hunter, "London's Water Supply."

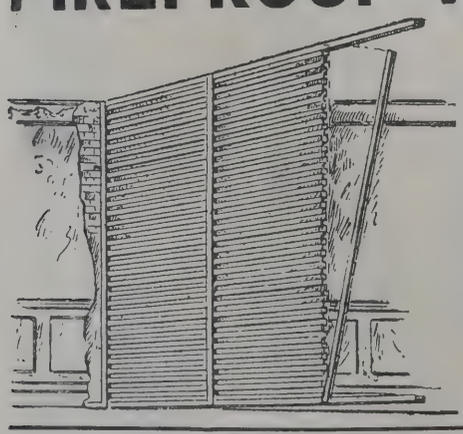
THE MANCHESTER CITY SURVEYOR'S DEPARTMENT.

The special committee appointed by the town hall committee of the Manchester Corporation to inquire as to what changes might be necessary in the department of the city surveyor has concluded its labours. On November 28 last the committee resolved "that, in consequence of the growth of the city, the time has arrived when it is desirable to divide the work of the surveyor's office into two departments, and that the Lord Mayor be requested to confer with the city surveyor with a view to suggesting what arrangements will be most advantageous in the public interest." The rivers committee was also invited to state what arrangements they considered desirable in connection with the engineering and surveying work of their department. The rivers committee met on December 12, when it was resolved "that as the present requirements of the rivers committee are largely chemical, they contemplate relieving the city surveyor, and placing the general administration of the sewage works at Davyhulme under the control of their chemist (Mr. Fowler); Mr. Ogden, the manager of the Davyhulme works, to report as heretofore to the chairman of the committee, all reports being countersigned by Mr. Fowler, who will attend the meetings of the rivers committee as may be required." The rivers committee, on the same date, passed other resolutions to the effect that as the committee would require special engineering services, they proposed to confer from time to time with the city surveyor or any other engineers whom they desired to consult or entrust with the execution of any works. They also desired that an official paid directly by the rivers committee should be allocated to their work, and that as the city surveyor was unable to attend all their meetings, one of his assistants, competent and acquainted with the work, should be selected for the rivers business, who should have a special office provided by the committee, where all papers and plans connected with the department could be kept. The city surveyor will supervise the work of this office from time to time as may be desired by the rivers committee, and also be appealed to in all cases of accident or emergency on the works. It was also resolved by the rivers committee that all pending contracts should be dealt with and completed by the city surveyor. When these recommendations of the rivers committee were presented to the town hall committee they were confirmed in all their details. The town hall committee have also sanctioned the recommendations of the tramways committee whereby the tramways' engineering assistant will devote the whole of his time to the work of the committee, though acting under the control of the city surveyor.

On January 18 the Lord Mayor reported that, as authorised by the resolution of the sub-committee, he had conferred with the city surveyor with the view to suggesting what arrangements would be most advantageous in the public interest to be made in the surveyor's office, and had also had interviews with the officials of the department. With regard to the architectural department, the Lord Mayor found that Mr. Meek had

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been *ad interim* in charge, in consequence of the desire expressed by Alderman Gibson during his mayoralty to that effect upon the resignation of Mr. Gibbons. The Lord Mayor (Councillor Vaudrey) considered that there should be a head of the architectural department, who would attend to the several committees and be responsible for all architectural work, and the plans and estimates in connection therewith. As, however, in many cases engineering questions would arise in connection with buildings, and communications had frequently to be made to the Local Government Board, the Lord Mayor did not think it desirable that the architectural department should be entirely severed from that of the city surveyor, but that the advice and assistance of the city surveyor should be available when necessary. Under these circumstances the chief architectural assistant will be the head of the staff of architectural employés, including those engaged in sanitary work, and his room will be entirely devoted to the work of that staff under his direction. As regards the quantity and measuring department, the Lord Mayor reported that it was necessary that a principal quantity surveyor should be appointed.

NATIONAL ASSOCIATION OF MASTER BUILDERS.

THE half-yearly meeting of the National Association of Master Builders was held on Tuesday at the Town Hall, Bradford. Mr. J. Stevenson Jones (Liverpool), the retiring president, was in the chair, and there were delegates from the principal cities and towns in the United Kingdom.

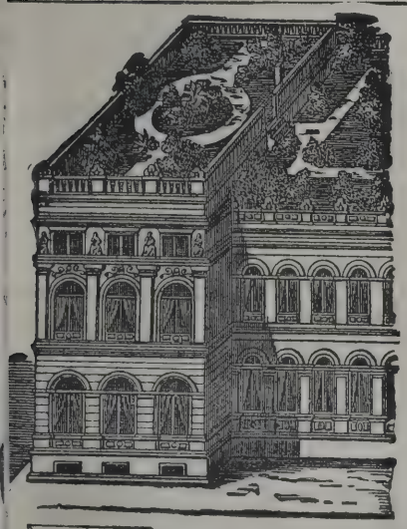
The annual report stated that disputes had been settled at Lancaster, Shrewsbury, Nottingham, Leicester, Bolton, Bristol and Reading. The improved state of the building trade throughout the country continued. To facilitate united action of the federated districts, the country had been divided into four national centres. During the past six months the secretary, acting on instructions from the Council, issued circulars to the principal local associations and centres in the United Kingdom asking for information on the apprentice question, to which about eighty-five replies were received. From these answers it appeared that limitation was very prevalent in the building trade. The figures showed that this ruled among masons in twenty-seven towns, bricklayers in twenty-six towns, plasterers in twenty-two towns, joiners in twenty-one towns, plumbers in twenty-one towns, painters in thirteen towns, and slaters in eight towns. There was no limitation in thirty-two towns. Steps were being taken by several local associations for the removal of this restriction, which was severely handicapping employers generally. It was hoped that, wherever practicable, all associations would take steps to remove this unfair restriction imposed by the operatives. The scarcity of labour in several branches of the building trade was causing great inconvenience, and the attention of members was drawn to the advisability of strenuously resisting the demand made by the operatives (which appeared to be a general one) to limit the number of apprentices; and in this connection the Association again earnestly recommended to its members the desirability of binding all apprentices by a legal indenture, in form similar to that passed and published by the Association for the use of its members. The balance sheet showed that the income had been 639*l.* and the expenditure 170*l.*, leaving a balance in hand of 465*l.*

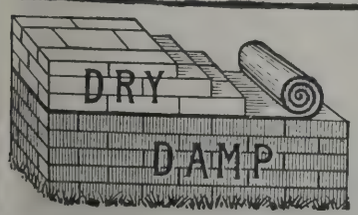
The President, moving the adoption of the report, said the organisation was such that they might expect in the near future to have all the legitimate rights of employers—such as freedom of management, freedom of employment, and no limitation of apprentices. These they could now not only defend, but rigorously maintain throughout the country. There had not been for the past six months any serious strikes, but the aggressive manner adopted by some of the Trades Unions, particularly in respect to freedom of management and freedom of employment, was no longer bearable. The operative plasterers in London had struck against three employers because some of their men did not belong to the Trades Unions. Similarly aggressive conduct was reported throughout the country, and no doubt the Council would be called upon to adopt some policy which would check this tendency.

Mr. C. W. Green (Liverpool) seconded the motion.

Alderman Holdsworth (Bradford) was elected president on the motion of the retiring president, seconded by Alderman Bowen, and supported by Alderman Jessop. In returning thanks he said he believed the Association was beginning a new life this year. He hoped that although it had been federated they would still remember that the Association was formed for defence and not for aggressive work. In this connection he mentioned the dispute with the Plasterers' Union in London, and said that they might feel sure that what prevailed in London to-day would be in the provinces to-morrow. He urged the necessity of moderation, and spoke strongly on the manner in which the men's unions limited the output of the individual workmen.

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McNEILL'S SLAG WOOL (Silicate Cotton), for Fireproofing and Soundproofing.
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SHEET ASPHALTE for DAMP-COURSE, WATERPROOFING VAULTS, BRIDGES, TUNNELS, &c., is manufactured ready for use in lengths of 40 feet, and any width up to 40 inches, being more convenient than the usual damp-course slabs, and saving laps. Price lower and quality much superior to any similar article in the market.

SHEET ASPHALTE for ROOFING SHEDS, LIGHT BUILDINGS, &c., and for SARKING under slates or tiles, manufactured in five different qualities and in rolls of 15 superficial yards. It is easily laid, very inexpensive, much superior to felt roofing, and requires no annual coating.

Full particulars, Catalogues, Detail Sketches, Estimates, re Vulcanite Roofing; Samples, Prices, &c. re Sheet Asphalte, free.

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Agents wanted in all districts where not yet represented for laying of Vulcanite Roofs and Sale of Sheet Asphalte.

On the motion of Mr. Stanley G. Bird, seconded by Mr. W. Sapcote of Birmingham, the retiring president was thanked for his services.

Mr. W. Sapcote was elected senior vice-president, Mr. A. Krauss (Bristol) junior vice-president, Mr. C. W. Green (of Liverpool) hon. treasurer, and Mr. W. Shepherd and Mr. Greenwood (London) auditors.

Mr. W. Church (Bristol) moved a resolution limiting the power of the executive (or standing committee) to settling matters referred to them by the council.

Mr. W. Shepherd (London) seconded.

After a lengthened discussion, on the motion of Mr. Myers, an amendment was carried giving the committee power to act on matters of emergency arising between one council meeting and another.

The Secretary (Mr. J. A. Hassal) reported that replies had been received from all districts throughout the country signifying the agreement of each district to affiliation with the Federation.

On the subject of the formation of a Builders' Foremen's Society, the President intimated that there was not sufficient information of a definite nature to be brought before the meeting.

Mr. W. Cunliffe, Bolton, said he hoped the matter would be pushed on with the utmost energy at the Council's command. It was ridiculous that their foremen should be compelled to join the Operatives' Unions. Masters had a right to ask that they should be under the control of no one else but themselves. What the masters had to do was to provide for them another union, which would give them equal benefits with the Operatives' Union. He moved an amendment calling for every effort to be made in this direction.

Mr. W. Sapcote seconded, and the resolution was carried.

On the motion of Mr. W. Shepherd, seconded by Mr. Hardington, it was decided to subscribe ten guineas per annum to the Free Labour Association It was decided that the next meeting of the Association should be held at Plymouth.

The meeting was then made private in order to discuss the report of a sub-committee upon the disputes with the Plasterers' Unions. It was resolved, "That the Council inform the National Association of Operative Plasterers that in consequence of the hindrance to business and continued friction caused to the employers by the conduct of the members of the union, the National Association of Master Builders determine to call upon them to give an assurance that they will in future abstain from the objectionable practices set out in the printed circular of January 10. The Association further requests them to reply by January 14."

The principal clauses of the circular are as follows :—

1. (*a*) The persistent attempt to coerce foremen of plasterers or superintendents of plasterers' work into the membership of the National Association of Operative Plasterers; also (*b*) the threat to withdraw all members from the building firms employing such foremen or superintendents.

2. The limitation of apprentices.

3. (*a*) The practice of boycotting certain building firms and employers of plasterers in spite of the fact that such firms adhere to the rules agreed between the Master Builders' Associations and the National Association of Operative Plasterers. (*b*) The practice of printing and circulating among the members of the National Association of Operative Plasterers a list of such firms for whom they are forbidden under penalty to work.

4. The refusal to work on buildings where some of the workmen employed may not belong to a trades union.

5. (*a*) The refusal to accept the decision of the employer as to which workmen shall do certain work in cases where plasterers dispute with other trades as to their right to do such work. (*b*) The practice of withdrawing all their members when such work may not be placed in the plasterers' hands.

6. The objection to submit all trade disputes to discussion at a conference between employers and employed, with a view to arrive at an amicable settlement prior to any strike or withdrawal of workmen.

ASSESSMENT OF PUBLIC BUILDINGS.

The following statement has been prepared by the School Board for London for submission to the conference on assessment matters which is about to be held :—

The method most frequently adopted for assessing the annual value of public buildings (the use of which is usually limited to the public purposes for which they were erected) is to fix the gross value, or the rateable value, by a calculation of certain percentages on the value of the land and the value of the buildings. The theory is, that these percentages shall approximate to the interest, or return on his outlay, which an individual might be expected to obtain in the market in the

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NOTICE OF REMOVAL.
During the Rebuilding of the Strand Premises, which have been occupied by "The Architect" for the last 30 years the Editorial, Publishing, and Advertisement Departments has been removed to the
City Offices, Imperial Buildings, Ludgate Circus, London, E.C.
The Architect and Contract Reporter
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way of rent for such properties. The principle has thus been to some extent established that the annual value of public buildings is to be gauged by the profits accruing from buildings erected by private enterprise.

If, however, the conditions attending the acquisition and erection of properties by public bodies and by private individuals, respectively, be investigated, it will be seen that public work of this character is burdened by adverse circumstances and necessities from which private enterprise is free.

When public bodies seek to acquire land they are frequently hampered more or less by the necessity of complying with Acts of Parliament. They may, for example, be rigidly restricted in their choice of locality, and this restriction may be so far operative as to compel them to reject a cheap, and otherwise convenient, site merely because it happens that in one direction it is accessible only by crossing a main thoroughfare. A private individual has in general more freedom in this respect, and is concerned only to pay the lowest possible price. Having chosen their site, it is well known that a public body, especially when they purchase under compulsory powers, must give, on an average, at least 10 per cent. more for it than would be given by a private person. The publicity of their proceedings, and the deliberation with which they necessarily work, also militate against making "good bargains." The acts of a public body are open to public scrutiny, and the first suggestion to acquire a particular site may serve as a note of warning to the owner, who is then able, at his leisure, to exercise his ingenuity with a view to the ultimate presentation of his claims on the most remunerative scale. For a public body there is little opportunity for "striking while the iron is hot" in such matters; they have not the facility and swiftness of action which so often enable a private purchaser to negotiate with advantage.

Similarly, as regards buildings, public bodies are at a disadvantage, in the matter of outlay, as compared with private persons. Public buildings are of necessity more costly than such as are erected by private enterprise. The community demands in their construction a standard of excellence considerably above that which the private speculator commonly thinks it necessary to attain to. The sentiment of civic pride also calls for a degree of ornament and embellishment which would seldom be consistent with the objects of a private undertaking. A clock-tower, for example, which is a common feature of a public edifice, is not often judged to be necessary on private buildings; and many requisites of a modern public building, *e.g.* approaches, halls, staircases, corridors, reception-rooms, galleries, fittings, &c, must be on a scale which would be uncalled for and pretentious in an ordinary private, or even semi-private, building. It will not be contested that these forms of extra expenditure are not remunerative from the point of view of the speculator, who looks only to the return on his outlay, and would deem most, if not all, of them unprofitable and unnecessary.

It is evident that the operations of acquiring land and erecting buildings are more costly for public bodies than for private individuals. An individual works more cheaply, mainly because his only aim is to obtain an adequate return for his outlay, and he brings into existence with a minimum of expenditure a property which will suffice to give him this result. But the aims of public bodies cannot be so circumscribed; they must not discriminate too closely as to whether expenditure is profitable or otherwise, in the commercial sense of the word, and they are bound to consider and provide for many public needs and wants, the meeting of which is not compatible with an adequate return on outlay as understood by a private speculator.

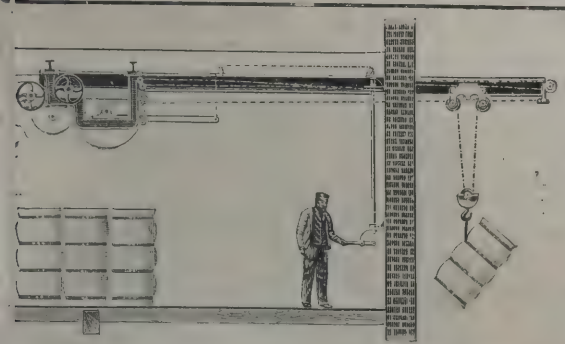
The conclusion, therefore, cannot be resisted that the relation of capital value to annual value is rarely the same for public buildings and private buildings. A large proportion of the outlay on a public building is of a non-productive, or only partially productive, character, and the capital expenditure as a whole would not command so large an annual return in the market as would result from the same amount of capital expended on a private building.

It follows that the percentages on capital value which may be properly used for fixing the annual value of private buildings are in a high degree excessive, and produce unjust assessments, when applied to public buildings; and that the percentages employed to ascertain the annual value of public buildings should be considerably lower than those used in the case of private buildings.

Considerations of the above character apply with exceptional force in the case of the properties acquired and held by the School Board for London; and on this ground alone, and independently of other considerations pointing equally in the direction of low percentages, the Board claim that the rateable value of their schools and offices should not be calculated at more than 3 per cent. on the value of the land and the value of the buildings.

An additional argument in support of this claim is, in the opinion of the Board, afforded by the fact that they borrow

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1½-inch 2-inch SASHES AND FRAMES 5½d. per foot. 7d. " "
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1¼-inch CUPBOARD FRONTS, 4½d. per Foot.
Delivered to Carriers within two days, and satisfaction guaranteed.
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money, to provide for their capital expenditure, at rates of interest considerably less than 3 per cent. per annum. In 1896, in the course of the hearing of an appeal by the Board against the assessment of one of their schools, the then chairman of the London Quarter Sessions said: "How is it possible for us to exclude from consideration what the Board would be enabled to build similar premises for, themselves, and at what rate they would be able to get the money for the construction of such schools?" Whilst the Board do not put forward the contention that it would be fair or reasonable to measure the annual value of properties, whether public or private, solely according to the facilities for borrowing money, or the credit, enjoyed by the owners, they nevertheless consider that the matter has an important bearing in regard to certain classes of properties. They have in mind more particularly such properties as their own, where there is no tenancy, market, or competition to afford a guide to the true annual value. In such cases it may fairly and reasonably be assumed that the owners would not have built the properties themselves if they could have rented similar properties at less annual cost; and the interest they pay on the money borrowed for land and buildings therefore becomes an element in the consideration of the amount to be fixed as the annual value.

In 1894, in his judgment on the appeal of the London County Council *v.* Erith, in the case of the Crossness Outfall Works, Lord Herschell said:—"As to the method which ought to be followed when it is manifest that an owner would be willing to pay a higher rent than could be obtained from any other tenant . . . the whole of the circumstances and conditions under which the owner has become the occupier must be taken into consideration, and no higher rent must be fixed as the basis of assessment than that which it is believed the owner would really be willing to pay for the occupation of the premises." Again, in 1896 the then Chairman of the London Quarter Sessions stated, with reference to a Board school, that "the rateable value should depend upon the rent which the Board might reasonably be expected to pay as tenants of the school." Having regard to the character and dimensions of their school buildings, it appears to the Board that if such buildings were not their property, and if they were available for renting, then the Board would practically be the only possible tenants for them. A private person or body, or indeed any body other than a School Board, would find great difficulty in putting a Board school to profitable use, except perhaps on such low terms as to rent as would render them able to recoup themselves for a large outlay in adapting the building to their purposes. In any case, however, it is certain that the competition to rent such buildings would be very limited, and it is unlikely that anyone could be found who would be willing to give for the buildings, as they now stand, anything approaching the rent which the Board would be willing to give, and the result in all probability would be that the Board would obtain the premises on their own terms. Now these terms would certainly not amount to more than what the Board could acquire the land and erect the buildings for themselves. As stated above, the Board can, and do, borrow money for such purposes at rates of interest considerably less than 3 per cent. per annum, and they therefore consider that they are well within the mark when they contend that in no case would a higher rent be obtained than that which is represented by a rateable value calculated at 3 per cent. on the value of the land and buildings.

It is not to be understood, however, that the Board are claiming that they should have any undue advantage, or, in fact, that the schools should be assessed below their real value simply because they happen to be properties which would not be generally sought after if in the market. The Board are aware that they are liable to be regarded as hypothetical tenants, and that the value of the premises to them for their own purposes may be a factor in the consideration of the assessment. But it is precisely this view of the case which is met by their demand for assessment on the basis of 3 per cent. on the value of the land and buildings. The Board are strongly of opinion that not only would they be able to secure the schools, if for hire in the market, on the terms, or less than the terms, represented by a 3 per cent. rateable value, but that such terms would constitute a fair and honest rent. They cannot conceive that any of their schools could under any circumstances command a higher rent than that indicated by a rateable value calculated at 3 per cent. on the value of the land and buildings.

The Board have prepared the above statement in the conviction that the matters set out therein have an important bearing on the question of the proper method of assessing their schools and offices, and they believe that the conclusion they have come to in favour of the principle of 3 per cent. on the value of land and buildings for the rateable value is just and reasonable, and is fully supported by the above considerations. They have accordingly instructed their representatives at the conference to propose the adoption of the following regulation:—

THE PROBLEM SOLVED.

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now being so largely used in America, have erected large works in this country, and are now taking orders for the supply of their
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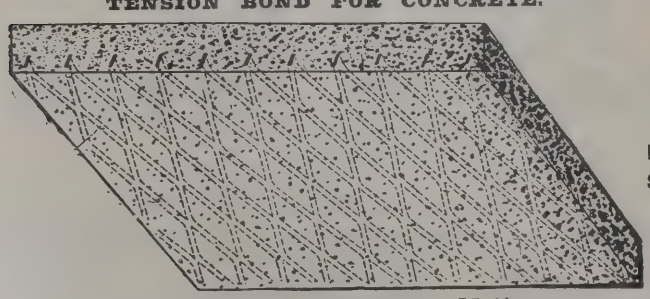
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SOLID AND HOLLOW PARTITIONS, 2" THICK
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THE EXPANDED METAL CO., LIM., 39 Upper Thames Street, LONDON,
WORKS—WEST HARTLEPOOL.

HIGHEST AWARDS: EXHIBITIONS 1891-93-94-95-97.—Awarded the Royal Photographic Society's Medal for Architectural Photog

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MEDALLISTS, ROYAL PHOTOGRAPHIC SOCIETY, 1895—97,
ARCHITECTURAL PHOTOGRAPHERS,
77 OXFORD STREET, W.
PRICE LIST AND ESTIMATES ON APPLICATIO

"Public buildings (including workhouses, vestry halls, public libraries, schools, baths, washhouses, and hospitals) should be assessed at a rateable value calculated at 3 per cent. on the value of the land and the value of the buildings erected thereon."

It will be observed that in the proposed regulation the Board have not endeavoured to afford any guide as to the construction to be placed upon the word "value" as applied to land and buildings. They venture to suggest that, on the whole, the word may be considered to be sufficient in itself to express what is meant to be conveyed, and that any attempt to define its meaning might be likely to defeat its object by introducing further material for discussion. The Board's considerable experience of the assessment authorities of the metropolis leads them to believe that those authorities may be trusted to place a fair and correct interpretation upon the word.

FLASH ADVERTISEMENTS.

AT the meeting of the London County Council on Tuesday the following memorial, signed by numerous architects, was presented :—

We desire respectfully to invite the attention of your honourable body to the practice, recently introduced and rapidly extending, of advertising in the public thoroughfares by means of large letters or other emblems illuminated by the electric light or gas. The architectural value of one of the most beautiful sites in Europe—Trafalgar Square—is thus nightly destroyed. We are aware that you have not at present any legal power of control, and our purpose is to suggest to you the expediency of applying to Parliament for such powers as may enable you to deal effectually with this and cognate abuses.

Some time ago an attempt was successfully made to throw advertising notices, by the aid of a search-light, on Nelson's Column The vestry of St. Martin's-in-the-Fields appealed to the Government, and the result was that this particular form of the practice was abandoned. In this special case public sentiment was affronted by the disrespect shown to the memory of a great naval commander ; but we believe that there is a feeling hardly less strong, and even more widely diffused, regarding the progressive degradation of the metropolis by the displays on private premises.

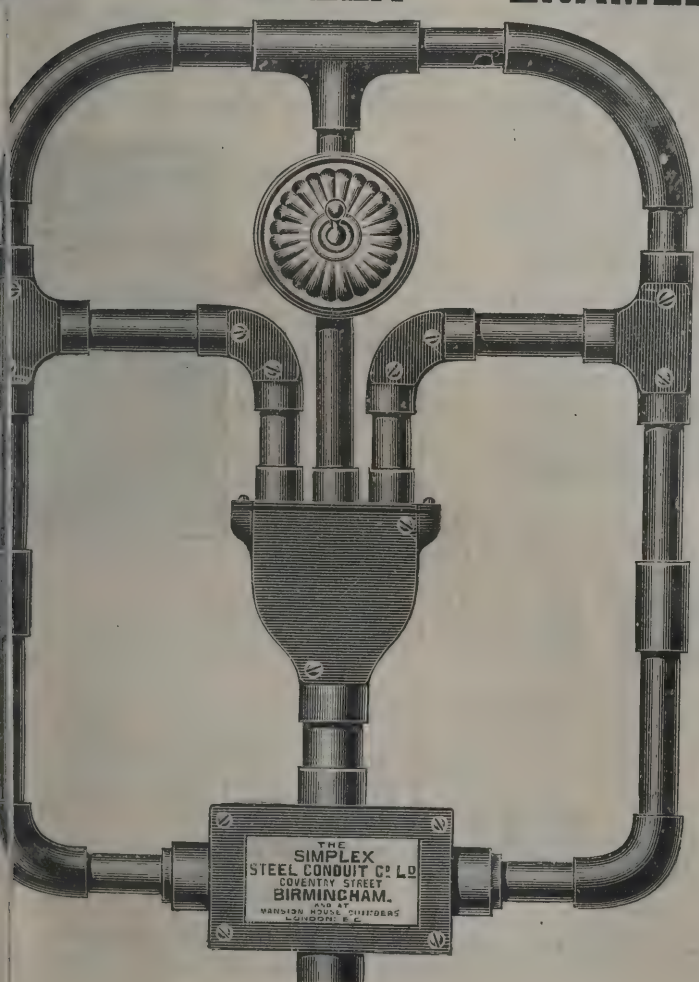
We submit that reasonable regard for individual liberty requires that those who wish to use public thoroughfares shall not be subjected to annoyance at the discretion of the owners of adjacent buildings. It must be for the duly-constituted local authorities to decide to what extent the appeal to the eye shall be permitted. In the absence of regulation the evil must indefinitely extend both in range and in offensiveness, for it is a maxim of puffing advertising that the more violent the attack on the sight the stronger is the impression left. If the proprietor of one preparation gains an advantage in this way his competitors will be forced in self-defence to neutralise his gain by setting up eyesores—if possible more aggressive—on their own account. Trade does not benefit in the long run, and the public suffer.

The fundamental issue, we submit, is whether the people of the metropolis are to be molested in the use of public thoroughfares ; whether the interest of the inhabitants of a great city in maintaining the dignity and beauty of its aspect is to be sacrificed to the rivalry of certain classes of tradesmen ; whether architecture and scenery are to be converted at the caprice of individuals into an insignificant background for the brawls of competing makers and vendors. In an age when so much is done at the general cost to improve the public taste and to provide art training, it is, to say the least, inconsistent to permit wanton disfigurements of our finest sites. Recent legislation (for London) regarding sky signs has checked one mischievous development, and has, we believe, caused general satisfaction, but the perverse ingenuity of advertisers has created a demand for the further extension of the principle of municipal regulation.

To prevent misapprehension let us add that we contemplate no interference with such methods of advertising as are either in themselves artistic or are consistent with dignity and propriety in the aspect of our city. The praiseworthy efforts recently made to improve posters would be encouraged by imposing a limit on the coarser modes of seeking publicity.

Even on mere grounds of safety to life and limb some of the illuminations must be pronounced most objectionable. The rapid alternation of flash and darkness is not only distressing and injurious to human eyesight, but must add greatly to the difficulties of drivers and pedestrians, especially in an open space with a network of crossings like Trafalgar Square. Nor can it be doubted that in some localities the vulgarising effect of these displays must tend to depreciate the value of property.

HE "SIMPLEX" ENAMELLED STEEL CONDUIT.



THE IDEAL SYSTEM of WIRING
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ELECTRIC LIGHT, POWER, BELLS & TELEPHONES.

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Head Office and Works :
COVENTRY STREET, BIRMINGHAM.
Telegrams, "ECONOMY, BIRMINGHAM." Telephone 2955.

London Office and Storerooms :
MANSION HOUSE CHAMBERS,
20 Bucklersbury, LONDON, E.C.
Telegrams, "AUDIPHONE, LONDON." 4417.

We desire to see enforced a principle of regulation which, while covering the case of illuminated signs, would necessarily apply to all advertising devices of a similar character, and would respectfully suggest that the simplest and most effectual method of restraining all the most offensive forms of advertisement would be absolutely to forbid the use of any letters exceeding a certain size or at more than a specified height above the ground level.

BUILDING RULES OF EDINBURGH.

The following are the regulations which have to be adopted when buildings are being erected in Edinburgh :—

1. The site of the intended building shall be dug out to such depth as shall, in the opinion of the Dean of Guild Court, be necessary for the removal therefrom of soil or refuse, and it shall not be lawful for any person to build upon any site until such soil or refuse is so removed and a proper foundation found.

2. The walls of every new building to be used as a dwelling-house shall have a damp course of durable material impervious to moisture ; the damp course for external walls to be at the level of the ground, or at such other level as the Dean of Guild Court shall order. Party walls to have the damp course not higher than the level of the under side of the joisting of the lowest floor, and where, in the judgment of the Dean of Guild Court, the nature of the soil or subsoil requires it, the whole internal area of the site shall be covered with a layer of asphalte, cement concrete, or other suitable material to their satisfaction. The street-floor level of dwelling-houses to be not less than 7 inches above the level of adjoining footpath, except with the approval of the Dean of Guild Court.

3. The outer walls, the party walls and the separate side or end walls and the timber and ironwork shall be of sufficient strength and stability, all to the satisfaction of the Dean of Guild Court.

4. No provision shall be made for the raising or lowering of any article from windows or openings towards any public streets by hoists or other appliances outside the building line without the consent of the magistrates and Council.

5. All party walls and gables shall be built solid, except at vents, fireplaces, presses and where the Dean of Guild Court allows them to be built otherwise.

6. All external walls, party walls, passage walls, partition walls dividing separate houses, staircases and the stairs of tenements of dwelling-houses shall be constructed with incombustible materials, and all party walls shall be carried through and above the roof to form a parapet, the parapet to be finished on top with a cope, and the height of parapet to be not less than 9 inches, measured at right angles with the slope of the roof, above the covering of the roof of the highest building to which such party wall belongs.

7. All walls of dwelling-houses shall be so constructed as to prevent damp.

8. The mortar to be used in the construction of new or altered buildings shall be composed of fresh-burnt lime and clean sharp pit sand, grit or ground bricks, or freestone shivers, without earthy matter, and in such proportion as to make good mortar to the satisfaction of the master of works.

9. The joists at every hearth shall be bridled, and the hearth shall be supported by a brick or concrete arch under its whole area, or be otherwise constructed or supported as the Dean of Guild Court may direct. Every fireplace in strapped walls shall have jambs and lintels or arches of incombustible material, coming forward at least to the flush of the plaster-work. No timber joist, beam or safety lintel shall be inserted into a wall nearer to the fireplace or vents than 9 inches, unless they are protected with a fireclay shield, in which case the insertion shall not be nearer to the fireplace or vents than 4½ inches.

10. No part of a built flue shall be less than 9 inches by 9 inches if square, or not less than 9 inches in diameter if circular. Every chimney head shall have a stone cope, extending the whole thickness of the stalk, with holes cut out in the solid, or cramped and closely joined in the centre, into which chimney cans can be inserted, and such chimney cans shall be sufficiently guarded. The inside of every flue must be rendered, pargetted or lined with fireclay lining.

11. All timber floors shall be carefully deafened ; the boarding inserted between the joists to carry the deafening material shall be securely affixed thereto and overlaid with a coating of lime mortar, on which, when dry, a layer of clean dry riddled engine ashes, or other suitable material, shall be spread, and the whole carefully finished and flushed with a surface covering of mortar. All voids between walls and contiguous joists shall be sufficiently deafened. The wooden flooring shall be well seasoned, and shall not be laid down until the deafening materials between joists and the whole plasterwork of walls be thoroughly dried. All voids behind skirtings shall be solidly

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pugged with cement or other suitable material to the satisfaction of the Dean of Guild Court.

12. All apartments in every dwelling-house to be plastered shall receive three coats of plaster, or otherwise, to the satisfaction of the master of works.

13. All pipes connected with sanitary arrangements shall be ventilated and trapped, and all plumber-work constructed and tested to the satisfaction of the master of works.

14. Where any gas pipes are inserted for the supply of gas in any buildings, such pipes shall be of such dimensions as the magistrates and Council may consider sufficient to secure the proper lighting of such buildings.

15. All drains shall be laid as far as possible in straight lines, with oblique junctions, and with inspection shafts or access-chambers formed at angles and junctions so far as necessary, and shall have a fall where practicable of not less than 1 inch in every 40 inches. The joints shall be packed with Portland cement, or other suitable material, to the satisfaction of the master of works, and where the ground is soft or the drains pass through or under a house or building, such drains shall be encased in cement concrete at least 6 inches thick, or cast-iron pipes jointed with lead shall be used. All such drains shall be ventilated with not less than a 3-inch diameter cast-iron or other suitable pipe, carried up outside the building to a point clear of all windows or other openings, or they shall be otherwise ventilated and completed at the sight and to the satisfaction of the master of works.

16. All private courts, common passages and common areas (other than bleaching greens) shall be paved with stone or concrete, or such other material as the Dean of Guild Court shall approve, and be provided with proper and sufficient means for taking off the surface water.

17. When any tenement of houses is occupied by more than eight families, the open ground attached to such tenement shall be provided with such means of drainage and paved with cement concrete, or in such other way and manner, or with such other material, and to such extent, as may be approved by the Dean of Guild Court.

18. In all tenements in which the common staircase is lighted from the roof, the well-hole and roof-light of such staircase shall be of the following dimensions :—

In a tenement of three storeys in height the well-hole shall be of a superficial area of not less than 25 feet, and the roof-light not less than 120 feet. In a tenement of four storeys in height the well-hole shall be of a superficial area of not less than 30 feet, and the roof-light not less than 130 feet. In a tenement of five storeys in height the well-hole shall be of a superficial area of not less than 36 feet, and the roof-light not less than 140 feet.

WORKMEN'S COMPENSATION ACT.

IN the Brompton County Court a labourer named Rolfe sought to obtain from Mr. Henry Lovatt, builder and contractor, of Wolverhampton, the sum of 230*l.*, as compensation for injuries sustained, and said to have been caused through negligence for which the defendant was responsible. The plaintiff, having been engaged by the defendant as general labourer, was instructed by the timekeeper and material clerk, William Trudell, to assist in unloading and stacking some matchboarding and "skirting" in a passage, but was not shown how the boards were to be stacked. The boards had been piled up 7 or 8 feet when the stack fell down crushing him against the wall. Both his legs were broken, and he remained in hospital for twelve weeks, and afterwards attended as an out-patient for twenty-five weeks.

Corroborative evidence having been given, counsel for the defendant submitted that there was no case against his client.

His Honour: The question is whether there was negligence in taking an unskilled man to do the work. That must go to the jury.

For the defence Frederick Trudell, the timekeeper and material clerk, who instructed the plaintiff to assist in stacking the boards in question, said he considered it quite unnecessary to tell him how the work should be done. There were plenty of "ties" or cross pieces for binding the boards together about the job.

Robert Swift, foreman of the carpenters, said that stacking was part of the every-day work of ordinary labourers.

His Honour submitted five points to the jury, who found for the defendant on all of them, saying that Trudell was justified in assuming that plaintiff knew how to stack timber.

At Marylebone County Court his honour, Judge Stonor, delivered judgment in the case of Stack *v.* Coulsell Brothers. The applicant was injured on September 8 by the fall of a joist while he was working, and it was admitted that he was entitled to an award in his favour if the building upon which he was engaged was within the provisions of the Act. The building where the accident happened was much lower than 30 feet in

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height, and on its floor there were at the time of the accident two pairs of trestles with two boards resting upon them as a temporary scaffold to enable the workmen to work at the roof or ceiling, and in the basement below there were other pairs of trestles with boards resting on them for a similar purpose. To bring this case within the Workmen's Compensation Act (section 7) it must be shown that the building in which the accident occurred "was being constructed or repaired by means of a scaffolding." His Honour said, with reference to this point, he thought that the building now in course of erection was not being "constructed or repaired by means of a scaffolding," for he thought that the proper meaning of "a scaffolding," at all events for the present purpose, was that in which it was used by employers and workmen in their business and by everyone in common parlance, given in the "Glossary of Architecture" (fifth edition), vol. i. p. 414, namely, "a temporary erection of poles, planks (cords), &c., for the use of workmen in building walls or executing any work which they cannot otherwise reach," which is always secured and fixed, and not a temporary erection of two pairs of trestles with boards across them, unfixed, unsecured, and movable by the workman, as occasion may require. The prefix of the article appeared to him to remove all doubt from the subject, and, he must add, there was strong argument in favour of attaching the meaning given by the architect's glossary to the word in the clause under consideration, from its manifest restrictive intention and operation with regard to the building business. It began by first restricting such operation to buildings "30 feet in height," no doubt on account of the additional danger attending on buildings of that and greater height; and then proceeded further to restrict it to such buildings if they were "constructed or repaired by a scaffolding," no doubt also on account of the additional danger arising from the use of the same. Now, if this was to extend to every unfixed and movable erection of trestles, boards, ladders, &c., as contended on the part of the applicant, these words would be wholly nugatory, inasmuch as every building 30 feet high must be constructed by such means, at all events as to the roofs, ceilings, &c., and the words "constructed or repaired by a scaffolding" would have no effect, restrictive or otherwise, whatsoever. Again, the position of this further restriction and provision, coming immediately after and in conjunction with the restriction as to height, pointed, he thought, clearly to such "a scaffolding" as is used of necessity in the construction or repairing of buildings of that, or at all events of considerable, height. He therefore found for the respondents upon the second point which they had raised, and he dismissed the application.

At the Southwark County Court an important point as to the principle governing costs in Workmen's Compensation Act cases referred from the Registrar (Mr. Bros) to his Honour Judge Addison, Q.C., was mentioned by Mr. Washington, the applicant's solicitor, in a recent arbitration at that Court. Mr. Washington said the respondents were allowed up to five days within the hearing of an arbitration to answer whether they would contest the matter or not. In this case the respondents made no answer as to the facts and did not dispute them, the only point being as to the amount of the award. When before the Registrar for the taxation of costs, the respondents objected to the costs of the applicant and his witnesses (who were not called) on the ground that, having made no answer, the applicant knew that the case would not be contested and that the witnesses would not be required. Mr. Washington argued that an applicant could not reasonably be expected to wait until five days before the hearing of an arbitration before he commenced to prepare his case and subpœna witnesses. Had the applicant waited he might have been very much prejudiced in his case.

His Honour: That is the fault of the rule. When you did not get an answer at the end of five days you were entitled to take it that it was an undefended action, and you should have countermanded the subpœnas. Then you would be allowed the costs you had incurred in summoning your witnesses and countermanding them, but only in those cases where you were compelled to summon witnesses before the five days. That would be a question for the learned Registrar.

Respondents' solicitor: We have a large number of workpeople, and this question of costs is an important matter.

His Honour: Yes, and for the insurance companies, too. My ruling is that the costs of any witnesses that prove anything which is admitted before the five days preceding an arbitration—and everything, under this Act, in the applicant's particulars which is not denied is to be taken as admitted by the respondents—cannot be allowed. But where a witness must be summoned before the five days in order to secure his attendance, if, at the last moment, his attendance is not needed, all reasonable costs of summoning him and of countermanding the subpœna must be allowed. In other words, the principle of the rule is that a person must not get up his case until the issue is determined, and that need not be done until five days before the hearing, and he cannot be allowed costs incurred before that, except under exceptional circumstances.

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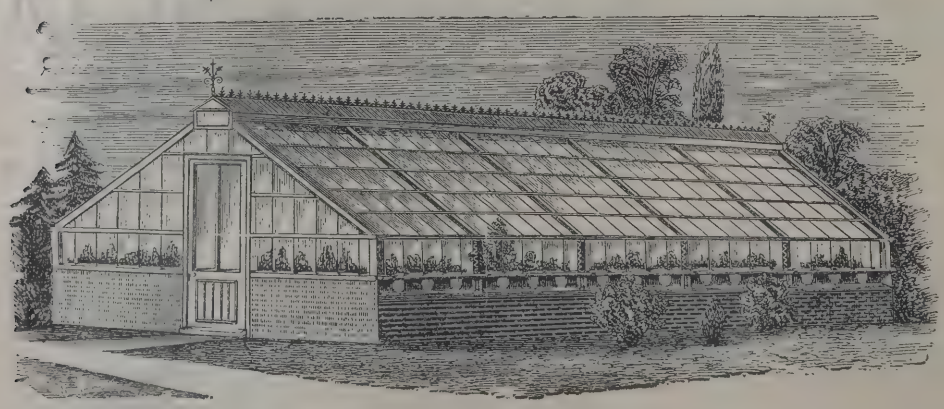
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A SCOTTISH ENGINEER IN INDIA.

THE Institute of Civil Engineers, says the Allahabad *Pioneer*, has been reproached at times, and not without justice, for too often failing to recognise the great services rendered to the Empire by members of the profession whose fields of labour lie far from the din of the Metropolis. All the more gratifying, therefore, will it be to the profession in India to learn that one of its body has been elected to the Council of the Institute. It is, we believe, the first occasion that this honour, which may be considered the "blue ribbon" of the profession, has been conferred on an engineer while still working in India, and Mr. Alexander Izat, its fortunate recipient, is to be congratulated, not only for having received such a recognition of his own distinguished services, but for having, as it were, opened the Council of the Chamber of the Institute to the rest of the profession in India. There is, we venture to think, no engineer in this country to whom the honour could have been more befittingly accorded. Mr. Izat has for many years held a position in the first rank of engineers and railway administrators, and to his fertile brain, his enterprise, and tenacity the opening-up of these provinces by metre-gauge lines is very largely due. This gauge, under his guidance, has proved itself one of the most powerful and useful agencies in the development of the country, penetrating large and important tracts which were financially inaccessible to the standard gauge. It has had also a very material influence on the standard gauge itself, forcing it to keep pace, in a measure, with its less heavily burdened and often more enterprising competitor. Mr. Izat's Indian career dates from 1863, when he came out from home and joined the Government service as a Stanley engineer. His services from then till 1870 lay in the Berar Hyderabad Assigned Districts, and it was during the latter part of this period that he was selected by Government to construct the first State railway in India—viz. the Jalanib-Khamgaom Railway. This line, about eight miles in length, which opened up the rich cotton tracts of Khamgaom, was started in 1869, and completed the following year, when it was opened by the late Lord Mayo, then Viceroy. Since then Mr. Izat has been continuously connected with the railway progress of the country. From 1870 to 1874 he was employed as an executive engineer on the Nizam's State Railway, holding charge of the Cogna Division, which included the building of the Cogna river bridge and other important bridges. The Cogna ge was opened in 1874 by Sir Salar Jung, Mr. Saunder being Resident. After this Mr. Izat was posted to the Holkar State Railway, and was given the construction of the Holkar-Nerbudda Bridge, consisting of fourteen spans of 200 feet. Some idea of the magnitude of this fine work, which was opened by the then Maharaja Holkar in 1877, may be gained from the fact that the height of the structure from water-level in the river to rail-level was 102½ feet. Mr. Izat was then transferred to the Dhond and Manmad Railway, of which he became engineer-in-chief. While carrying through this line he was also appointed engineer-in-chief of the Bhavnagar-Gondal Railway and the Bombay Eastern Deccan Railway. The Dhond and Manmad line was opened by Sir Richard Temple in 1878, and the Bhavnagar-Gondal by Sir James Ferguson in 1880. Having successfully completed these lines, and laid out and constructed the part of the Southern Mahratta Railway between Hubli and Gadag, Mr. Izat took a two years' well-earned furlough. While at home the Bengal and North-Western Railway was floated, and the newly-formed company were fortunate in being able to secure his services as their agent and chief engineer in India, a post he took up at the beginning of 1883. About the same time he became consulting engineer to the Rohilkhund and Kumaon Railway, and in 1888 agent and chief engineer of that line. Later, he was made consulting engineer to the Bengal-Duars Railway, and for some time filled the same office for the Bengal Central Railway.

Under his management the works on the Bengal North-Western Railway made rapid progress. The first section, between Nawabganj and Bahraich, was opened in 1884, and in 1885, the following year, the main line from Sonepur to Mankepur. The opening ceremony on this occasion was performed by Sir Rivers Thomson, Lieutenant-Governor of Bengal, and Sir Alfred Lyall, Lieutenant-Governor of the North-West Provinces. Further extensions were soon added—viz. the Uska and Naipalganj branches in 1886 and the Kurlganj branch in 1891. After the completion of the Gunduck Bridge at Sonepur, the management of the Tirhoot State Railway was handed over to the Bengal and North-Western Railway, an amalgamation which, while benefiting the company, has also proved of not less benefit to the State, both directly and indirectly, as well as to the country at large. In the meantime the Rohilkhund and Kumaon had linked up the Lucknow-Gola and Bareilly-Philbhit sections of the Lucknow-Bareilly Railway; the through metre-gauge route being opened by Lord Lansdowne, then Viceroy, in 1891. The event was followed by the opening of the Dudwa branch of that line

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in 1893. The construction of the Nanpara-Katarnian Ghat, the Gonda-Bulrampur, and Bhatni Tustipur extensions were sanctioned in 1894, and Mr. Izat's next achievement was to carry through the linking-up of the Bengal and North-Western Railway, the Rohilkhund-Kumaon Railway and the Rajputana-Malwa Railway. Now that this is a *fait accompli*, it is hard to realise what difficulties had to be overcome before this the natural and legitimate destiny of the metre-gauge could be fulfilled. The Ganges-Gogra Dooab extensions of the Bengal and North-Western Railway, and the Hajipur Katihar of the Tirhoot State Railway, as well as the construction of the Elgin Bridge—the approaching opening of which we lately chronicled—became part of the general scheme which included the linking-up project. When these lines are completed the Bengal and North-Western Railway system will be about 1,250 miles in length. It is still young and vigorous, and further extensions, aggregating over 300 miles, have already been surveyed, and are likely to be soon under construction. It will thus be seen that what might otherwise have been a series of fragmentary lines is now being rapidly converted into a great through metre-gauge system with important offshoots extending from the West Coast in Gujrat across Rajputana and the whole of Northern India to Assam. It cannot be a matter of many years before the next stage linking up this system with the Burma Railway will be reached, and one need not be over-sanguine to predict that early in the coming century even the frontier of Burma will be crossed and an overland route to China formed as a continuation of this Indo-Burman metre-gauge system. In the meantime Mr. Izat may well contemplate with pride the extent of the existing system, in the creation of which he has taken such a prominent part. At any rate, this brief sketch of its history and expansion in the hands of the distinguished engineer who is the subject of this article will show that Mr. Izat's position in the Council of the Institute not only reflects honour on himself, but on the Institute and the profession it represents.

An Edinburgh gentleman who has known Mr. Izat for forty years writes:—Mr. Izat was one of those who received the New Year's honour of C.I.E. Mr. Izat, like the late Mr. M'Currich, engineer of the Bristol Docks Commissioners, was educated at Dollar Academy. The master who trained Izat for the Public Works Department of India was the late James Lindsay, LL D, one of the best mathematical scholars of his time. The first Scottish engineers who passed through Cooper's Hill were all from Dollar Academy, the privilege of sending them having been secured to the Academy by the late Mr. W. P. Adam, M.P., one of the Governors. In 1863 the Government had ten appointments to the P.W. Department in India, and the Dollar "boys" carried off four of these, Izat being one of the number, and (I remember) coming out fourth—a wonderful achievement, considering that the Scotsmen had to compete against Englishmen and Irishmen some of whom had been "up" for examination before.

PATENTS.

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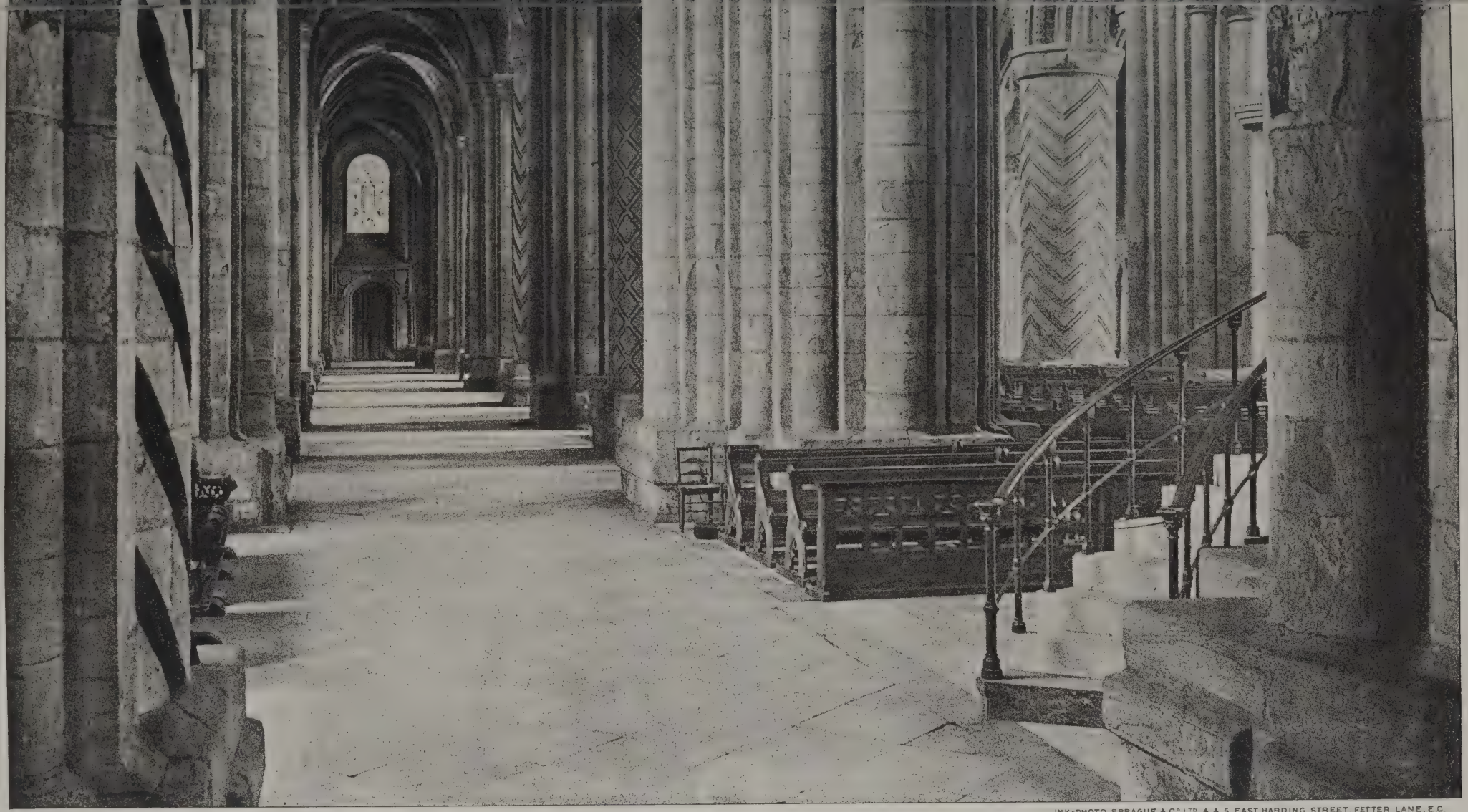
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The Architect.

THE WEEK.

It was intended to place the memorial of the late Sir John Millais in St. Paul's Cathedral if a suitable place could be found. A sub-committee of the memorial committee was formed to visit St. Paul's and consult with the Dean on the subject. The sub-committee having reported that the Dean and Chapter were strongly opposed to the erection of any memorial on the floor of the Cathedral, and this decision having been confirmed by a subsequent letter from the Dean, the memorial committee after consideration came to the conclusion that the objections were insuperable, and that the idea of a memorial statue in St. Paul's must be abandoned. At a meeting of the committee which was held at Marlborough House on Wednesday, under the presidency of the Prince of Wales, it was proposed by the Earl of Wemyss and seconded by the President of the Royal Academy, that "a statue be erected in a prominent position in connection with the National Gallery of British Art founded by Sir Henry Tate on the embankment at Millbank." This resolution was carried. It was further resolved to invite contributions for carrying the object into effect. It is calculated that the amount required is from 1,500*l.* to 2,000*l.*, and towards that amount a sum of 727*l.* was contributed at the meeting. Subscriptions may be sent to the Bank of England, western branch, Burlington Gardens, W., to the account of the Millais Memorial Fund; or to the honorary treasurer, Mr. James Knowles, Queen Anne's Lodge, Westminster; or to the honorary secretaries, Sir Edward J. Poynter, P.R.A., 28 Albert Gate, S.W.; and Mr. Peter Reid, 30 Norfolk Street, Park Lane, W.

Mr. Ruskin attained his eightieth birthday on Wednesday, and he received abundant evidence of the esteem in which he is held, not only by members of the St. George's Guild and other Ruskin societies, but by all who love art, ethics and literature. The address from Oxford expressed sentiments which will find general acceptance. It was as follows:—"We venture to send you, as you begin your eighty-first year, these words of greeting and goodwill, to make you sure that in Oxford the gratitude and reverence with which men think of you is ever fresh. You have helped many to find in life more happiness than they thought it held, and we trust that there is happiness in the latter years of your long life. You have taught many to see the wealth of beauty in nature and in art, prizing the remembrance of it, and we trust that the sights you have best loved come back to your memory with unfading beauty. You have encouraged many to keep a good heart through dark days, and we trust that the courage of a constant hope is yours." From occasional expressions in his books, we know that Mr. Ruskin was often depressed at the thought of the small extent of the influence he was able to exert after devoting his life and fortune to the common good, and without any thought of self-seeking. But of late years there are many signs that his worth is becoming more recognised, and Mr. Ruskin need no longer fear that the interest of his books depends solely on the style, but rather on the thoughts which are recorded in them, and which many have found to be inspiring.

An interesting case, which was one of the consequences of the recent gales, was heard last week before the bench of magistrates at Brentford. The clerk of the Twickenham District Council applied, under the Highway Act, for an order to remove a tree which had fallen across the path in the Strawberry Hill Road, and thus obstructed the traffic of a public highway. If considered simply as an obstruction the council could deal with it, but a tree is like a living thing and does not come under the jurisdiction of an authority such as a district council. As the roots were only partly torn out the tree was supposed to be still growing in the soil, and any interference with it would be an invasion of private property, especially as the fence would have to be crossed. The Act says that timber can be removed by an order from the justices, but it is doubtful whether a tree which, however slightly, has a hold on the earth by its roots, can be regarded as timber. A notice was served on the owner, but he paid no respect to it. There was a long discussion between the magistrates and the clerk, but the bench could not be persuaded to grant an order, and held that one was not needed. The council were advised to remove the tree, but an informal opinion will be of no avail if the owner should take an action for interference with his property.

The Bank of England note is prized throughout the world, although it is not remarkable as a work of art. The Governors endeavoured to make it one, for they employed Daniel Maclise, R.A., to draw the Old Lady of Threadneedle Street as a youthful maiden. John Thompson was the engraver. But in spite of their united talents it cannot be said the figure is a success. The authorities of the Bank of France are more fastidious. They obtained a design from M. Glaize, and it remains unused. Another by M. Olivier Merson has had a like fate. M. François Flameng was also commissioned, and, although a plate has been engraved from his painting, it is not certain when notes will be printed from it. The English bank-note is so familiar there might be some difficulty in superseding it, but there is no doubt it does not exemplify modern English art, and a more suitable design could be easily obtained.

Many sanguine if ignorant people anticipated that before now the ground required for the Strand improvement would be in the possession of the London County Council. But out of ninety-eight properties which exist in the short distance between the church of St. Mary and the church of St. Clement Danes, only three have been purchased. The remainder are in the preliminary stages which have to be gone through before a settlement is reached. The adoption of the piecemeal principle has produced its inevitable result. If the Strand properties are acquired by the County Council the values of the north side of Holywell Street will be enormously increased, and the houses along the route to Holborn will be priceless, a result which was anticipated long ago, when the Metropolitan Board of Works began to moot a scheme, and when wise speculators turned the notion to their own advantage. Accordingly, Mr. Shaw-Lefevre and the improvements committee recommend that policy of masterly inactivity which is a resource with all public men who have blundered. In their report they say:—"If the block of buildings between the Strand and Holywell Street be removed before the Council proceeds with the purchase of the property on the north side of Holywell Street, we are advised that that property will become very considerably enhanced in value, and the cost of the new street from Holborn to the Strand will accordingly be much increased. This being so, we are strongly of opinion that it is best not to arrange for the demolition of the block of buildings until the Council's Improvements Bill receives the sanction of Parliament, which will probably be about next July. In the meantime we are pressing forward the negotiations for the acquisition of all the interests in the property in question." But the acquisition of the property will have exactly the same effect as its demolition. Would a railway company act like the County Council? Companies in general depend on experts, the Council deal with property as with works after the manner of amateurs. The negotiations about the Strand property should be enough to assure all who have way leaves for water-pipes to dispose of along the route to Wales that they are about to rejoice in showers of gold which the inhabitants of the Metropolis will provide for them.

It is with sincere regret we record the death of Mr. George A. Spottiswoode, the head of the firm of Spottiswoode & Co., who have printed *The Architect* from its first number. He died on Wednesday night of pneumonia, after a very short illness. Mr. Spottiswoode devoted a large portion of his busy life to public affairs, especially those relating to the Church of England. He was one of the most prominent laymen. His interest in architecture was not transient nor superficial. Mr. Spottiswoode was an Honorary Associate of the Institute.

SCOTTISH WOODWORK.*

ONE of the deficiencies of Scotland which enabled Dr. Johnson to tease Boswell was the scarcity of timber. When he heard of only two large trees existing in one of the counties, says Boswell, "he laughed enormously, calling me to hear it." In his "Journey to the Hebrides" Johnson related how the hedges in Scotland were of stone, for instead of the verdant thorn to refresh the eye, which was common in England, there was a bare wall or dyke. A slight acquaintance with Scottish interiors, however, will afford enough proofs that, wherever it came from, there was enough timber available not only for construction, but for decorative purposes. Having a superabundance of stone that would endure, the builders were wise to employ it as often as possible, and in consequence stone staircases are more often found in proportion to the number of buildings than in England. But in the churches we find galleries, pulpits, pews, which are in places elaborately carved, and in dwellings we see not only panelling of the walls in timber, but of the ceilings also. The heraldic carving of some of the galleries, where the lairds and their families appeared on Sabbath days, is as remarkable as any work of the class to be found in Spain. The builders realised that for the coldness of stone compensation could be given by an abundant use of timber, and if we were to judge by the quantity of woodwork, there would appear to be little doubt that Scotland was rich in forests.

That it was so during ages appears to be unquestionable. According to Sir Walter Scott, the neglect of proprietors allowed natural decay to destroy trees in immense numbers. In his day the conversion of forests into bogs was still going on. The numerous invaders of Scotland destroyed forests because they were supposed to aid in the defence of the country. In the time of Charles I. a tract of about 270 square miles forming Ettrick forest was entirely wooded and reserved as a royal chase. As late as 1700 a great part of the forest remained. In other parts of the country indifference led to waste. According to Scott, "the neglect of enclosure on the side of the landlord, the permitted if not authorised invasions of the farmer, the wilful introduction of sheep and cattle into the ground where old trees formerly stood, have been the slow, but effectual causes of the denuded state of extensive districts, which in their time were tracts of what the popular poetry of the country called by the affectionate epithet of 'the good green wood.'" In considering any subject connected with woodwork in Scotland, it is well to keep the preceding facts before us. Although his sight was dim, Johnson was a shrewd observer of men, their manners, and customs. But he was none the less a Cockney, who judged things by the Fleet Street standard. He saw few trees in Scotland, and concluded that the country was always as bare as Bolt Court. Scott could take a wider view, and was able to understand the causes which changed forests into deserts.

When we gaze on the plates which Mr. Small has drawn, it is therefore reasonable to conclude that the materials of which the numerous examples of furniture were constructed were generally of native growth. The construction and ornamenting could of course be as well exercised with pieces of foreign timber, but it is always more satisfactory to have things which were the product of the soil, especially in Scotland. It is possible, however, that an occasional log of foreign timber was used, just as we can suppose that some of the ornament was carved by a foreign hand, a Dutchman or a Frenchman; but as a whole Scotland can claim what is found represented in the volume. The period to which the woodwork belongs is the sixteenth and seventeenth centuries. It suggests the influences which were in operation in Scotland, when we find there is no trace of Gothic. Every example reveals indebtedness to Italy, but in an indirect manner, for the furniture recalls examples in England, France, Holland, or Germany.

Mr. Small tells us that for a number of years he was occupied in making drawings of all the woodwork to which he could obtain access. His drawings were prepared on an inch scale, with full-sized details, in face of the objects. He says, "Delightful labour it has been to me, being in thorough sympathy and love with the subject." The drawings show a most praiseworthy endeavour to be accurate, and we have no doubt the collection will be found to have much interest for designers and collectors, as well as for that large body of natives scattered abroad, to whom the least thing that is Scottish appeals with irresistible force. The majority of the examples present specimens of old furniture, but there are some which are entitled to be considered as representing "fixtures."

For instance, there are half-a-dozen specimens of "shutter-boards." We are told that "they formed the lower part of the windows, generally occupying more than half the space, and were made in two leaves to open inwards, the top part of the windows being filled with fixed glazing, so that the shutter-boards were the only means for regulating the entrance for fresh air." A panel treatment with several mouldings was common, and these semi-casements show a good deal of neatness in the adaptation of ornament and in the metalwork. It is not often a bed can be considered as a fixture, but one from Culross was constructed beneath a window, and at night it rested on the floor. During the daytime, when folded up, the recess was concealed, and the bed appeared to be a series of panels. It is allied to Goldsmith's "A bed by night, a chest of drawers by day." Both beds were equally unhealthy. Some shelves which at one time were attached to the wall merit attention from furniture-makers, for with the pilasters at the ends they have an architectural appearance, which might easily be attained in ordinary bookshelves without any great expenditure.

The largest examples are the pulpits. One belonging to the Society of Antiquaries of Scotland indicates respect for some very remote Gothic precedent. It expresses perpendicularity which was in keeping with neighbouring columns or piers, and the panels are filled with a running ornament. In plan it forms two-thirds of an octagon, one of the sides serving as a door. Another pulpit from Stirling Church is less liney, those which are introduced being mainly in the form of flutings of Corinthian pilasters. A cabinet which is supposed to have belonged to Archbishop Sharpe is rather elegant. It is made of oak of a warm brown tint, with inlaid work of boxwood and ebony; in the door-panels and frieze of cornice the buttons and drops are of a close-grained wood stained brown. A cabinet from Linlithgow Palace is also interesting, with the exception of a clumsy rail which divides the upper from the lower part. It is raised nearly a foot above the ground, and stands on massive supports. A cabinet from Stirling Palace, which is associated with Anne of Denmark, has a foreign aspect. This in a great measure arises from the inlaid architectural panels to the lower cupboard doors. Mr. Small says: "it is of oak of a light colour plentifully inlaid in the cornices, door-framing, and panels with various-coloured woods, the groundwork of inlay being generally of box, with the foliage and ornaments of ebony and various shades of browns and yellows, many of the inlaid parts being burned at the edges and other parts to give variety and shade. The whole forms a very harmonious picture, with none of the hard, coarse contrast of colours seen in the modern wood inlayer's productions." It is a pity the history of the cabinet cannot be traced, for this single work by itself, if produced in Scotland, would testify to an advanced state of industrial art. A press or wardrobe, also from Stirling, is less ambitious. The arrangement of the ornament is subservient to the general effect, and Mr. Small is able to say with confidence that there is an undoubtedly Scots character about it. The greater part is cut out of the solid.

A table from Trinity College Church, Edinburgh, was presented by Mary of Gueldres. There are Corinthian columns at the corners, with the further support of an arcade. The table from Holyrood, known as Queen Mary's work-table, in principle corresponds with modern Sutherland tables. A table from Dunfermline Palace has legs that appear to be copied from vases or cups in metal. They are too gross for their use, but similar legs must have been common, and the late B. J. Talbert utilised them in some of his designs. They look as if cut out of the solid, but according to Mr. Small, they were only clamped and glued up to the size required.

* *Scottish Woodwork of the Sixteenth and Seventeenth Centuries.* Measured and drawn for the stone by John William Small, architect. Stirling: Eneas Mackay. London: B. Quaritch.

The chairs have a stiffness in the backs which is enough to make victims to lumbago nervous. There could hardly be a more efficient aid to dignity. Mr. SMALL gives a variety of examples, but, however they may differ in form and treatment, they correspond in being uncomfortable. The late ANDREW HEITON, of Perth, was not only a clever architect, but, unlike the majority of his brethren, he was an enthusiastic collector. His old Peel tower at Darnack contained a most interesting collection, from which a very curious couch, and a bed which is like a temple of sleep, have been derived. Among other examples are a chest from Paisley, "Queen Mary's Cradle," which was saved from the fire at Linlithgow Palace in 1746, a bed from Dunfermline Palace, and several examples of doors and panelling.

It must not be supposed that the Scottish work surpasses contemporary English work, and much less is it comparable with the French carving of the time. The wonder is that in so remote a region so much excellence was attained. In the ornament there are few patterns, but each of them is adapted to its position. As a rule, strong common sense inspires the designs. The plates are therefore useful to show how efforts were made to combine utility with decoration, and if read aright the modern designer will find they can teach him something. Mr. SMALL's zeal was not misplaced when it produced so interesting a collection.

SYSTEMS OF DISTRIBUTING AND GENERATING ELECTRICITY.

By F. J. WARDEN-STEVENS.

(*Continued from page* 77.)

IT will now be advisable to discuss steam power, which is, of course, usually adopted in this country.

As with water power, the important consideration is that the plant and arrangements are such that the interest on capital, added to the cost of maintenance, is a minimum, and this must be clearly kept in view.

Boilers.—There are several classes of boilers in use, differing greatly in the relative arrangements of fire and water. The leading types are :—Lancashire, water-tube, dry-back marine, marine and locomotive. All these boilers are divisible into two classes, the fire-tube and the water-tube. In the fire tube class the water is outside the tube or tubes carrying the gases, while in the water-tube boiler the water is inside the tubes and the gases outside.

Owing to the fact that with the fire-tube class there must be a large outer shell, its strength is not so great, but it is cleaned more easily as a rule than the water-tube boiler, as the latter usually consists of tubes of small diameter. The quality of the water available for feed purposes is of great importance, and should be submitted for analysis, in order that the proportions and nature of the carbonates, &c., may be ascertained, as this determines to some extent whether the boiler should be of a water-tube or fire-tube class, as there is a considerable difficulty in keeping the water-tubes free if the deposit is at all heavy.

A description of the usual types of boilers in use and their advantages may here be of interest.

A Lancashire boiler consists essentially of a long drum constructed to withstand the required pressure, being usually about 7 feet to 8 feet in diameter, and 25 to 35 feet long. Two large tubes or flues are fixed lengthwise in these drums, leaving two clear ways for the firing and for the flue gases the whole length of the boiler. After passing through these internal flues the gases usually pass around the outside of the boiler to the front, and back to the chimney underneath the boiler. By this means a considerable amount of the heat is transferred from the gases to the water before they reach the chimney.

The Lancashire boiler must be kept at an even temperature, it cannot be heated up or cooled rapidly. Owing to the large and comparatively flat nature of the surface, with this boiler it is easy to remove any deposit which may form on the plates due to unsuitable water. Its great length, the nature of the seating, and the construction of the boiler, are such that any unequal expansion will either buckle the ends or cause other serious damage. The result of this is that it must be kept banked when not required for use. The coal and attention necessary while doing no useful work thus become a matter of great importance. In electricity supply works, when the time of use of the boilers is a small percentage of the whole, it is preferable to have a type of boiler in which the coal and labour required to heat up is small, in which case banking is not necessary.

The Lancashire boiler often has cross water-tubes fitted in the flues which greatly increase the quantity of water that can be evaporated. The advantages of Lancashire boilers are steady steam pressure, they can be used with water unsuitable for other boilers, and with the little attention required they are excellent for steady work. The disadvantages of the type are that it cannot be steamed up rapidly, it is not in itself economical, it occupies a large amount of space compared with its power, and is not suitable for unsteady demand unless other conditions such as unsuitable water make its use advisable.

One type of water-tube boiler consists of a steam drum, running the whole length of the boiler from front to rear ; at each end there are fixed what are known as headers, *i.e.* almost vertical tubes which receive the water-tubes. The water circulates in the following manner: the cool water sinks in the rear header, where the temperature is comparatively low, and enters the water-tubes, which are raised at the front end. The water is heated in these tubes, which are exposed to the full action of the hot gases, and the mixture of steam and water entering the front header rises into the steam drum. The rows of tubes are subdivided laterally by firebrick partitions to compel the hot gases to pass through the spaces in a tortuous manner, thus extracting the greater part of the heat. The result of this arrangement is that the temperature of the gases that leave the boiler is much reduced. It may be taken generally that those boilers that are heated easily will need a great amount of attention if the steam pressure and water level are to be kept constant. The difficulties with the water-tube type of boiler have been due chiefly to the question of circulation and unsuitable water. The latter difficulty necessitates frequent cleaning, and the tubes are not favourably arranged for this. If the deposit is very thick there is danger of overheating and subsequent bursting of the tubes.

Dry-back marine boilers are in their construction somewhat similar to the Lancashire type, but the flues consist of a large number of longitudinal tubes of small diameter. In this respect they resemble the locomotive boiler, but are much longer.

Marine boilers are practically similar to the type of boiler used at sea. They are short and of large diameter, and as a result they take up little floor space. The inside of the boiler is subdivided vertically, so that the gases find their way out in a tortuous manner. They are probably easier to clean than any type excepting the Lancashire, and as a consequence they are being used frequently in electricity works. They require no brickwork, and are fairly economical, but it must be remembered, however, that this type was not designed for electricity supply work, and it is doubtful if they really fulfil the conditions as well as the dry-back marine boiler.

Locomotive boilers are used considerably for general purposes, but they are difficult to clean, not very economical, and they are unsuitable for the long runs which occur in electricity supply works. The fire-box is badly situated for removing clinker, and the result of doing so is a severe fall of steam-pressure.

Having now briefly described the various types of boilers and their properties, it may be of interest to give a few figures (recently brought forward) concerning the space occupied and the cost of evaporating water by the various types :—

Type.	Pounds of Water evaporated per lb. of Coal.	Temperature of Gases leaving Boiler, in degrees F.	Price in Pounds per 100 lbs. Water evaporated economically per hour.	Rate of Depreciation per annum.
Lancashire, with economiser	12·0	250	23·3	5%
Water-tube	11·5	350	14·2	7%
Dry-back marine	11·0	600	14·5	6%
Marine	11·0	600	15·0	6%
Locomotive	11·0	600	15·0	7%
Lancashire, no economiser	10·0	600	19·7	3%

The price in pounds is taking the cost of boiler, fixing, &c., and the cost of ground and buildings at 2*l.* per square foot occupied.

As is usually found, the most economical is roughly the most expensive.

A very good combination of boilers is to have a Lancashire and economiser for continuous running day and night, and to use water-tube for connecting at times of heavy demand. This fulfils the ideal conditions of each boiler, and has been adopted with success.

Of course, it is impossible to state that the best kind of boiler is of any particular type, circumstances must be considered. The most important considerations are :—Average hours of use per day, the rate at which the demand increases as a maximum, the kind of fuel to be obtained, the nature of the water obtainable, the value of land and cost of building, and the cost of coal. All these considerations affect the question of (1) the extent to which it is advisable to sink capital to save coal, and (2) which class of boiler is best suited to the running conditions

Economisers.—An economiser consists of rows of tubes placed vertically in the main flue which obstructs the flow of the hot gases, and a great part of their heat is transferred to the feed water which passes through these tubes on its way to the boiler. As will be seen from the boiler table, the temperature of the flue-gases is reduced from 600 to 250 deg. with a Lancashire boiler by using an economiser. The pounds of water evaporated increases from 10 to 12 per lb. of coal with an economiser, *i.e.* an increase of 20 per cent. in the efficiency. The efficiency of the water-tube boiler mentioned is increased only slightly by using an economiser, the temperature of the flue-gases being considerably lower.

It is advisable that the feed-water should not be quite cold when entering the economiser, as otherwise there is a deterioration owing to the sudden rise of temperature of the water on entering. This sudden rise will also cause the whole of the deposit to be precipitated in one place and may choke the tubes. It is therefore better that this should take place in another heater capable of being easily cleaned if hard water is used ; but, of course, in cases where condensed water is available this is unnecessary, as the water from the hot well will not produce a deposit. It is necessary that the outside of the tubes be kept clean, and there is usually a small engine or electric motor for this purpose, rings being pulled up and down the tubes.

There is no doubt that the name "economiser" expresses very truly the effect of their use in most cases, although it must be remembered that the chimney draught is affected and they take up space, which is a consideration.

Chimneys.—There is no necessity to here describe fully the construction of chimneys, but there are several points which should be touched upon.

The chimney fulfils two main purposes—the conveyance of objectionable gases into the atmosphere at such a height that they will not be a nuisance in the immediate neighbourhood, and will have an opportunity of being well diffused before they can come in contact with the lower portions of the atmosphere, and, in the second place, to provide a draught of sufficient strength to draw the required quantity of air through the fuel. From both points of view it is advisable to have a high chimney.

The chimney as a draught-producer acts on the principle that there is inside the chimney a column of gases which is at a considerably higher temperature than those outside. The difference of weight between that of the column of hot gases and that of a similar column of cool air is the propelling force. It is evident that the resistances this force has to overcome are chiefly the friction in the flues, fire-grate, and chimney. The friction in the chimney is proportional to the height, so there is little use in greatly increasing the height above certain limits. A given quantity of gases can be disposed of with equal ease if the chimney is of large section, and not high, or of small section and high; and as there is often a probability of extensions being required later with electricity supply works a large but short chimney is built at first, so arranged that its height can be increased as desired at a later date, when the quantity of gases to be dealt with increases. A condition which limits the height of a chimney is that of radiation, and it is evident that the gases whilst in the chimney must not be allowed to cool any more than can be avoided. For these reasons iron chimneys are much less economical than brick ones, and the limiting height is therefore much less, as the cooling is greater.

As it can be seen that the draught produced is not increased in proportion as the height increases, on account of the extra surface friction and radiation, it is evident that very high chimneys are not advisable, as the cost of building increases rapidly with the height. This is due to the conditions of stability. As the height increases, so must the area at the base, and the thickness of brickwork. It therefore follows that chimneys for large powers can economically be built higher than those for small powers.

There is a height for every chimney where, having already fulfilled the first condition—that of absence of nuisance—it is not advisable to build higher for draught, but where it should be produced by means of mechanical apparatus, such as fans or steam jets suitably arranged. It must be remembered that the efficiency of a boiler is roughly inversely proportional to the temperature of the chimney-gases. Referring to the table, this is distinctly seen. For instance, taking the Lancashire boiler without an economiser, it can be seen that its chimney-gases are at 600 deg. Fahr., while it evaporates only 10 lbs. of water per lb. of coal. This is the worst result mentioned; but if an economiser is added, the best result is obtained, *i.e.* 12 lbs. of water evaporated per lb. of coal, while the flue-gases are the coolest, viz. 250 deg. Fahr. It is often pointed out that the extra economy by using an economiser on all but the water-tube boiler, viz. 20 per cent. in the case of a Lancashire boiler, is far more than the cost of producing the draught by mechanical means. For these reasons it is often found advisable to use a short chimney with natural draught during light load, and to use forced or induced draught at times of heavy load. It may be generally taken that steam-jet draught-producers are not as economical as suitably placed fans, although they are frequently used on account of their convenience, low first cost, and cost of maintenance, and where not in use continuously economy is not of so great importance.

Iron chimneys are little used in this country for electricity works. They are chiefly used in America, where conditions are very different.

It may be well to point out that little or no benefit is obtained by a chimney of too small diameter ; one large chimney costs less than two of half the size but of the same height. It is better, if economy in capital is necessary, to build a large short chimney, with a view to increasing its height later when more flue-gases have to be dealt with. The same applies to main flues ; they should be of ample size, in view of the inevitable extensions with electricity supply works.

Mechanical Stokers.—These are used where the fuel is of a poor description and of such a nature that the stoking must be frequent and a small quantity used at a time. There are two kinds of stokers in general use, the "sprinkling" and the "coking."

Mechanical *v.* hand stoking is intimately connected with the question of smoke nuisance. It will be well to consider why smoke occurs when coal is used which is of a gassy nature, and contains sulphur. It is evident that with an ordinary fire a large proportion of the gases will and do escape unburnt. The products of combustion are not simply water and carbonic acid gas, both of which are colourless, but sulphurous gases and heavy hydrocarbons. The sulphurous fumes can be converted into sulphurous acid if heated in the presence of oxygen, and the heavy hydrocarbon gases will burn if they are heated. This is usually accomplished by providing a combustion chamber, *i.e.* a space in the boiler lined with fire-brick, which obtains the greatest heat; but this is not possible with water-tube boilers. Now when in any boiler large quantities of coal are thrown on a fire the coal distills rather than burns, and gases which contain much carbon are given off; these gases, on coming into contact with a cold surface, such as a boiler-plate or a flue, deposit soot, and also become black smoke. The only way to prevent smoke nuisance is to coal in very small quantities at frequent intervals, or to feed coal in front and gradually feed it back. The unburnt gases will then be completely burnt in passing

over the hotter coals behind. With water-tube boilers, however, the gases rise almost vertically as a rule, and therefore the second method is useless for them. To prevent smoke it is thus necessary to put on coal in small quantities continuously. This cannot be done with hand-firing; the door would be open all the time, and there would be a rush of cold air, which would do more harm than the improved stoking did good. This must be done by means of a mechanical stoker. It is found that the sprinkling stoker works well with water-tube boilers, and allows poor coal to be used without excessive smoke.

The coking stoker is useful for Lancashire and other types of boiler. The coal is fed and is pushed back continuously to the back of the furnace, where the ashes and clinker fall into the ash-pit.

(To be continued.)

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. J. H. Fellowes Prynne, president, in the chair.

The following were elected members of the Association :—Messrs. F. J. Palmer, J. H. Taylor, and A. S. Vernon.

Mr. Christopher Whall gave a lecture and demonstration on

Stained-Glass.

Mr. Whall began by offering an excuse for coming among them without prepared notes, but so closely was his time occupied that he had not had leisure enough to dip into the history of glass. He proposed, therefore, a regular work-bench talk, from which he hoped they would derive some useful information. It seemed odd, perhaps, that they as architects should be desirous to learn something of the work of craftsmen, and this curiosity on their part suggested two questions. What did they want to know about stained-glass? and why did they want to know anything of the work? They were curious questions, but if the reason of asking was sufficiently clear the answer might lead to a proper understanding as to how architecture was allied to the crafts. A knowledge of stained-glass work could be of great use sometimes to an architect, but the acquiring of such need not necessitate the sacrifice of an architectural career. To commence, the actual production of stained-glass windows was very simple. There was first the letter from a client wishing for a sketch of the subject he desired. The artist would be guided in his drawing by the purpose of the window and the sum that was to be laid out in its production. These preliminaries settled, the artist (having already in his mind a conception in the small of the whole work) had to make a cartoon full size. The essential point was that the cartoon should be made by a craftsman, because a thorough knowledge of the stages in stained-glass work was necessary. He must know perfectly well what could be done in glass, and what could not. A draughtsman might make a design beautiful in itself, but impossible to carry out in glass because he was not aware of its limitations. The rule the lecturer adopted in the production of glass work was to make as effective a drawing as he could, and to mar it as little as possible by working lines. Before commencing the drawing an idea of the whole was conceived. The design completed, a tracing was made showing the lead lines only. This governed the entire of the work of the window, and the glass to be used was cut by it. The cutting took a long time, and architects were recommended to try and do some of this part of the work for themselves. A different and kinder view of stained-glass work was often the result of their efforts. The next step was the painting of the glass, the pieces of most importance and anything of elaborate form being laid down on the cartoon and traced. After these pieces were all traced they were waxed up on a sheet of glass, and the actual painting with a shade pigment laid on in "matt" was commenced. By this method an even surface was obtained, which answered very much the same as the ground in a mezzo-tint. There were three main ways of shading. The first was the stipple, by which the glass could be worked up in a wet state to a very high degree of finish. An even and perfect ground was thus laid, but it took time to dry. So perfect, indeed, was the gradation of shade, that skilful workers could produce great finish even at this stage. When dry, there could be taken out of the "matt" most beautiful and finished lights, and the artist could produce as much realism and finish as he liked. Before this painting stage was reached the lecturer said he should have called attention to a practice which was peculiarly his own. This was the making of a sketch of the material itself. It was not the kind of work a designer would show to his client, but it would guide the artist in his creation. It was a great deal of trouble to make a sketch to scale, and by this method it was unnecessary. The lecturer said he still planned out all the combinations in colour and had the pieces waxed up. After these preliminaries they would suppose the work of a window in its first stage finished. Then the work had to be fired. The pieces were taken and placed in the kiln, where the pigment was burnt in, and so entered the glass. The enormous question of permanency of the work depended upon this firing. The uses of different pigments had something to do with it, but permanency would in some cases be due solely to the firing. An allowance would have to be made in the colouring for what the kiln would undo, and the spoilt parts could be touched up again afterwards. The firing and retouching were in some cases repeated two and three times. Work had often to be toned by means of yellow stain, an invention of the fifteenth century. The virtue of stained-glass did not consist in what was put on, but in the colour that resulted. The yellow stain was, of course, an exception, and was one of the most valuable aids to effect possessed by the artist in stained-glass. Careful moderation in the use of this stain was necessary. Red, too, was good for shading; the greyer pigments were less satisfactory. Different coloured glasses were used to subdue hard colours; green was useful in toning the highest white. This introduction of green did away with the purley glass, the mark of the fifteenth-century work. After the window was all painted and fired, it had to be leaded up. The whole work was carefully laid down on the bench, and the lead was put round it, and kept in its place by nails. It was essential that the window should be kept stiff during the leading-up. Every joint was soldered, so as to unite the disjointed pieces. The soldering was done on both sides of the glass. To finish the work a cement, composed of boiled oil and white lead, was rubbed well into all the leads on both sides. This cement, when hard, had the effect of stiffening the work as well as making it weatherproof. The lecturer then, in closing his demonstration, observed that it was not necessary for an architect to know much of the craft in order to give directions for such work. A slight knowledge of what was done in the process would be enough. The craft conditions were always necessary for good work, and, whatever might be the view taken by architects, it would be well for them to have such a knowledge of the craft to turn it to account if the occasion offered.

The Chairman said the lecturer had asked why they wanted to know anything of the craft. He (the speaker) thought that if there was one subject which architects knew little about, it was glass painting; and thus it was that great ignorance was often observed in the treatment of such work, simply because they had not grasped the craftsman's idea of his work. They knew that very often the men who made good sketches of glass-work were unable to do the actual work, of a window. They were trying to get in a small way a thorough knowledge of what they dealt with in their own art, and glass-work had so much of the artistic that it appealed perhaps more to the architect. There was great controversy among glass painters as regarded the proper process to be followed in such work, and it really seemed to depend largely upon the taste of the design. Architects did complain against the cementing of the windows; it was often far from weatherproof.

Mr. Francis Bond agreed with many of Mr. Whall's remarks. The introduction of complete scenes in stained-glass windows was a mistake; they were illegible. Ordinary painters' works were not adapted to be taken as models for stained-glass; groups of figures were out of place.

Mr. H. W. Pratt, who proposed a vote of thanks, said he gathered from the lecturer that architects were not expected to do designs in stained glass, and therefore it seemed questionable how far a knowledge of the craft would be serviceable to them. He thought that an architect should have a voice in such matters, as to the subject to be introduced and the scheme of colour. It seemed that if architects learnt only as much as could be acquired by students in a craft school, they would be unable to decide upon such important questions as arose in elaborate subjects. For an architect, one of the important points was the relation between the leading and the lines of the window, for one could counteract the other; and the question was, which should be held to be subsidiary. It would be desirable for the architectural student to possess a knowledge of colour and design.

Mr. Francis Hooper seconded the vote of thanks.

Mr. A. S. Flower said he would like information concerning wiring, whether it was always indispensable, and also the width which it was desirable to have for leading.

The discussion was continued by Messrs. D. T. Fyfe, Mat Garbutt, T. G. Lucas, H. J. Leaning.

Mr. Whall in reply expressed his thanks for the interest taken in the subject. There was an objection to the introduction of pictorial scenes with many figures, but the practised artist was able to express the effect which they produced by means of a few figures. The cloudiness in glass, which was so much admired, was one of the consequences of age; the surface

became decomposed, and chemical effects followed which imparted variety. Some streaky glass might be due to accidental causes, but it could be made to order, and it was a useful aid to the artist. With regard to leads, in arranging a composition care should be taken to distribute them as evenly as possible over the surface. Mr. Whall said that, for his part, he would gladly dispense with the protection afforded by wire, but when they remembered what boys could do it became a necessary evil. Rolled glass could be employed, but that had also great drawbacks. In many country districts wire was unnecessary. Lead could be obtained of various thicknesses, and the size would depend on the treatment of the design. The leads, it should be remembered, gave emphasis to a window, and the artist must decide the degree of force which was desirable. Mr. Whall said he was engaged on a large work, and he hoped to be able to explain to them the operations as exemplified on an expensive scale. That night he only showed them students' work. They were not all of them designs for complete leaded lights, but were most of them patterns made for diapers, "apparels," clasps and jewellery on robes; for quarries, canopy, and architectural details which enter largely into the production of figure work in stained-glass.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last at Conduit Street, W., Professor Aitchison, R.A., president, in the chair.

The President announced that the Council's nominee for the Royal Gold Medal was Mr. G. F. Bodley, A.R.A.

A paper by Mr. A. Hessell Tiltman was read on

Public Baths and Wash-houses.

The author opened his paper by an expression of his personal views upon the ordinances which should govern the arrangement of baths and wash-houses in the future, and their influence upon the arrangement and details of the various departments. The Baths and Wash-houses Act, 1846, was passed "to encourage the establishment of public baths and wash-houses." Under this and amending Acts a large number of these establishments had been erected. The municipal duty, however, of providing facilities for the cleansing of the bodies and linen of the poor had not been adequately performed. Statistics showed that only a small proportion of the class for which these establishments were chiefly intended availed themselves of the opportunities offered. The reasons for this partial failure, the author considered, were—first, that the initial distribution and classification of the establishments were frequently at fault; secondly, sufficient effort was not made to educate the masses as to the necessity and benefits of the bathing habit. The bathing community to be catered for consisted of the middle-class, the working-class, and the very poor. A great initial blunder was committed in associating these, in large proportions, for all purposes of swimming, bathing, and washing, in almost every establishment. The remedy lay in the practical adoption of some system of central and branch establishments, classified and distributed to suit the special needs of each district. Ablutionary baths and public wash-houses should be decentralised and located at much more frequent intervals throughout those districts requiring them, forming a series of branch establishments; whilst swimming-baths should constitute centralised establishments at one or more points, equally dividing up the whole district. The author then enumerated the requirements of the suggested establishments. The central establishment should be the chief and most attractive. The branch establishments should consist of two types; (1) baths and wash-houses; (2) people's baths. Either type could be put up on the site of from two to four small houses in a bye-street, which would be neither costly nor difficult to acquire. In extending the provision of baths and wash-houses the authorities should consider the advisability of doing so in the direction of branch rather than central establishments. The author had visited and inspected a very large number of baths and wash-houses throughout the United Kingdom and in France, Belgium, Germany, Austria, and Hungary. In Germany he had found much to admire in the arrangement and administration of those institutions by the State, and the true spirit and intention of the Baths and Wash-houses Acts would be much better carried out if part of the German system were adopted. A committee of medical and other experts in New York, after careful investigation, had reported their preference for the arrangement and administration of the new form of German and Austrian "people's baths." The distinguishing features and hygienic advantages having been fully explained, the author went on to describe the plan and arrangement of each of the three classes of typical establishments advocated by him. The central establishment site should have a superficial area of from 30,000 to 40,000 square feet, be in a prominent position, and easily accessible from all parts of the town or parish. It should admit of the perfect drainage of all portions of the establishment without necessitating an expensive treatment of levels of the building generally. Much saving may be effected by having only a small frontage towards the main thoroughfare. A good site may often thus be secured, carrying with it sometimes sufficient frontages to back streets, where minor entrances may be provided. In baths carried out for the Islington Vestry the author had adapted, the quadrangular system to such a site as that described, with excellent results. The water-supply must be abundant, pure and soft. It should be sufficient to meet the largest demand, and include a storage for some 15,000 to 20,000 gallons. Ponds of very large size are not advisable. It is better to increase their number rather than their dimensions when the latter exceeds 90 feet by 30 feet. Five is a useful number for central establishments: two for each of the sexes, and a fifth or small pond to be used alternately for both sexes, principally as a teaching-pond. In England swimming-baths were usually closed during six months of the year; but with adequate warming and other arrangements—as in Germany, where, though much colder, swimming-baths were open all the year round—swimming-clubs would gladly use them throughout the winter months. The arrangement of one of the swimming-baths during the winter months for public entertainment purposes was next considered, and the best means of meeting the County Council requirements in the matter of exits, &c. Taking into account costly sites, the extra space secured, the advantage to exterior architectural grouping, the author preferred to distribute the baths between the ground and first floors, and, if proper lighting can be obtained, the basement as well. Much accommodation is lost and convenience sacrificed by keeping all the slipper-baths upon one floor. The location of hot-air baths, laundry, boiler-house and engine-rooms, apartments for superintendent and engineer, &c., having been indicated, the author went on to deal with the details affecting the various departments, viz. swimming-baths for both sexes, douche or cleansing-rooms, seippe and rain-douche baths, hot-air baths, the establishment working department, boiler-house, engine-room, accumulator-room, receiving-room, wash-house, drying-room, folding and distributing store-rooms, mess-room, engineers' workshop, and the administrative department.

A defect requiring correction in English swimming-baths was the insufficiency of dressing-box accommodation in proportion to the superficial area of pond surface. The almost universal arrangement of placing the dressing-boxes down two sides, and possibly one end of the hall, must be improved upon. This might be done by adopting the Continental method of placing an equal proportion of the dressing-boxes or places upon the gallery floor, or by arranging them in a series of transeptal bays upon one or both sides of the bath. The pond should be rectangular in shape, and in the proportion generally of length to width as three to one. Steps to the water should be of wood, and made removable. An open self-draining channel, close to the top of the pond and running continuously round it, serves as a scum overflow and spitting-trough, and a suitable height above the water-line an iron or copper safety rail should run all round the pond for the use of tired swimmers. At the shallow end a portion of this rail is usually converted into a spray pipe, extending the whole width of the pond. By raising or depressing the direction of the perforations in this, a useful and pleasant means of freshening and clearing the top surface of the water is obtained. Further points considered in this connection were the depth and temperature of the water, gangways round the ponds, flooring materials, dressing-boxes and their fittings. An important feature of the swimming-bath should be the douche or cleansing-room. This is almost unknown in this country in connection with swimming-baths, but it is a universal provision of the German baths, and used by every bather as a matter of necessary routine, it being understood that before entering the swimming-pond he should, out of consideration for his fellow-bathers, undergo a thorough cleansing process.

Hot-air baths should be upon the lines of the improved form of the Anglicised Turkish bath, consisting of three rooms, viz. the tepidarium, 140 deg. Fahr.; the calidarium, 180 deg.; and the laconicum, 250 deg.; together with a combined cooling and dressing-room, and a shampooing and douche-room. For the second-class hot-air baths the author recommended the system suggested in Metcalfe's "Sanitas Sanitatum et Omnia Sanitas," which consists of a combination of hot-air rooms of the Turkish bath, with a system of warmed lavatories in lieu of the shampooing process and plunge bath. This modification of the Turkish bath, for ordinary purposes of ablution, would be perfectly effective, less provocative of colds, and more economical than the ordinary warm slipper-bath.

In considering the second part of his subject, "Public Wash-houses," the author said that their present arrangement required complete overhauling. Full details of a small installation were given as an indication of the line modification should take. The following rooms were described and illus-

trated :—Public wash-houses, mangling-room, waiting-hall, cloak and bonnet-room, crèche, ticket-office.

Reverting to bathing establishments, the author explained that the smaller type of his branch establishments, viz. people's baths, was intended to meet, in the cheapest and simplest manner, the needs of the very poor for cleansing facilities. It consisted of very small establishments of rain-douche baths built at very frequent intervals in the poor and populous districts, after the manner of the Germans and Austrians. These establishments could be made so small and compact as to permit of their erection under our streets in a manner similar to our underground lavatories and conveniences.

Finally, the author touched upon construction and architectural treatment. Construction should be of such a character as to resist the action of water in every form, whether from carelessness or from the necessities of frequent cleansing. It should be easily kept clean, free from vermin, and especially so with respect to the transfer of contagious matter. As to external architecture, the design of the building should clearly express its purpose quite apart from all questions of style. It should appear exactly what it is, and not ape the dignity and expression of the modern town hall. In the treatment of the natural outcome of the plans there are infinite opportunities for original and distinctive treatment. The paper was illustrated by a large collection of plans of baths in England and on the Continent, including the Kennington Road Baths (of which photographs of the interior were shown), Hornsey Road Baths, Tibberton Square Baths, River and Public Baths at Hamburg, and "people's baths" at Hamburg and Vienna.

Mr. W. Emerson proposed a vote of thanks to Mr. Tiltman for the paper that had been read.

Mr. H. L. Florence seconded the vote, which was supported by Messrs. A. J. Bolton, Saxon Snell, jun., and Professor Aitchison.

THE ABBEY MANSIONS, WESTMINSTER.

ON Monday, in the Queen's Bench Division, before Mr. Justice Lawrance and Mr. Justice Channell, the special case, Drury *v.* Rickard, stated by a metropolitan magistrate, raising a question whether the Abbey Mansions, Victoria Street, were vested in and were in the occupation of a Government department, was heard.

A complaint was made by the appellant, Mr. Dru Drury, district surveyor, under the London Building Act, 1894, that, in erecting a certain building known as Abbey Mansions, north and south blocks, situate at Victoria Street, certain things had been done in contravention of the said Act by the respondent. The respondent was a builder employed by C. J. C. Pawley, and was engaged on June 1, 1898, in erecting the south block of the building in question. It was erected to a greater height than 80 feet without the consent of the London County Council, and, if the Act applied, in contravention of section 47 of the Act, which states that a building (not being a church or chapel) shall not be erected of or be subsequently increased to a greater height than 80 feet (exclusive of two storeys in the roof, and of ornamental towers, turrets, or other architectural features or decorations) without the consent of the County Council. A notice of irregularity was served on the respondent, who claimed that, by reason of section 202 of the Act, the building was exempt from the operation of the Act. That section contains the following provision :—"There shall be exempt from so much of the provisions of this Act as relates to buildings and structures . . . any building, structure, or work vested in and in the occupation of any department of Her Majesty's Government." The respondent was erecting the said building for, and under the supervision of, C. J. C. Pawley, who was acting as architect of the building, but subject to the approval of the Surveyor of the Commissioners of Her Majesty's Board of Works. The agreement between Pawley and the Commissioners was made on November 19, 1897, and Pawley (therein called the landlord) agreed to grant, and the Commissioners agreed to take, a lease of a piece of land with the messuage therein described as then in course of erection "for the term of twenty-one years, from December 25, 1897, or so soon thereafter as the buildings should, in the opinion of the officers of Her Majesty's Office of Works, be fit for occupation." No such certificate had been given by the officers of the Office of Works, and the Commissioners had now refused to take the buildings. One of the officers of the Commissioners of Works had on several occasions during the building visited the buildings and made suggestions. The appellant contended that the buildings were in the occupation of Pawley, and not in that of any Government department, and at any rate would not vest in the Government until the commencement of the term of twenty-one years mentioned in the agreement. The magistrate was of opinion that the building came within section 202, and was, therefore, exempt. He accordingly dismissed the complaint, but stated a case for the opinion of the Court upon the question whether the buildings were exempt. Other questions were raised before him, but their decision did not become necessary if his view was right.

Mr. Daldy, for the appellant, said that the buildings were not exempt, and the respondent should have been convicted. The magistrate thought the whole question turned upon the construction of the agreement, and did not consider the circumstances of the case, which showed that the Government were not in occupation. The Government had agreed to take a lease from a date which might not arrive at all, and had not arrived in fact yet. Therefore there was no vesting of the buildings in the Government. The premises were occupied, if by anybody, by the builder. The only evidence of occupation by the Crown was that the surveyor would occasionally visit the buildings. Under the statute there must be both vesting in and occupation by the Crown. The lessees of Crown property generally ought to be liable to the provisions of the Act. Perhaps that was the reason why the clause was put into the Act in this form.

Mr. Avory said the exemption given by the Act could not apply at all if it did not apply to buildings in course of construction, because no Government department could enter into occupation until the building intended for it was completed. The clause meant that if buildings were vested in Government and intended for the occupation of a Government department, they should be exempt, otherwise the section would be of no effect. They might also be said to be in occupation by reason of the Government surveyor coming in. That, however, was the smaller point. The building was also vested in the Government. The document was a lease in equity. If the Commissioners could compel the grant of a lease, then the property vested in them. He contended that they could enforce a lease.

The Court held that the case must go back to the magistrate to decide the other points which he had not dealt with.

Mr. Justice Lawrance said that it was impossible to say that the buildings were "vested in and in the occupation of any department of her Majesty's Government." The magistrate was therefore wrong in the view he took

Mr. Justice Channell concurred. Difficulties had been pointed out by Mr. Avory as to the occupation of Government departments in buildings that were being built for them by contractors. If, however, there was in any real sense a vesting of the buildings in Government, it would probably be held not to be very difficult to make the occupation sufficient. He could not, however, see the equitable interest here. The contract was this: that the Government would take the buildings for twenty-one years from December 25, 1897, or so soon thereafter as the buildings should, in the opinion of the officers of Her Majesty's Office of Works, "be fit for occupation." There was, therefore, no compulsion on the Government to take the premises until the opinion of the officers that the buildings were fit for occupation had been given. Where there was an option of that description no equitable interest arose until the election had been made. No case had been cited to contradict that view. It followed that these buildings were not vested in the Government department, and the matter must therefore go back to the magistrate.

THE VALLEY OF THE DOUGLAS.

THE sixth meeting of the session of the Lancashire and Cheshire Archæological Society took place on the 2nd inst., Mr. A. M. Robinson presiding. A touching tribute was paid by the chairman and other members to the memory of that prominent member and profound archæologist, Mr. E. W. Cox, who passed away early on the 1st inst. a victim to pneumonia. After the formal business had been disposed of, Mr. C. Shaw passed round for inspection an autograph letter of William Roscoe and one of his election talleys, kindly lent by one of his descendants. The paper of the evening, on "The Valley of the Douglas," was read by Mr. Wm. F. Price, who commenced by giving a general description and history of this interesting valley, assisted by the aid of several large maps and plans, and afterwards a detailed account was given of the Cymro stones, supposed to be Celtic, Battle Holme, said to be the site of one of King Arthur's battles, and an account of Newburgh, a place of great antiquity, with its ancient fairs, old country customs and sports, the ancient schools and houses, interspersed with many anecdotes of country-side celebrities and original characters, superstition and uncanny stories. A long discussion took place, in which the chairman, Mr. W. E. Gregson, Mr. W. F. Irvine, Mr. S. May, Mr. R. Bennett and Mr. Madely took part, and a vote of thanks, proposed by Mr. John Hargreaves, and seconded by Mr. C. Shaw, was heartily accorded to Mr. Price for his interesting and original paper.

The Edinburgh Architectural Association's first visit of the session takes place to-morrow (Saturday), and will be to Tollcross cable-power station.

NOTES AND COMMENTS.

SEWER construction is a class of work which offers temptations to dishonest contractors and to workmen who have a grudge against their employers. We cannot say in England that neither class of men have not succumbed. The Municipal Council of Paris have now a serious case of the kind under consideration. The works for the underground railway interfered with the sewers, and a great many have had to be reconstructed. It appears that in several cases the new sewers are only shams. The materials specified were not used, and the construction is most careless. From the character of the work the existence of the sewers could only be of a brief duration, but meanwhile they were sure to imperil the health of the people in the streets near them. One of the misfortunes of France is the army of officials that must be employed to reward political services, and the number of overseers for the sewers of Paris would be considered disproportionate even by the London County Council. But it appears that from among them not one report was received concerning the malpractices which were continued without interruption. If it were not for one of the workmen who "split" on his fellows the sewers would have passed into the possession of the Municipal Council without any misgiving being raised about the character of the work. It is possible that in Paris, as elsewhere, many of the overseers did not possess much knowledge about construction of any kind. But any man who was endowed with ordinary intelligence could have perceived the offence of foisting one material for another. Advanced politics in such cases, however, insures condonation.

ALL our readers who have visited Lille can recall the marvellous WICAR collection of drawings in the Art Gallery. Among the designs are several of an architectural character which are by many supposed to be drawn by MICHEL ANGELO, with others prepared for him by the faithful GIORGIO VASARI. There are also studies by DA VINCI, RAPHAEL, TITIAN, CORREGGIO, the CARRACCI, TINTORET, PAUL VERONESE, &c. It is doubtful whether a more valuable collection of its class is to be found in Europe. M. WICAR, who was during the greater part of his life engaged in amassing the treasures, was an historical painter. He was a native of Lille, which he has so munificently enriched. His bequest was not to the city, but to the local "Société des Sciences, de l'Agriculture et des Arts." The Society allowed the city to exhibit the collections, but reserved the ownership. In 1866 it was arranged to renounce the latter on condition that the annual allowance from the Municipal funds should be increased from 3,500 francs to 6,000 francs. The latter sum was duly paid until 1897, and it enabled the Society to offer prizes to students, the most important being the Prix Wicar, by means of which a young artist is enabled to spend a year in Rome. In 1897 the socialist party possessed a majority in the Municipal Council, and the arts were despised. Accordingly, it was decided to reduce the subsidy to 3,000 francs, on the ground that no formal agreement for a higher sum existed. The Society appealed to the law courts. The case was tried a week ago, when the tribunal declared there was a contract to pay 6,000 francs a year, and the sum must be entered in each year's budget.

THE relations between France and Russia are so precarious in character, although the mob suppose they are eternal, that any little incident in which they are involved is liable to be misinterpreted. An instance has just occurred. The Pont Alexandre III., now in course of construction across the Seine, in Paris, was to have two statues flanking the approach at each end. They were to express the alliance of France with Russia. But artistic inspiration is not always subservient to politics, and although they have cudgelled their brains the sculptors find that ideas are coy. The symbolic figures that have been devised are not suggestive of much profit arising to France from their confidence in the "Frenchmen of the North." Accordingly, it is now proposed to substitute for statues shields or cartouches bearing the arms of the two nations. The arrangement shows wisdom on the part of the authorities, for a printed label is preferable to a statue that is mere task-work. But some of the Paris journals gave a political aspect to the affair. They said that the architects who are charged with the decoration, recognising the unstable nature of the union between France and Russia, had anticipated that a day might come when all memorials of it would be hateful to French eyes, and then popular fury would play havoc with the statues. As we have said, there is apparently no ground for that supposition, but to assume that Parisians would not hesitate to become vandals and destroy symbols of Russia cannot inspire much confidence in St. Petersburg.

THE church of St. Eustorgio is not always visited by tourists in Milan. It is, however, an interesting building, and although mainly a mixture of work of the thirteenth and seventeenth centuries a church stood on the site from the fourth century. The Dominicans obtained possession of the old church soon after the founding of the Order, and one of the monks attached to it was the St. PETER whose murder formed the subject of one of TITIAN'S masterpieces, which was consumed in 1866. A chapel was dedicated to the saint; it stands behind the choir in St. Eustorgio. It formed the subject of a lecture which was given on the 2nd inst. in the Dublin Museum by Count PLUNKETT. He said that the chapel properly belonged to the transitional period, and in it were to be found details of Gothic and Romanesque. The interior of the chapel is beautiful, and at the front of the apse is the sarcophagus-shrine of the martyr, which was transferred from St. Eustorgio. There are also wonderful paintings by CIVERCHIO, a pupil of FOPPA, who was considered to be one of the finest painters of his time. CIVERCHIO painted the Annunciation over the arch of the apse. This fresco is gracious and spiritual in character, excellent in modelling and colour. The other frescoes in the lunettes to the right and left are inventions of the artist himself, and in those four pictures the life of the saint and the mission of his life are summarised. In conclusion, Count PLUNKETT observed that the architect, the sculptor, the modeller, the painter and the artisan had worked together to make the little chapel so perfect that it seemed to be the work of angels rather than of men.

BIRMINGHAM is about to expend a large sum on public works, which cannot be longer delayed. There, as elsewhere, more accommodation is needed for the increased number of lunatics, which is not to be kept down by any expenditure on education. Tenders are sought for the new Hollymoor Asylum, which, at the rate of from 200*l.* to 250*l.* a bed, will cost about 150,000*l.* If private patients are admitted the Lunacy Commissioners will insist on a separate building, and a larger outlay is therefore to be expected. A new cattle market is to be constructed in Montague Street, at an estimated cost of 9,957*l.*, with 750*l.* for architect's commission, &c. Improvements at Smithfield are also to be realised. The Corporation require to be expeditious in carrying out alterations, for the value of property is ascending in Birmingham. For the freeholder's interest in a public-house and three shops in Colmore Row, which produce 750*l.* a year, 30,000*l.*, or forty years' purchase, must be paid. The price per square yard is 105*l.* The leaseholder's interest has yet to be reckoned. The City Council, having obtained land in Edmund Street at a high rate, are receiving suggestions for its utilisation. There are many citizens who are in favour of the erection of a Natural History Museum on a part of the ground, and it may be assumed that the building will be undertaken shortly.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: EXTERIOR, LOOKING SOUTH-WEST FROM CHURCHYARD. LANTERN OF CENTRAL TOWER, LOOKING UP. DETAIL OF TOP OF CENTRAL TOWER.

ST. GEORGE'S SCHOOLS, SOUTH STREET, MAYFAIR, W.: SOUTH FRONT. NORTH FRONT.

THIS group of Higher-Grade Schools was recently erected by Messrs. DOVE BROTHERS from designs by Mr. PHILIP A. ROBSON, A.R.I.B.A., and which gained first place in the competition. On some of the plates Mr. E. R. ROBSON is erroneously described as architect. The fireproof flooring is by Mr. PICKING, and the wood-block flooring by the Acme Company. N.A.P. are used.

THE SUPERVISION AND REGULATION OF BUILDING OPERATIONS IN ENDINBURGH.*

(Concluded from last week.)

AS I have already stated, the legal propositions of a petitioner are these :—This is my property, the proposed operations are confined to that property, they can be executed with safety ; therefore I am entitled to warrant. The objections which may competently be stated against these propositions are separable into two classes—legal and practical. Into the first category fall the objections usually taken by neighbouring proprietors, viz. that the property does not belong to the petitioner, that the operations are not confined to his own property, or that they will interfere with some right or servitude belonging to the objector ; and also the objections competent to a superior that the conditions of the feu charter are not being complied with. In order that you may understand the terms superior and feu charter, let me explain that in Scotland leasehold of property is almost unknown in the sense in which the term is used here. The tenure of heritable property with us is almost wholly feudal. The owner of land in Scotland is called the superior, and when he disposes of a portion of his ground for building purposes, he does so in terms of a feu contract entered into between himself and the intending builder, who becomes in law, his vassal. This vassal binds himself and his heirs in perpetuity to pay to the superior and his heirs an annual ground rent or feu duty as the consideration for being allowed to erect a building on the ground, but the right of property in the house or building belongs for ever to the vassal, his heirs and successors. Of course, in granting this feu charter or contract, the superior may impose such conditions on his vassal as he may consider desirable. He may describe the class of property to be built—in the case of dwelling-houses whether they shall be villas or tenements—or, as is often done in Edinburgh in streets of high-class houses, he may insist on the elevations being built conformable to a particular design. He may prohibit the carrying on of any trade or manufacture in property on his ground, and he may constitute a servitude of light and prospect over one house or building in favour of another.

As it is a matter of considerable importance to anyone interested in building operations in towns, perhaps I might at this point inform you as to the Scots law in reference to servitudes or easements.

First let me explain that the tenement having right to the servitude is called the *dominant*, that subject to its burden the *servient*.

Prædial servitudes, as servitudes attached to heritable property are called, are either positive (where the dominant proprietor has right to exercise some right) or they are negative (where he only restrains the servient proprietor) ; and negative servitudes cannot be acquired by possession, but are constituted by title alone. The owner of a servient tenement is only bound to *suffer*, he is under no obligation to do any act. He must do nothing to limit the servitude, but beyond its proper limits he is free; while the owner of the dominant tenement cannot increase the burden. The urban servitudes are—(1) Support, giving the right to rest the dominant tenement against the servient ; (2) Stillicide, the right to send the water from the roof of the dominant tenement on to the servient property ; (3) light or prospect, whereby buildings are prevented from obstructing the light or prospect of the dominant tenement ; and (4) *altius non tollendi*, not to build above a certain height. Probably there is a general resemblance between the law of England and of Scotland on this subject, but one important difference at least exists. In England a servitude of light may be acquired by usage for, I think, twenty years ; but with us such a servitude can never be thus established. In Scotland, if any building is to have a servitude of light and prospect over an adjacent building, it must be expressed in the title to both properties. The theory in Scots law is that a proprietor is only bound to provide light and air for his own property, and any open space which he may leave is not to be reckoned on by his neighbour to provide him with light. A common result of this is that a man who has built up to the boundaries of his property some day finds the windows on one side of his property closed up by a building of his neighbour's, and the law provides the neighbour with no remedy because in building he ought to have left sufficient open space to supply his house with light and prospect if he wished it.

This appears to me to be an important difference between the laws of the two countries, and I must say we seem to take the more equitable view of the matter. With regard to the other classes of servitudes, I know of no other marked difference in our practices, so I need not more particularly refer to them.

The questions, then, between conterminous proprietors and between superior and vassal supply the grounds of the legal objections to a petition in the Dean of Guild Court, and I shall now go on to deal with the second class—the practical.

Objections of this kind are naturally mainly taken at the instance of the Court itself. A respondent may, of course, bring under the notice of the Court any apparent weakness in construction, and the Court, if satisfied that the objection is well founded, will take care that the deficiency is remedied ; but for all practical purposes I may say that an absolute discretion in these matters is vested in the Dean of Guild Court, and their judgment will not be called in question. The same remark applies to the powers conferred and the responsibility devolving upon the Court by statute, and these may not be filed by the respondents. By this I mean that it is not competent for a respondent to plead that the provisions of the Act are not being complied with, as it is assumed that where these requirements are absolute the Court as a matter of course will see that these are given effect to, and, where the powers are discretionary, that discretion is entrusted to the Court and may not be called in question.

I shall briefly review these statutory powers of the Court, as I believe they may be of interest to you.

First, there is the specification of the plans to be lodged, which I have already read to you, and the approval of the material to be used in elevations.

Then comes an important section dealing with open spaces in rear of houses, which provides that :—

"Every new house, and any building altered for the purpose of being used as a house, shall have in the rear thereof, or directly attached thereto, and pertaining to and used exclusively in connection with such new house, or building altered for the purpose of being used as a house, an open space at least equal to three-fourths of the area to be occupied by the intended house where such house is not of greater height than four storeys ; and where such house shall exceed that height such open space shall be of equal area with that of such house ; and such open space shall be free from any erections thereon other than water-closets, coal-houses or other conveniences to be used in connection with such house, all which conveniences shall as to height, position and dimensions be erected subject to the consent and approval of the Dean of Guild Court ; provided always that in any case where the thorough ventilation or light of any house or building is, in the opinion of the Dean of Guild Court, otherwise secured, or under other special circumstances the said Court may, in their discretion, allow the open space to be reduced ; provided also that in the case of the erection of houses with shops on the ground-floor, or of the conversion of a house into a building to be used for business premises only, the Dean of Guild Court may sanction the erection of saloons upon such open space of such height and construction as to them shall seem proper, such saloons to continue so long only as such building is so used for business purposes. But where any building is to be used for business premises as much open space shall be required as, in the discretion of the Dean of Guild Court, shall be sufficient for the purposes of light and ventilation, but not exceeding the extent required by this section in the case of a house. Provided further that from and after the passing of this Act all existing houses having any open space adjacent thereto shall, as regards such open space, be subject to the foregoing provisions of this section, applicable to new houses to the extent to which such open space is available. Provided further that the provisions of this section with respect to such open space shall not affect any feuing plans which, prior to the passing of this Act, have been submitted to and approved by the magistrates and Council, in which a less open space than is in this section prescribed has been so approved."

Then there is a provision in regard to the building-line of houses.

Also in all cases where it is proposed to alter or take down in whole or in part the front wall of a house or building which has in front thereof a sunk or other area or garden plot, and to bring the same or any part forward so as to build or cover over such area or garden plot, or any part thereof, the outer line of the front wall shall not extend forward beyond the middle or centre line of the existing wall of such area or garden plot.

In every new house, and in every building altered to be used as a house, every habitable room, except attic-rooms, shall be in every part thereof not less than 9 feet in height from the floor to the ceiling ; and every habitable attic-room shall, unless otherwise sanctioned by the Dean of Guild Court, be at least 8 feet in height from the floor to the ceiling throughout not less than one-third of the area of the room, and shall at no part thereof be less than 4 feet.

In every new house, or altered building to be used as a house, every habitable room shall have at least one window, and the total area of glass in the windows, clear of the frame and sash, shall be (unless in any case the Dean of Guild Court otherwise determine) at least one-tenth of the area of the room, and the top of at least one of the windows shall not be less than 7 feet 6 inches above the floor, and in case of a sash window the upper half at least shall be made to open the full

* A paper by Mr. David Lyon, read at the meeting of the Society of Architects on Jan. 26.

width, and in case of a casement window one-half at least shall be made to open.

Then there are provisions as to buildings causing extra risk of fire, chimney stalks for furnaces, buildings for noxious trades, the height of rooms in dwelling-houses, and the ventilation of enclosed spaces—that is, where a person proposes to erect a block of buildings enclosing a space containing an area of less than 2,000 superficial yards, and being less than 40 yards wide at the narrowest part.

Finally, there is the general power to decline to grant any warrant until the Court is satisfied that the plans provide suitably for strength of materials, stability, mode of access, light, ventilation and other sanitary requirements, and are otherwise in conformity with the provisions of the Edinburgh Municipal and Police Acts.

I think you are now fully informed as to the requirements of the statute, and also as to the kind of legal objections which may be raised against a petition, and I may now complete my account of the procedure in the Court.

First we shall assume a case in which no respondent is appearing. If the Court, on consideration of the burgh engineer's report and examination of the plans, finds that these are deficient in any respect, they will indicate this to the petitioner, and there and then allow him an opportunity of amending the plans. If he comply, warrant will be granted. If he will not comply, and asks the Court to deal with the plans as they stand, the Court will refuse warrant, stating, of course, the ground of refusal. This judgment is written on the petition and signed, as all deliverances of the Court are, by the Dean of Guild. I may say that it has been decided that the Dean of Guild Court may not refuse a warrant without stating clearly the grounds of refusal.

Next we shall assume a case in which the Court is satisfied, but in which the Corporation appears as respondent and takes the objection that in some respect the petitioner has failed in his obligations to the city authorities, such as that his building is higher than he may erect it without the consent of the Corporation, then the Court will continue the case until the consent of the Corporation be obtained. In the event of a refusal to do this or to modify the plans warrant will be refused.

Lastly, we shall assume a case in which the Court and the Corporation are both satisfied, but in which a neighbouring proprietor appears and states a legal objection. In this event also the Court may adjourn the case to allow the petitioner an opportunity of amending his plans or of coming to terms with his neighbour, but, failing this, written pleadings have to be prepared on both sides and titles lodged. When the parties have completed their pleadings and adjusted the issues, as it is called—that is, made a complete record of the arguments on both sides—the case is remitted to the legal assessor of the Court.

A date is fixed for a debate before him by the lawyers representing the parties, and, having heard them and examined the titles, he writes an opinion on the case, in accordance with which the Court issues judgment. The Court does not review or in any way interfere with this advising by its legal assessor; it simply accepts it, and issues judgment accordingly.

Of course, as I have already said, if there appears to be a competition of title, the assessor will advise the Court to delay the case until the parties have in a competent Court decided the question of the rights of property in the subjects under consideration. When that has been done, if the petitioner has succeeded in vindicating his title, the Dean of Guild Court will naturally, other matters being adjusted, grant warrant. If the petitioner has failed, he will not proceed further with his petition.

Before leaving this part of my subject, I ought to say that in the Dean of Guild Court there is practically never a proof or examination of witnesses. That it is competent there is no doubt, but in my twenty-six years' experience of the Court I have only known of one case in which a proof was allowed, and then it was not taken advantage of by the party applying for it. But it is usual, if either of the parties desire it, or if the Court deem it expedient, for the Court to visit and inspect buildings proposed to be altered, in order to better understand the effect of the proposed alterations. It will be obvious to you that in dealing with practical questions no extraneous evidence is necessary when the men of skill composing this Court, possessed of every qualification to form a sound judgment on such matters, personally visit a property and satisfy themselves as to the state of the building and the bearing of the petitioner's proposals on it and on the surrounding properties. At these visits all parties interested may attend.

That, then, is a general account of the mode of procedure in the Court. If, however, any petitioner or respondent is dissatisfied with a decision of the Court, he has the right to appeal, and the Court of Appeal is the Court of Session, our highest legal Court, there being no Special Court of Appeal for Dean of Guild Court cases.

As I have indicated, it is rather a forlorn hope to appeal to the Superior Court on a purely practical point, because the Supreme Court is a court of law, and will not interfere with the judgment of practical men on practical questions. But, as you have seen, the Court has many statutory powers, and the construction of an Act of Parliament is always open to argument; so that the petitioner, in the case of the refusal of a warrant by the Court, may consider that its interpretation of the law is wrong, or that the law does not confer on it the power which it has exercised; or in a case where purely legal objections have been taken either party may hold that the advising by the legal assessor is wrong in law. In any case the appeal is to the Court of Session, and as that is a purely legal tribunal I need not deal with the procedure there further than to say that when they find that the Dean of Guild Court has gone wrong, which I am pleased to say in the case of Edinburgh has been very seldom, they recall the judgment of the Dean of Guild Court, and remit back the case to that Court for further procedure, as it is called, on the lines indicated by the decision of the Superior Court.

The judgment of the Superior Court itself, however, is in these cases, as in all others, subject to appeal to the House of Lords—and some of our cases have actually gone that length—but I am sure you will be glad to hear that at this point the possibilities of litigation have reached their limit, and the decision of the House of Lords is final.

I shall now deal with the supervision of buildings in course of erection or alteration after warrant has been granted. The duration of a warrant is by law limited to three years from the date of granting, with the proviso that in an exceptional case the Court at the time of granting may extend the time of endurance to a period not exceeding five years from the date of the warrant, and also that the period of endurance of any warrant may, in the discretion of the Dean of Guild or his Court, be renewed for a period not exceeding three years from the date of renewal; also that the person by whom, or under whose orders, any house or building is being erected or altered, or any work done, if other than the petitioner in whose favour the warrant of the Dean of Guild Court has been granted, shall be liable for the due observance of the terms of such warrant. This is necessary because, in some cases, the person who obtains the warrant disposes of the ground on which he proposed to build or of the building which he proposed to alter, and hands on his warrant to the purchaser.

Before any building operations are commenced the petitioner must intimate his intention of beginning to the clerk of Court, who passes on this intimation to the Master of Works, along with the plans to conform to which warrant has been granted. It is now the duty of the Master of Works to inspect the building from time to time, and satisfy himself that it is being erected in conformity with the plans and also with the building rules, which must be observed in all cases, and a copy of which is attached to the warrant when it is issued to the petitioner.

Then within a month after any new house or building or alteration is completed, and before it is occupied, the owner or the builder must intimate that the building is ready for inspection before being occupied, and the Master of Works, if satisfied after survey that it is fit for occupation and is in accordance with the provisions and requirements of the law, grants a certificate to that effect, and any owner or builder failing to give such notice or permitting such building to be occupied before obtaining this certificate is liable to be punished. The Master of Works, as I have already said, has a large staff of assistants engaged in this work of inspection, most of whom are men who have been trained in some branch of the building trade, and the supervision of buildings in course of erection and of the materials used is thus in the hands of men who well understand the work with which they are entrusted.

The Court has further the power to punish persons breaking its laws. The Act says:—"Every person who shall erect, or begin to erect, any house or building, or alter the structure of any existing house or building, or use for human habitation any building not previously so used, or alter the mode of occupancy of any existing house in such a manner as will increase the number of separate houses or occupiers without a warrant, or otherwise than in conformity with a warrant of the Dean of Guild Court, and every person who shall in the erection or alteration of any house or building, the erection or alteration of which has been sanctioned by the Dean of Guild Court, deviate from the plan or plans, and section or sections, elevation or elevations, and detail drawings so sanctioned, or shall in the erection or alteration of any house or building in any way contravene the building rules of this Act, shall be liable to a penalty not exceeding twenty-five pounds, besides being bound, if and in so far as required by the Dean of Guild Court, to take down and remove the said house or building, or to restore it to the state it was in previous to the alterations thereon, or to alter it in such way as the Dean of Guild Court shall direct, so as to make it in conformity with the warrant of the Dean of Guild Court; and the Dean of Guild Court may grant an interdict for the prevention of any such erection or alteration or deviation being proceeded with until the extracted warrant of the Court shall be obtained for the same."

And this brings us to the functions of the Procurator Fiscal, it is he who institutes proceedings against the offender, and is with him that any information is laid either by the Master Works or by a private individual in the event of a contravention of the law. If the Procurator Fiscal is satisfied that offence has been committed—and I must tell you that he has discretion on this point—he presents a petition to the Court stating his grounds of complaint, and the offender is summoned the bar of the Court. In the case of a person building or ering property without a warrant, the Court will first ordain n to apply for warrant in the ordinary way, and will then pose a penalty for proceeding without a warrant. In the se of deviation from plans already approved of, the Court ll either ordain him to alter his building in conformity with e plans, or, in the event of the deviation being such an one as e Court would have sanctioned had its authority been asked, e offender is ordered to lodge a plan showing the deviation, t after approval he will be fined for his breach of warrant. ne Court is always ready informally to consider and approve such small deviations in, say, the internal arrangements of a use in course of construction, and the plan of the deviation is ed along with the original plans. What is aimed at is to secure at an exact record may be kept of all building operations, d the existence of this record is being found so valuable to chitects and builders, and indeed to all persons interested d dealing in property, that great readiness is being shown to mply with the wishes of the Court in this respect.

Proceedings are also taken by the Procurator Fiscal in all ses where a building is reported by the burgh engineer to be inous or insecure, and where the proprietors have failed in mpliance with his intimation to repair, take down, or secure ch building. Many of the buildings, especially in the older rtions of Edinburgh, are large stone tenements of dwelling-uses or shops, and dwelling-houses where probably each use and shop is owned by a different proprietor. Consequently, when the burgh engineer serves his notices on the wners of such a tenement which has become insecure, there is ually such a difficulty among them in deciding what should done that nothing is done at all. The burgh engineer, erefore, reports the matter to the Procurator Fiscal, who proceeds by a petition to the Court directed against all the proprietors. He does not stop at this point to inquire into the mount of liability falling on each ; he brings them all into ourt. What is urgent is, that the safety of the public be cured, and the Court visits the building, at once decides on e operations necessary to secure it, and there and then sues an order on the proprietors to carry out these operations. ailing their commencing to do so forthwith, and completing e same within a specified time, the Procurator Fiscal is uthorised to employ proper persons to do the work at the pense of the proprietors. When the work comes to be paid r, the Court will then adjudicate as to the liability of each roprietor, and fix the proportion which he must pay. If an wner cannot be found, as has happened, the Court may dispose of the property, pay for the work out of the proceeds of e sale, and deposit the remainder, if any, in bank, subject to s further order.

Finally, the Court will, on the application of the Procurator iscal, visit and inspect any building used as a place of public ntertainment, and may, after hearing the persons interested, rect such means to be taken for the proper ventilation, or for roviding proper accesses and exits for such building, and for rotection from fire and other dangers to the public, as the ourt think fit.

Now, that concludes my account of the jurisdiction and the unctions of the Dean of Guild Court, and I hope I have been ble to convey to you some idea of the manner in which its usiness is conducted.

I do not need with you to insist on the importance of the natters with which it deals. We are all well aware that, with ne growth of our large cities, with the immense increase of opulation, and with the rapid advance in knowledge of what I nay call the science of living in relation to the public health, ne attention of local authorities everywhere has been directed o the need of controlling the mode of laying out the new ortions of our cities, and of improving the buildings already xisting ; to the securing of light and air and proper sanitary rrangements ; and, generally, to the importance of exercising upervision in all such matters in the public interest, without nterfering unduly with the rights of individuals. To this, as I ay, we are all alive, and of its necessity we are all agreed. Where we differ is in our mode of carrying out these objects.

Lest I, as an official, should be biassed in my opinion, I ave, since I received your invitation to read this paper, licited the opinion of a large number of professional men, awyers and architects, and also of builders, as to the merits f the Dean of Guild Court as a tribunal for dealing with uilding questions, and practically it has amounted to this : hat while the jurisdiction and procedure of the Court might be nproved in detail, it is so far, especially in large cities, where nen of skill and standing are readily available for election to the Court, the best institution for its particular work which has yet been devised.

It has the advantage of providing an independent medium to adjudicate between the petitioner and that much-abused person, the permanent official, and between party and party. All proposals and objections are filtered through the minds of a body of practical men guided in the legal aspect of cases by a legal assessor and restrained by the fact that their business must be conducted in a fair and judicial manner, and that all their proceedings are subject to review by an extremely critical legal Court. The procedure is summary, by which I mean that it is to be conducted with reasonable despatch, and the expense incurred in obtaining a warrant is small—in the majority of our cases probably not exceeding 20*s*.

It has the further advantage of securing a uniformity of procedure in all cases, as, of course, such a Court is bound by its own decisions and by precedent. Above all, its business is conducted in open Court, and all its procedure is public, and that is, in my opinion, one of the best guarantees that onerous public duties like these, discharged by a body of unpaid judges, shall be dealt with justly and equitably without fear, favour, or ill-will.

Finally, may I say that the Court in Edinburgh, both from its constitution and the manner and spirit in which its business has been conducted, possesses, I believe, the perfect confidence of the public, whose interests it safeguards, and of the parties and the practitioners who come before it.

THE LATER ARCHITECTURE OF JAPAN.*

TOWARDS the end of the fourteenth century the dynasty of Fujiwara Shoguns was finally overthrown after almost two centuries of domestic warfare, and a new line was established, that of the Ashikaga, who completely severed themselves from the Imperial Court at Kyoto, and, building the great city of Kamakura far to the north and near the site of the present capital, began a new and brilliant though corrupt and chaotic epoch.

During the two centuries of internal conflict Japan had almost wholly cut itself off from China, the great source of learning and culture, but by the founding of the Ashikaga dynasty intercourse was resumed, and under the influence of the Zen mission temple building began again on new lines, and a recrudescence of Chinese influence came into existence.

At this time the Ming dynasty was striving to restore the almost incredible glories of the Sung dynasty that had made Hangchow the culmination of world civilisation in the twelfth century. For some years Buddhist priests had been coming from China to Japan bringing the new gospel according to the Zen sect, and now, with peace established, their work began to show its results. A new epoch of civilisation, generally called the Kamakura period, set in, and architecture received a new accession of vitality, reaching its last phase of greatness before the first trace of decay showed itself under the Tokugawa Shoguns. Two sets of buildings are most characteristic of this period—the Zen temples and the palace pavilions of Kyoto.

In the former we immediately see certain deviations from the old types. The arrangement of the group of temple buildings is different; there is seldom a pagoda, and the temple and preaching-hall stand one behind the other in the centre of the main enclosure; libraries, schoolrooms and monastic buildings surround this space, and oftentimes open cloisters connect them with the central temples, dividing the entire area into three great courts; minor courtyards with shrines and schools and priests' houses continue the group on either hand in complete bilateral symmetry. In many cases the group of buildings is laid out on a vast and imposing plan, but in almost every instance so many of the buildings have been burned that little idea can be gained of the original design. The gigantic monastery of Obaku-san between Uji and Kyoto, though dating from the middle of the seventeenth century, is perhaps the most complete example of the great Zen temple in Japan.

The low and often long temples of the Corean style give place in the Zen architecture to buildings that are nearly square and very lofty inside. A central space reaches high into the roof, which rests on twelve widely spaced columns, often of great size. One and sometimes two aisles surround this central area, and small shrines, chapels and altars are grouped at the chancel end. The temple itself is raised on a low stone terrace, and the floor is also of stone slabs. Plaster is seldom used, all the work being of wood, and the roofs rise in a steep and graceful curve. The system of bracketing is becoming more and more elaborate and complex, but carving is still almost wholly absent. This is the type of architecture that became fixed in Japan and persevered until the Tokugawa régime, when it burst into such unexampled exuberance and luxury.

* An essay by Mr. Ralph Adams Cram, in the *Architectural Review.*

Of the palace architecture of this time we have still the fragments at Ginkaku-ji and Kinkaku-ji at Kyoto. As both these delicate little structures were originally but garden pavilions, it is possible that they do not exactly represent the more dignified work of the time, but they certainly bear a close resemblance to the Chinese palaces as they are recorded for us in the screens painted by the great artists of the age. The grandeur and dignity of the Fujiwara or Kyoto style has given place to a lightness and grace that is very charming. Originally one of these pleasure pavilions was to be entirely overed with gold leaf, the other with silver, and in this gorgeous innovation we find the first indication of the tendency that was to reach its climax under the Tokugawa.

With the end of the sixteenth century came the fall of the Ashikaga, the revolt and triumph of the barons under the adventurer Hideyoshi, and the almost simultaneous founding of the Tokugawa dynasty by Iyeasu, the establishment of the most perfect feudal system the world has ever known, the transferring of the capital of the Shoguns to Yeddo, and the closing of Japan to the outer world. This tremendous revolution was accomplished within a period of thirty-five years, the overthrow of the Ashikaga marking the beginning, the closing of the ports the consummation of the revolution that cut Japan off from the world and held her so for two hundred and twenty-five years. The whole period was one of industrial development and domestic civilisation.

The Tokugawa feudalism was one of the most elaborate and perfect of which we have record, and under it government was, on the whole, well administered. One fatal error was made by the founders of the dynasty, otherwise so notably judicious and far-seeing. There must be no rival power in the State, and therefore not only was Christianity, at the time numbering hundreds of thousands of converts, utterly destroyed, but Buddhism was violently antagonised, and in its place a revival of Confucianism attempted, an empty system of ethics unvitalised by any religious element. The attempt was successful in a measure, and ultimately led to the blunder of revised Shinto, while Buddhism, out of favour with the nobility and the knighthood, fell back upon the support of the peasantry, with the inevitable results.

As a consequence of this sequence of events, architecture, cut off from Chinese influence, and answering to the demands of the new society with all its ostentatious magnificence, burst into a riot of unparalleled decoration. The development of the industrial arts made possible a degree of splendour hitherto inconceivable, and for the future (*i.e.* until the opening of the ports sounded the death knell of the civilisation of Japan) architecture was to be merged in decoration, losing little by little its original qualities as a system of constructive design.

One curious reaction took place in the shape of a third recrudescence of the Chinese type just at the time of the closing of Japan. Obaku-san, near Uji, already referred to, is the great monument of the classical style, and it came as a protest against the almost barbaric richness of the work of Hideyoshi's time. Complete as it is in plan, and imposing in design, it is yet weak and inferior in detail, and shows very clearly how self-conscious and affected an imitation it was of the Chinese type.

This last flicker of classical influence was purely sporadic, and quite impotent to stop the triumphant progress of the luxurious style already formulating itself at Nikko in the shrine of Iyeasu.

In the presence of this bewildering piece of reckless ornamentation one is apt to be blinded by its extravagance to the actual shortcomings of its architecture; but once strip it of its carving, its lacquer, its gold leaf and polychromatic decoration, and compare it in detail with the work of the Korean period, or even of the Fujiwara and Ashikaga, and it is easy to see how great has been the fall: the roofs are heavy and often coarse in their curves, the roof ridges and ribs have become enormous, crude and meaningless, the bracketing is fantastic and irrational in its intricacy and has lost the last structural excuse. Above all, the following of the lines, the curve composition, is no longer inevitably good. In the work of the Nara and Kyoto period one may view a building from any point, and by some magical power the architect has so composed his curves that there is not a discord, a lack of rhythm anywhere. Under the Tokugawa this is no longer true, and one is constantly shocked at some violent discord in the composition of line.

It is quite true that many of the temples of this period, like the Higashi Honwanji at Nagoya, are tremendously imposing —more so in size and general effect than any of the earlier structures—and occasionally there is almost no fault to be found with the composition or its curves, but too often size is the only reason for admiration.

Leave out the question of pure architecture and the Nikko shrines, together with those of Shiba and Uyeno in Tokyo, are marvels of exquisite art. The decoration is masterly, the dramatic and pictorial effect triumphant, but it is the triumph of prodigal decoration, not of architectural achievement.

Throughout Japan the majority of temples that now exis date from this period of the Tokugawa Shogunate. None o them approaches the gorgeousness of Nikko, Shiba and Uyeno but many are vastly greater and more dignified. In all of them however, one can trace the progressive coarsening of detai and loss of sense of perfect curvature, until they reach the fina point of degradation in the contemporary Shinto shrine Shokonsha and the main temple or the monastery of Zojoji both in Tokyo. Internally the Tokugawa temples are les susceptible of adverse criticism, many of them, like Chion-ji and Nishi Hongwanji in Kyoto, being models of religiou grandeur and solemn splendour. In this respect, as example of interior decoration, the Nikko shrines and those at Shib may be placed beyond criticism. Every period in Japan ha had its fitting artistic expression, sculpture, architecture, re ligious, historic and genre painting and decoration, and the las is the true manifestation of the Tokugawa régime.

Of the secular architecture of this period we have man existing examples, all, as was to be expected, characteristic o the dominant feudalism. The great castles at Himeiji, Kuma mato, Nagoya and Hikone are magnificent representations o the feudal establishments of the daimyos, and it is most regre table that their palaces in Tokyo, where they were compelle to live a portion of the year, have been destroyed, nothin remaining but the great gates and surrounding barracks. Th arrangement of these "yashiki" varied but little: a hollo square, often very large, was formed by the barracks for th daimyo's retainers; these barracks were usually two storey in height, surmounted by low-pitched roofs of tiles with th heavy ridges and angle rolls with their clumsy terminals s characteristic of the last stages of Japanese architecture; th walls were covered with black or blue-grey tiles, about 18 inche square, set diagonally, the joints being protected by great rol of cement. In the centre of the principal façade was the gre gate, used only by the daimyo or by guests of equal statio these gates were the most elaborate and stately portions of th entire group of buildings, and are of two types: the first single line of gigantic columns of wood, square and cappe and bound with bronze or iron supporting a massive system huge beams that bore the tiled roof. On either side we porter's lodges and rooms for the guard, usually very rich design and forming a part of the whole composition. T second type was one which took the place of that alrea described in case it should have been destroyed by fire, f because of some superstition or prejudice, the original ga could never be restored on the same lines. These substitu gates still retained the flanking guard-houses, but the main ro was omitted, and the enormous posts with the equally massi cross-bar acted no longer as supports, except for the pondero gates studded with big bronze bolt-heads.

Inside the quadrangle of barracks came a second for t accommodation of the domestic officials of the household, a finally in the centre of all was the daimyo's yashiki, a pla one-storey building, huge in extent, but very simple. A for of square wooden columns arranged on a unit of 6 feet form the frame of the structure, and sliding screens of rice-paper solid "fusuma," gorgeously painted and gilded, filled in t spaces between the posts, forming rooms of various sizes. certain specified places the walls were of solid plaster, but t was unusual except around the place of honour, where were t two alcoves called tokonoma and chigai-dana in the ch rooms. Around the greater part of the house was a narr gallery, called the yen-gawa, which by its projecting roof serv to protect the rice-paper screens, or shoji, that formed the ou walls of the house. The principal rooms, jo-dan and ge-d were often of great size; the former was raised a step abo the latter, and at the end were the tokonoma and chigai-da where the picture for the day and a choice selection fr the art treasures of the daimyo were exposed. On one side the upper room where the lord sat on state occasions were t doors of the most gorgeous workmanship, through which daimyo came from his anteroom. Around these two roo ran the iri-kawa, or corridor, from 6 to 9 feet wide, forming fact a portion of the state apartments, though of less hon than the jo-dan.

In the Japanese house there is no distinction betw parlour, dining-room and bedroom, so a repetition of the gr of rooms already described, together with reception-ro kitchens, baths and rooms for the taking of tea, made up entire yashiki.

In the royal palaces the decoration was often splen beyond description, gold, black lacquer, carved wood, co and coffered ceilings and splendid wall-paintings making u whole of extraordinary richness; but in the palace of daimyo much greater simplicity was the rule, and the wood usually left with a natural satiny surface, while the ceil were of plain boards of delicately grained wood, the w effect being one of great simplicity, reserve and refinement.

In the country castles of the nobles there was a still gre degree of simplicity, the daimyo usually having near by a n domestic dwelling on the lines of the Tokyo yashiki, the ca

ng principally for refuge in case of attack. Many of the tles still remain in an almost complete condition, Himeiji particular being a most noble structure. If the site were el vast walls of stone curved upward from a wide moat, wned by tiled and plastered parapets. Extensive barracks od within, and in the midst rose the great keep, three or five reys in height, each storey somewhat smaller than the one ow, the roofs curving outward in noble lines. These keeps e built of enormous timbers, the walls being filled in eral feet thick with wattles and clay and covered outside h fine white plaster. Sometimes they were plain and graceful like Nagoya, but often they were wonderfully posing, and withal graceful, like Himeiji, or better still kone.

I have dwelt at length on the arrangement of the yashiki, with allowances for the difference in station of the retro- ctive owners, it is practically a type of the contemporary mestic architecture of Japan. The system of construction is same and the arrangement of the rooms very similar, ept that the state corridor is often absent and the jo-dan ge-dan have become modest apartments of eight or ten ts in size, and serve as parlour, bedroom and dining-room the case may demand.

It must be evident that where construction is entirely of od conflagrations must be pretty certain, and such is the e, a fire that does not destroy a thousand houses hardly ng considered worthy of chronicling in the daily paper. For protection of valuables, therefore, a separate and fireproof ilding is imperative, and every house of any pretension pos- ses its "kura," or store-house, built of wood and bamboo, t covered 2 feet thick with clay that effectually resists a nflagration of any degree of fierceness. After a big fire in a panese city, nothing is left but fine ashes and the scorched t reliable kura.

We have now reached the present day, and only a word is cessary as to the architecture under the new régime of west- nism and "progress." Domestic work is still almost wholly the old lines so far as the middle classes are concerned; e nobles are building palaces from western designs that uld dishonour a trans-Mississippi city or a German suburb. e public buildings designed by local "foreign" architects e even worse, and the least offensive examples of western les are the work of natives, the Nippon Ginko and the ikoku hotel being fairly creditable examples of German assic. Occasionally important temples are built in the native yle, conscientiously and with fine results in the case of the eat Higashi Hongwanji temples in Kyoto, but usually of the stard Shinto that marks the Tokyo Shokonsha.

So far as one can see the period of good architecture is over Japan. The native attack on Buddhism two centuries ago as the beginning of the end; the restoration of Shinto was its ntinuation, and the acceptance of western civilisation was its nsummation. For thirteen centuries it has developed as vilisation progressed, each period perfecting some special ality, until it reached its climax of splendour under the first the Tokugawa Shoguns. It is now a dead style, a thing of e past, and with all other manifestations of art in Japan must r ever remain so unless some utterly unforeseen revolution ings back the great ideals and wholesome principles of the st.

We have now considered the historical development of panese architecture from its beginning in the sixth century to s apparent extinction in the last years of the nineteenth entury. Examined so it is seen to follow the lines of all other rchitectural history, expressing very accurately the changing nditions of civilisation. Like other architectural styles it is a nsistent, logical development from the conditions that brought into existence, and it demands and should receive the same spect and study that are devoted to the styles of the West. t is true that, so aloof is it from western ideals and methods f thought, it can never serve so completely as a model for ontemporary work as those styles of Europe with which we n America have such close kinship and sympathy.

On the other hand it is possible for us to learn many most aluable lessons from it. In the first place we shall see how elicately buildings of all kinds may be made to fit themselves o their surroundings. In this respect the architect of Japan cknowledges no superior. Nothing could be more subtle and ympathetic than the relationship between the temples, pagodas nd cottages in this country and their natural surroundings. n every line and mass the harmony is complete. The build- ngs seem to be almost a concentration and perfection of the ills and trees of which they seem to be a part. One feels this particularly when looking on any structure designed on western lines in Japan, no matter how excellent it may be according to European standards. The native work is a part of the country. The foreign work is ugly, ungrammatical, offensive.

Another quality that is most salient is the exceeding unity and perfection of composition either of single temples or of whole groups, either of the exterior or the interior. The whole thing is built up with the utmost refinement of feeling and delicacy of appreciation until it forms a consistent and united whole. The refinements of proportion and line have their equal only in the architecture of Greece. The measurement of some one of the older buildings reveals a subtlety of feeling for proportion that is amazing. Such measurements show at once that every curve and every line has been studied out with the most astonishing care.

Still another quality that could be studied to advantage is that of the extreme solemnity of the temple interiors. For impressiveness and deeply religious feeling, together with extreme splendour of colouring and wealth of detail, they are to be compared only with such Christian churches as St. Mark's, in Venice, or the Capella Palatina, in Palermo. Of course the Gothic interiors of Europe have their own quality of awe-inspiring majesty which no other architecture has ever approached, but for effects of dusky splendour Byzantine and Japanese architecture stand together.

It is when we come to the domestic work of Japan, however, that we find more in the way of salutary teaching. Of course the Japanese private house in plan and construction is utterly foreign to western conditions and requirements. Indeed, were it not for the amazing hardiness and indifference to cold which characterises the Japanese people, it would hardly do even for Japan, for it is probably a development from southern types. For a tropical climate it is beyond criticism, but in the cold winters of northern Japan it leaves much to be desired. It has certain qualities, however, that we could imitate to advantage. One of these is the perfect simplicity of each room, with its soft mats, its beautiful wood, its subtle colouring, its reserved and satisfying decoration. A Japanese room is full of repose, and after one has come to feel these qualities fully, one remembers with a kind of horror the stuffy chaos of the apartments in a modern western dwelling.

Perhaps more than anything else one learns in Japan the beauty of natural wood, and the right method of treating it. The universal custom of the West has been to look on wood as a convenient medium for the obtaining of ornamental forms through carving and joinery. The quality of the wood itself is seldom considered. In Japan the reverse is the case. In domestic work a Japanese builder shrinks from anything that would draw attention from the beauty of his varied woods. He treats them as we do precious marbles, and one is forced to confess that under this treatment wood is found to be quite as wonderful in material as our expensive and hardly-worked marble. In Japan one comes to the final conclusion that stains, paint and varnish, so far as interior work is concerned, are nothing short of artistic crimes.

In another respect Japanese builders are right and we are wrong. They do not destroy the sense of protection every room should have by filling whole sides of an apartment with plate glass. Instead their windows are of delicate lattice-work covered with translucent paper, and the result is a light that is soft and pleasant. Nothing can be more absurd than the western fashion of filling an entire window opening with one or two sheets of glass, particularly when, as happens in cities, there is no reason for looking out of doors.

There are many minor lessons of similar nature which we should not scorn to learn from the East, and these lessons it is perfectly possible to take to heart and act in accordance with, without copying the qualities which are expressive of a civilisation radically different to ours. Such copying would be affectation, but the profiting by the lessons offered us would be simple common sense.

FISHMONGERS' HALL.

IN the course of last year the Court of the Fishmongers' Company decided to redecorate their great hall, with the entrance and main staircase leading to it. Mr. Crace was invited to assist the company's surveyor, Mr. H. Chatfeild Clarke, in reporting upon the treatment desirable, and their joint report was adopted by the Court. The works decided upon were carried out during the autumn and completed before Christmas. The previously existing decorations were executed thirty years ago under the direction of Owen Jones, and some of the work then done remains in the reception-rooms adjoining the hall.

The building itself was erected in 1831 from the designs of H. Roberts, and is in the rather cold "Greek" character affected at that time. The late Sir Gilbert Scott, who was articled to Mr. Roberts, took some part in supervising the erection. It was an instruction of the Court to Mr. Chatfeild Clarke and Mr. Crace that the architectural detail and character should in no wise be disturbed. This has been strictly adhered to; but a much warmer and more "hospitable" result than before has been attained by the colouring, of which the following is a brief description:—

The square entrance hall, which has a flat-coffered ceiling divided by flat beams, and walls divided by pilasters, has th wall spaces of a lively Pompeiian red, the pilasters, frieze, an

cornice being of a vellum tint, relieved in the frieze by a moderate amount of ornament executed in dull yellow and chocolate-brown. The pavement here, as also in the adjoining staircase corridor, is of marble mosaic, laid out on a simple geometric scheme in mixed shades of white with bands of black, light red, grey, and yellow.

The corridor in question, and the lower storey of the grand staircase, to which it is open on one side, have also red as the ground-colour of the walls; at the top a frieze is painted in light ornament upon the red ground, interrupted at intervals by panels or medallions with dark grounds. Below a dado of simple Pompeiian character is worked on a darker tone of red. The large piers at intervals are in light colour, with bronze and gold enrichments, and the ceiling is vellum-white, with grey-blue panels, and some relief of bronze and gold in the mouldings. The doors and other woodwork here and throughout are of oak—once French-polished, but now bared of polish—brought to a natural surface of quiet tone and wax-rubbed, the mouldings being gilt.

In the grand staircase the red is continued up to the gilt string-course on the first-floor level, the niche in which Walworth's statue is placed being gilt, as also are the metal balustrades throughout. Above this level the walls are panelled, as well as being broken by scagliola pilasters and columns, by doorways, and by the large triple window. In the panels are full-length portraits, the panels and margins being in two low tones of green, divided by mouldings in gold and vellum. The ceiling here is also coffered in square panels, now in quiet light blue with gilt centre flowers; and the enrichments of the cross-beams, mouldings, &c., as also of the cornice and architrave, are mainly in bronze and gold. There is a rich maroon ground in the frieze, intended for inscription. The triple window of three equal lights (originally filled with ground glass and coloured margins) is now glazed with leaded glass, of which the design is expressive of the sea fisheries, the general ground being white, ornamented with sea plants, fish, and festoons of nets, while the borders are formed entirely of seaweeds and "crustaceans," all carefully drawn from nature. In the centre of the middle light are the Company's arms and supporters; while on either side are the arms of the former Companies of Stock-fishmongers and Salt-fishmongers, which were united in the existing Company in 1535.

The great hall, with five windows on the east front, has its ceiling, which rises on a low elliptic section, also divided into rectangular panels with bold flowers in the centre. These are divided into groups by bold bands of Greek guilloche ornaments, which have been solidly gilt with good effect, as have the centre flowers, the panels being light blue and the mass of the ceiling margins and framework in broken white. The deep cornice and frieze are in light tones, with the enrichments boldly gilt, and a dull red background to the scroll of the frieze. The scagliola pilasters remain, and the walls are painted in low-toned green as a ground for the pictures, whilst between the bronze and gold capitals of the pilasters, and close under the frieze, are ranged the interesting series of old carved and gilt shields which commemorate the arms of the Prime Wardens from early in the seventeenth century. The woodwork here, as elsewhere, is of wainscot, now freed from polish and with the mouldings gilt; and a dado of similar wainscot panelling has now been added to connect the rest. A good effect is obtained by making the walls of the music gallery of a dull red. It is to be regretted that the old inharmonious and ill-designed heraldic windows of the two end clerestory lights have been allowed to remain with the new decoration, with which they are necessarily discordant.

The hall has now been lit with electric light, partly from four points in the ceiling, where groups of lights are enclosed by pendant cut-glass drops, and partly by lights concealed by the cornice on two sides of the hall. The light is ample, and is well under control by arrangements for the partial use of any portion of the system. This lighting has been carried out by Messrs. Verity, of Regent Street. The whole of the decorative works have been carried out by Messrs. Crace, of Wigmore Street.

THE ROMAN DEFENCES OF SOUTH-EAST BRITAIN.

On last Friday evening Mr. Victor Horsley delivered a lecture at the Royal Institution on "The Roman Defences of South-East Britain." Mr. Horsley said that the many camps on the south-east coast which were mentioned in Antonine's itinerary were probably built on the sites of earlier camps, the original camp having a special interest as the work of the sailors of the British fleet of that day. Tiles had been found in the masonry stamped with the letters CL.—BR.—standing for *Classis Britannica*, and the evidence of coins pointed in the same direction. In discussing the structure of the *castra*, Mr. Horsley pointed out that the masonry was not like that found at Pompeii. The walls were constructed, not of great square blocks of stone, but with irregul masses of stone imbedded in concrete, and with bon ing courses of tiles at intervals. This structure was especial difficult to destroy. There were no remains showing wheth the walls were battlemented at the top, but this was pro ably the case. It was a curious fact that in so many the south-eastern camps of Britain one of the walls w apparently missing; but traces of the missing portion h been found in every case except, until recently, Lympne; a now, Mr. Horsley said, his excavations had enabled him trace the missing portion of that camp. After dealing wi the history of the camps and their relations to the command the neighbouring seas, Mr. Horsley pointed out how, towar the close of the Roman occupation, the raids of the Scand navian pirates became more and more determined. There wa however, nothing to settle definitely the interesting question how the last relics of Roman Empire were extinguished Britain. Some light was thrown on the point, however, by twelfth-century record of the sack of the Pevensey settlemen by the fact that the remains of Roman villas generally show traces of fire, and by an interesting discovery which had ju been made near Cardiff. Excavations there had exposed t richly tesselated floor of a Roman building, marked wi horses' hoofs and heaped with human skeletons. Thr shallow graves had been dug in the floor, and in these we found skeletons of men of a larger build—probably of t invaders. Mr. Horsley's lecture was illustrated with a lar number of very interesting limelight slides.

SUSSEX ARCHÆOLOGICAL SOCIETY.

At the first of a projected series of evening meetings of th Society, held at the Manor Hall, Old Town, Eastbourn the chairman announced that a sub-committee for excavatio of tumuli, camps, Roman remains, villas, and the like, and t foundations of ancient buildings, had been formed, and wou commence work as soon as the spring was a little mo advanced, and the secretary, whose official address was, reminded them, Lewes Castle, would be very glad to hear any sites which might require attention. He also referred interesting excavation works in connection with Michelha and Pevensey Castle.

Papers were then read by the Rev. W. Hudson on "T Hundred of Eastbourne and its Boroughs in the Thirteen Century"; Mr. W. Dent Gardner on "Some Early Suss Charters" (read by him in the absence of Mr. J. H. Rou M.A.); and one by Mr. H. Michell Whitley on "Eastbour Church: its Dedication and Guilds." The reading of t papers was followed with much attention, and at the clos most cordial vote of thanks to the compilers was pass unanimously.

Several excellent impressions of Sussex brasses, with oth drawings, were exhibited on the walls of the hall, while so old wooden platters, the property of Miss Whitley, and oth interesting objects were displayed.

LEEDS AND YORKSHIRE ARCHITECTURA SOCIETY.

A LECTURE was delivered by Mr. G. P. Bankart, Leicester, in the Society's rooms, Park Street, on t 6th inst., on "British Plaster Work, its Past and Future." T lecturer said that plaster work was an art-craft of very ancie origin. In the fifteenth century, after having apparently laps it again came into practice. Lime of the best quality w chopped up, beaten with sticks, and subjected to three cour of preparation, ending with an admixture of marble dust to the hardness and whiteness of the original stucco duro. T application of this was so far successful as to be grea favoured by the Venetians and Mantuans, from whom practice was handed on, *viâ* France, to England, wh monarch (Henry VIII.) imported workmen for the adornm of his house of "Nonsuch," now lost to sight. The Italian thus introduced into this country soon gave way to a coar style of work. In the place of figure drawing, an arrangem of panels appeared, with patterns of small area that wo repeat with ease. The Fish Room at Audley End was capital example of this Early English school. Subsequen the size of the subdivisions expanded until it became the ha to divide ceilings into quarters. This ultimately led to abandonment of the strict geometrical system. In execut the type of plaster work seen at Holyrood and other pla the design was drawn upon the ceiling, the stems and lea employed being modelled *in situ*, with the details added required. A company of gentlemen modellers was form who did much to preserve the best traditions of the art, wh about the time of the Restoration acquired a new vital

Later on the art again declined, texture was lost, and, instead of showing individual feeling, plaster craftsmen came to resemble so much machinery made for working purposes.

Mr. Bankart's lecture was illustrated by a great variety of photographs and limelight pictures that testified to an early excellence in the art of plaster work that is apparently beyond the reach of to-day.

EAST OF SCOTLAND ENGINEERING ASSOCIATION.

THE fourth sessional meeting of this Association was held on Friday night in the Bible Society's Rooms, 5 St. Andrew Square, Edinburgh—Mr. J. D. Gibson presiding—when a lecture on "Some Great Mediæval Churches and their Construction" was delivered by Mr. H. F. Kerr.

The Chairman, in introducing the lecturer, took occasion to refer to the appointment of Mr. John Young, president of the Association, as burgh surveyor for the town of Ayr, and expressed the congratulations of the Association together with their regret at losing Mr. Young.

Mr. Kerr, in the course of his lecture, said the great churches of Mediæval times had been admired both by the practical and the artistic mind. The former had room to ponder the scientific skill with which these early builders covered vast spaces with great vaults, the whole supported on a minimum of solid piers; the artist revelled in the equally marvellous manner in which every feature—and every feature was a constructional item—was treated so as to fully satisfy the imagination; the result being universal admiration and respect. The division of these churches, almost invariably cruciform in plan, into aisles covered with vaults was fully entered into; and the difficulties met with in early vaults of barrel pattern, and the solutions of these, were pointed out. The aim of the early builders was to light the nave by windows above the great arcade and beneath the stone ceiling without rendering precarious the stability of the fabric. The development to this end was traced from barrel vault, through ground vault, to rib vault and pointed vault. The construction, the features, and the decoration of these buildings were fully indicated by chronological diagrams and views. The buildings illustrated included Durham, Peterborough, Salisbury, Canterbury, and Lincoln Cathedrals, while the foreign examples embraced the St. Chapelle, Paris, and Amiens Cathedral. The latest development of vaults in England—the fan vault—was exemplified by views and diagrams of the ceiling of Henry VII.'s Chapel, Westminster Abbey, and the cloisters of Gloucester Cathedral. Altogether about eighty views and diagrams were shown by the lantern.

At the conclusion of the lecture Mr. Kerr was, on the motion of the Chairman, awarded a hearty vote of thanks.

EDINBURGH ARCHITECTURAL SOCIETY.

THE opening lecture in connection with the Edinburgh Architectural Society took place on the 3rd inst. Mr. A. Lorne Campbell, the president, occupied the chair. In the course of his opening remarks he referred to the success of several of the members of the Society in the recent competitions of the Royal Institute of British Architects, where no fewer than four awards fell to the members of the Society in open competition. These included the Pugin Scholarship to Mr. J. Hervey Rutherford, the Soane Medallion to Mr. W. A. Mellon, the Owen Jones Travelling Studentship to Mr. J. T. Stewart, and the third place in the Pugin competition to Mr. Ramsay Traquair. Mr. Forbes then delivered a lecture upon the "Abbeys in the Stewartry of Kirkcudbright," which was profusely illustrated by limelight views.

TESSERÆ.

Gresham's Royal Exchange.

THERE were walks above us as well as below; the upper part of the building being divided into no less than one hundred small shops, from the rents of which Gresham proposed, in part, to reimburse himself for his outlay in its erection. An equal number of vaults were dug beneath, adapted for the reception of merchandise; but these were found to be so dark and damp that they soon become of little value. Desirable for the display of wares as a shop must have been in a place of so much resort as the Burse, we learn from the chronicler who interested himself most in the history of the city that for two or three years after its erection the shops remained "in a manner empty." Queen Elizabeth, however, having signified her intention of visiting the founder, and in person inspecting and naming his edifice, Gresham naturally became anxious to improve its appearance, and render it fitter for the reception of his royal guest. "He went," in consequence, says Stowe, "twise in one day round about the upper pawne, and besought those few shoppe-keepers then present, that they would furnish and adorne with wares, and waxe lights, as many shops as they either could or would, and they should have all those shops so furnished rent-free that yeere; which, other wayes, at that time was forty-shillings a shoppe by the yeere. And within two yeres after, hee raysed that rent unto foure marks a yeere; and within a while after that, hee raised his rent of every shoppe unto foure pounds tenne shillings a yeere, and then all shoppes were well furnished according to that time; for then the milliners or haberdashers in that place solde mouse-trappes, bird-cages, shooing-horns, lanthorns, and Jewes-trumpes, &c. There was also at that time that kept shoppes in the upper pawne of the Royall Exchange, —armorours, that sold both olde and new armor, apothecaries, booke-sellers, goldsmiths, and glasse-sellers; although now it is as plenteously stored with all kinde of rich wares and fine commodities, as any particular place in Europe. Unto which place many forraine Princes dayly send, to be served of the best sort." It was in consequence of the season of the year at which Queen Elizabeth made her progress into the City that Gresham required the aid of illumination to set off the Burse to advantage. Stowe relates that on January 23, 1570-71, "the Queen's Majesty, attended with her nobility, came from her house at the Strande, called Somerset-House, and entered the citie by Temple-bar, through Fleete-streete, Cheap, and so by the north side of the Burse, to Sir Thomas Gresham's in Bishopsgate-streete, where she dined. After dinner, her Majestie returning through Cornhill, entered the Burse on the south side; and after that she had viewed every part thereof above the ground, especially the pawne, which was richly furnished with all sorts of the finest wares in the city, she caused the same Burse by an herralde and a trompet to be proclaimed the *Royal Exchange*, and so to be called from thenceforth, and not otherwise."

Subject and Treatment in Art.

Consummate style in every art manifests itself in knowing how to remove its specific limits without also abolishing its specific advantages, while a skilful improvement of its peculiarity bestows upon it a more universal character. And the artist must not only overcome by his treatment the limits which the specific character of his kind of art brings with it, but also those which belong to the particular material which he elaborates. In a genuine work of art the subject should effect nothing, but the form everything, since the entirety of man is acted upon by form alone, but only single powers by the subject. However noble and comprehensive, then, the subject may be, it is always confined in its influence upon the spirit, and true æsthetic freedom is to be expected only from form. Herein, then, consists the art-secret of the master, that by the form he abolishes the subject; and the more imposing, assuming, attractive the subject is in itself, the more absolutely that it intrudes its operation, or the more inclined the observer is to merge himself immediately in the subject, the more triumphant is the art which repels the former and maintains authority over the latter. The mind of the spectator and hearer must remain entirely free and inviolable; it should pass from the magic circle of the artist pure and perfect as from the hands of the Creator. The most frivolous object must be so handled that we remain disposed to pass immediately from that to one of sober earnest. The gravest subject must be so handled that we retain the capability of exchanging it immediately for the lightest sport.

Thorwaldsen and the Architects.

In his house, and as a private individual, Thorwaldsen was as amiable and estimable as in his studio. In the centre of one of the rooms was a four-sided sofa, which was embroidered expressly for him by the fair hands of the Copenhagen ladies. The walls were covered with pictures, some of them very good, others of a less degree of merit. They were not all bought on account of their excellence; Thorwaldsen purchased many of them to assist young artists who were living, poor and in difficulties, at Rome. Dressed in his blue-linen blouse, he explained to his visitor the subjects of these pictures without the slightest tinge of vanity in his manner or words. None of the dignities or honours that were showered upon him had in the slightest degree turned his head. Affable, cheerful and even-tempered, he appeared to have preserved much of the joyous light-heartedness of youth. With great glee he once related to Herr Boas the trick he had played the architects of the church of Our Lady at Copenhagen. "Architects are obstinate people," said he, "and one must know how to manage them. Thank Heaven, that is a knowledge which I possess in a tolerable degree. When the church of Our Lady was built the architects left six niches on either side of the interior, and these were to contain the twelve Apostles. In vain did I represent to them that statues were meant to be looked at on all sides, and that nobody could see through a stone wall. I

implored, I coaxed them ; it was all in vain. Then thought I to myself, 'He is best served who serves himself,' and thereupon I made the statues a good half foot higher than the niches. You should have seen the length of the architects' faces when they found this out. But they could not help themselves ; the infernal sentry-boxes were bricked up, and my Apostles stand out upon their pedestals, as you may have seen when you visited the church." Thorwaldsen was devotedly attached to Copenhagen, and made a present to the city of all his works and collections, upon condition that a fitting locality should be prepared for their reception, and that the museum should bear his name. The king gave a wing of the Christiansburg for this purpose, and the call for subscriptions was enthusiastically responded to.

The Old Châtelets of Paris.

The first bridge formed to connect the city, *par excellence* of Paris on the island of the Francs, with the Fau-Bourg, or false town, on the right bank, was guarded by a petit châtelet, or little castle, at the island, and a grand châtelet on the land side, the two fortalices famous in the town history. The larger one, serving as gateway to the bridge, stood on the river bank, near the still standing and beautiful belfry of the church of St. Jacques, and its tall, Norman circular tower and crenellated turrets must have rendered this veteran relic of early French architecture a conspicuous and vigilant sentinel. At once a fortress, a chief seat of jurisdiction, and a prison, it was the theatre of numerous tragedies ; the most bloody were the massacre in 1418 of the Armagnacs, which led to Henry V.'s invasion, and a slaughter of 216 prisoners in 1792. The prison châtelet contained chambers and cells whose names suggest horrors such as were too common in factious, warlike ages, were not wholly extinct in England until Howard descended into the hell of her dungeons, and were rife a few years ago in Naples and Sicily. Out of sixteen of these compartments ten were less dreadful than the rest, because the imprisoned could pay certain fees ; yet some of their names—"Les Chaines," "La Boucherie," "La Motte" (the turf), "La Griêche" (the shrew), and "Barbarie"—imply the miseries of their denizens, though less than those of wretched prisoners in "La Fosse," "Le Puits," "Le Gourdain" (the bludgeon), "La Fin d'Aise" (end of ease), which was full of dirt and reptiles, and "Les Oubliettes," all presenting horrible ideas to the mind. This castle was demolished in 1802, and its site is now the river side of the handsome Place du Châtelet. On the island side of the river stood the Petit Châtelet, near the site of a Roman prison, called by Gratian, who saw it, "Carcer Glaucini." This fortalice was the gate of insular Paris under St. Louis, who fixed a toll to be paid on entering the city, one of the items of which is curious, ordaining that a monkey for sale should pay four deniers toll ; but if belonging to a *joculateur*, juggler or joker, he might save the tax by making the animal dance before the toll-taker ; whence the proverb, "Payer en monnaie de singe," that is to say, in grimaces. A ballad singer was allowed to sing a *geste*, or gesticular song, instead of paying toll. The prison here was in two respects a sort of chapel of ease to that of the larger châtelet, being seldom used save when the latter was full, and being, even in the fourteenth century, airy and secure, excepting three dungeons, or *chartres-passes*, where the inmates could not live long, for want of air.

The Mosque of Cordova.

In the eighth century civil war broke out among the Moors, not only in Spain, but in Syria and elsewhere. The defeated party were seized and put to death. Among the few survivors of the general doom was a youth named Abdurrahman Ibn Muawiyah, a grandson of the Khalif Hisham. For some years he was concealed as an outlaw among the tribes of Northern Africa. Fortune however changed; he was victorious in Spain and established a new dynasty. The sciences and fine arts, which had been almost banished from Spain, returned in his train, and literature was encouraged by the example of Abdurrahman, who was himself a poet of no mean merit. His affectionate remembrance of his Syrian home led him to introduce into his new kingdom the flowers and fruits of the East, and the palm-tree, which was the parent of all those of its kind in Spain, and to which he addressed the well-known lines lamenting their common fate as exiles from their fatherland, was planted by himself in the gardens of the Rissáfah, a country palace built on the model of one near Damascus, in which the first years of his life had been spent. In architectural magnificence he rivalled or surpassed the former princes of his race, the monuments of whose grandeur still exist in the mosque of the Beni-Umeyyah at Damascus and other edifices adorning the cities of Syria. The palaces and aqueducts which he constructed in Cordova testified his zeal for the splendour, as well as his care for the salubrity of his capital, and after expending the sum of 80,000 golden dinars (the produce of the royal fifth of all spoil taken in war) in the erection of the stately mosque which bears his name, he bequeathed the completion of the structure at his death, A.D. 788, to his younger son Hisham, whom he nominated as his successor, to the exclusion of the elder brother Soliman. Al-Makkari devote an entire chapter to the wonders of this celebrated temple which was finished A.D. 794, nine years after its commence ment, and received additions from almost every successiv sovereign of the house of Umeyyah. In its present state, a the cathedral of Cordova, it still covers more ground than an church in Christendom; but the inner roof, with its elaborat carving, the mihrab, or shrine, of minute inlaid work of ivory gems and precious woods, and containing a copy of the Kora which had belonged to the Khalif Othman, the embosse plates of gold and silver which encrusted the doors, and th apples of the same metals which surmounted the dome hav long since disappeared, and the thousand (or, as some say thirteen hundred) columns of polished marble which it onc boasted have been grievously reduced in number to mak room for the shrines and chapels of Christian saints. Th unequal length and proportions of those which remain, thei irregular grouping and the want of height in the roof whic they support indicate a far lower grade of architectural tast than that which we find in the aerial palaces of Granada; bu all the Arabic writers who have described it concur in consider ing it one of the wonders of the world, and it ranked in th estimation of the Spanish Moslems as inferior in point o sanctity to none but the Kaaba and the mosque of Omar a Jerusalem.

THE HARROGATE PUMP-ROOM.

THE Assessor in the Harrogate Royal Pump-room Competi tion (Mr. George Corson, architect, Leeds) has given hi award, which is as follows, viz. : *New Building.*—1st premium 50*l.*, Mr. F. Anderson, 18 Adam Street, Adelphi, London W.C. ; 2nd premium, 30*l.*, Mr. Arthur A. Gibson, architect Harrogate ; 3rd premium, 20*l.*, Messrs. Eade & Johns, archi tects, Ipswich. *Enlargement of Present Building.*—1st pre mium, 30*l.*, Mr. F. Anderson, London ; 2nd premium, 20*l* Mr. E. Jenkin Williams, architect, Cardiff ; 3rd premium, 10*l* Messrs. Hunt & Shield, 3 New Inn, Strand, London, W.C The whole of the drawings are on view in the winter garde of the Royal Baths during this week (February 6 to 11 in clusive), from 10 A.M. to 5 P.M., and the drawings of th unsuccessful competitors will be returned afterwards.

GENERAL.

A Meeting is to be held on the 21st inst., at four o'cloc at the Midland Grand Hotel, St. Pancras, of a few friends wh are interested in the ancient and decaying buildings in an around London, with a view to discussing informally th possibilities and best methods of securing pictorial photograph records of these objects of historical interest (which are con stantly changing and disappearing) to add to the Nation Photographic Record collection at the British Museum.

M. Paul Dubois has completed the recumbent figure the Duc d'Aumale, which is to be placed on the tomb in th chapel of Dreux. The prince is represented holding his swor and with the French flag clasped to his breast. The statu may be exhibited in this year's Salon.

Mr. R. E. Tyler, architect, obtained a verdict in th Queen's Bench for 238*l.* 13*s.* against Mr. Charles Renad an Mr. Fred. Renad, being the amount of his fees for preparin plans and drawings for a theatre which defendants intended t build at Tottenham.

The Subscriptions for the memorial of Richard Wagn which is to be erected in Berlin have reached the sum require viz. 5,000*l.* The arrangements for a competition amon sculptors are nearly complete. The position of the memori has to be determined.

Mr. E. O. Sachs has been appointed technical adviser all architectural and mechanical matters to the Grand Ope Syndicate that has taken over Covent Garden Theatre.

The Leipsic Museum of Art Industry is enriched by complete salon from a house in Haarlem, which was late removed. The decorations must have been executed by ab artists in the last century. Walls and ceiling are painted the Italian style.

Sir Richard Temple presided on Saturday at a meetin to consider the advisability of securing a site for new building for the Hampstead Hospital and Nursing Institute, Parliame Hill. It was stated that the proposal was to erect ne buildings with at least fifty beds to take the place of the prese inadequate premises with thirty-two beds. The cost, with sit was variously estimated at from 10,000*l.* to 20,000*l.*

The Exhibition of Water-Colours by members of t Dudley Gallery Art Society will be opened on Monday next.

Mr. T. C. Hine, F.S.A., an architect who has had exte sive practice in the Nottingham district, has just died in h eighty-sixth year.

Mr. Dennett H. Barry, F.S.I., has been appointed by t Benchers as surveyor to the Honourable Society of Lincol Inn.

THE

Architect and Contract Reporter.

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Build ings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must not necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. on Thursdays.

NEW READING CASE.

To Librarians of the Public Libraries and Reading-Rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the Extension of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

ACTON.—Feb. 25.—For erection of a school. Mr. Henry Stock, architect, 9 Denman Street, London Bridge, S.E.

ALNWICK.—Feb. 14.—For erection of house and shop in Wagon Way Road. Mr. John Purvis, 16 Bridge Street, Alnwick.

ARMAGH.—For alterations to premises in Scotch Street. Mr. J. F. Gilchrist, architect, Scotch Street, Armagh.

AXBRIDGE.—Feb. 15.—For erection of two walls, widening the road, and sinking a new watercourse in Cliff Street, Cheddar, and removing a length of rock. Mr. George Cook, surveyor, Axbridge.

BARROW-IN-FURNESS.—For rebuilding the Queen's Arms inn, Rawlinson Street. Mr. E. M. Young, architect, 90 Duke Street, Barrow-in-Furness.

BRADFORD.—Feb. 13.—For erection of a manual training-room, &c., at the Hanson Higher Grade school, Barkerend Road. Mr. C. H. Hargreaves, architect, Exchange Buildings, Bradford.

BRIDGWATER.—Feb. 14.—The Council of the Somerset County Agricultural Association invite tenders for building their showyards, either year by year or for a term. Mr. A. B. Cottam, surveyor, Bridgwater.

BRISTOL.—Feb. 16.—For erection of factory, &c., Barton Street. Mr. Henry Williams, architect, 24 Clare Street, Bristol.

CALVERLEY.—Feb. 13.—For erection of a Board school at Calverley. Messrs. W. & J. B. Bailey, architects, 9 Market Street, Bradford.

CANTERBURY.—Feb. 20.—For erection of a cemetery chapel, with fences, gates, roads and paths at Chartham. Mr. Andrew Bromley, architect, the Cathedral Precincts, Canterbury.

CANTERBURY.—Feb. 23.—For repairing, painting and distempering the interior of the Kent and Canterbury Hospital. Mr. Arthur Bromley, architect, Cathedral Precincts, Canterbury.

CHARLBURY.—Feb. 18.—For erection of classroom, out-offices, &c., at the infants' school. Mr. George Castle, architect, Woodstock.

CHESHIRE.—Feb. 13.—For erection of Central Hospital, Liscard Road, Liscard. Messrs. Maxwell & Tuke, architects, 41 Corporation Street, Manchester.

CORNWALL.—Feb. 28.—For erection of two cottages at St. Erth Station, Cornwall, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

DOVER.—Feb. 21.—For construction of a public convenience and an addition to the museum at Gaol Lane. Mr. Henry E. Stilgoe, engineer, Town Hall, Dover.

DURHAM.—Feb. 21.—For erection of public conveniences in Front Street, Stanley. Mr. Joseph Routledge, surveyor, Council Offices, Stanley.

ELGIN.—Feb. 16.—For erection of stable offices at Ardgye, Alves. Messrs. A. and W. Reid & Wittet, architects.

FLETTON.—Feb. 24.—For erection of three new shops with storeroom over, at Fletton, Peterborough. Messrs. Townsend & Fordham, architects, Cross Street, Peterborough.

GLASGOW.—March 15.—For construction of buildings in Kelvingrove Park, Glasgow, for the Glasgow International Exhibition, 1901. Mr. H. A. Hedley, general manager and secretary, 141 Buchanan Street, Glasgow.

GORTON.—Feb. 22.—For alterations and additions to buildings at the sewage outfall works in connection with the erection of sludge-pressing plant, &c. Mr. Charles J. Lomax, engineer, 37 Cross Street, Manchester.

HALIFAX.—Feb. 18.—For erection of a detached villa at Bradshaw, near Halifax. Mr. W. Clement Williams, architect, 29 Southgate, Halifax.



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ESTIMATES FREE.



HASTINGS.—Feb. 16.—For erection of workhouse buildings in Cackle Street. Messrs. Jeffery & Skiller, architects, 5 Havelock Road, Hastings.

HUDDERSFIELD.—Feb. 16.—For alterations and additions to the Huddersfield Orphan Home, Fitzwilliam Street and William Street. Messrs. John Kirk & Sons, architects, Huddersfield.

ILLINGWORTH.—Feb. 15.—For erection of stables, cart-shed, and store-room. Mr. Medley Hall, architect, 29 Northgate, Halifax.

IPSWICH.—Feb. 20.—For erecting conveniences and making additions to upper lodge at cemetery. Mr. Henry J. Wright, architect, 4 Museum Street, Ipswich.

IRELAND.—Feb. 13.—For altering old and erecting new wards in female side of infirmary, erecting water-closet, baths, &c., Bailieborough. Mr. Hugh Clarke, clerk.

IRELAND.—Feb. 17.—For erection of a labourer's cottage, with offices, &c., and for fencing the plot of land allotted to such cottage, Ballinacor, Kildare, Wicklow. Mr. Little, Rathbone.

IRELAND.—Feb. 25.—For erection of a Crown post-office at Westport. Mr. H. Williams, secretary, Office of Public Works, Dublin.

KILBURN.—Feb. 14.—For extension of public offices in Dyne Road. Mr. O. Claude Robson, engineer, Public Offices, Dyne Road, Kilburn, N.W.

KINGSTON-UPON-THAMES.—Feb. 14.—For provision of telephonic communication between the various buildings upon the workhouse premises. Mr. W. H. Hope, architect, Union Offices, Kingston.

KNARESBOROUGH.—Feb. 22.—For erection of school buildings and headmaster's house. Messrs. Barrowcliffe & Allcock, architects, Mill Street, Loughborough.

KNARESBOROUGH.—March 4.—For erection of school buildings and head-master's house, for King James's Grammar School. Messrs. Barrowcliffe & Allcock, architects, Mill Street, Loughborough.

LEEDS.—Feb. 14.—For addition of an apse, clergy vestry, nave roof, new seating, &c., at St. George's Church. Mr. Henry Walker, architect, 8 Upper Fountaine Street, Leeds.

LEEDS.—Feb. 17.—For erection of a gardener's cottage at Woodhouse Moor. The City Engineer, Municipal Buildings.

LETTERKENNY.—Feb. 15.—For plastering walls a groined ceilings of new cathedral, Letterkenny, with alternati in fibrous plastering and wood for ceilings, in accordance w drawings and specifications to be seen at office of Mr. Willi Hague, architect, 50 Dawson Street, Dublin.

LONDON.—Feb. 21.—For foundations for new cen savings bank, West Kensington, for the Commissioners H.M. Works and Public Buildings. Bills of quantities, w forms of tender, may be obtained at H.M. Office of Wo Storey's Gate, on payment of 1*l.* 1*s.*

MANCHESTER.—Feb. 18.—For erection of Wesle church, Ladybarn. Messrs. Greaves & Burbridge, archite 1 Harrington Street, Liverpool.

MORECAMBE.—For additions and alterations to National schools. Messrs. Marshall Bros, architects, Back Crescent, Morecambe.

NEATH.—Feb. 21.—For erection of a block of buildi comprising manual instruction-room, dining-rooms and g nasium. Mr. D. M. Jenkins, architect, &c, Gwyn Hall, Ne

NELSON.—Feb. 14.—For supply and erection of st dynamo, ejector condensers, &c, switchboard, overhead c and alterations to accumulators. Mr. Wm. Foster, engin Nelson, Lancs.

NORTH BITCHBURN.—Feb. 16.—For alterations and a tions to the Wesleyan chapel. Mr. J. Walton Taylor, ar tect, Newcastle.

NOTTINGHAM.—Feb. 17.—For construction of a bound wall and entrances to Holy Trinity Churchyard, in Bur Milton, North, and Trinity Streets. Mr. Arthur Brown, engineer, Guildhall, Nottingham.

NORTHFLEET.—Feb. 15.—For erection of a mortu Surveyor, Council Offices, The Hill, Northfleet.

PRESTON.—Feb. 13.—For erection of cloakrooms, lavato &c., at the public hall, Lune Street. Borough Surveyor, T Hall, Preston.

READING.—For erection of a pair of shops in Oxford R Mr. W. Jane, 17 Market Street, Reading.

SCOTLAND.—Feb. 18.—For erection of parish chu Kilbarchan. Mr. W. H. Howie, architect, 131 West Reg Street, Glasgow.

SEMER.—Feb. 14.—For the reseating of the Semer ch and repairing the nave. Mr. John Shewell Corder, archi Wimborne House, Ipswich.

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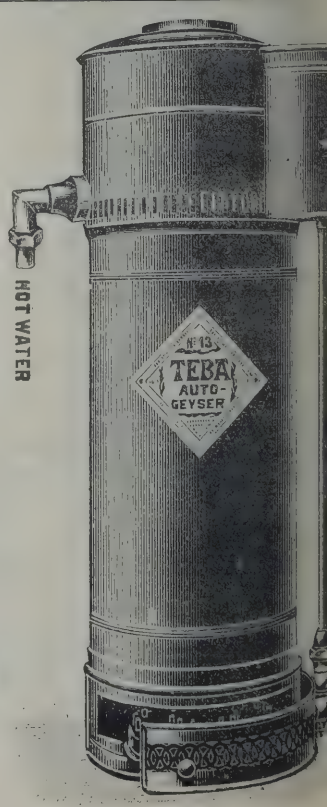
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SHEFFIELD.—For erection of two pairs of semi-detached houses in Ecclesall Road. Particulars at Princess Works, Shoreham Street, Sheffield.

SHEFFIELD.—For additions and alterations to property in Glossop Road, Broomhill. Messrs. Hall & Fenton, architects, 4 St. James's Row, Sheffield.

SHEFFIELD.—Feb. 13.—For alterations and additions to property at the corner of Nether Edge Road and Byron Road. Messrs. Hall & Fenton, architects, 14 St. James's Row, Sheffield.

SOUTHAMPTON.—Feb. 20.—For erection of a block of artisans' dwellings on the area recently cleared, with frontages to Simnel Street and Pepper Alley.

SOUTHPORT.—For erection of laundry, with stables and dwelling-house, in Meols Cop Road. Mr. Fredk. W. Dixon, architect, Trevelyan Buildings, Manchester.

SOWERBY BRIDGE.—March 3.—For erection of public elementary schools in Sowerby New Road, Sowerby Bridge. Messrs. Chas. F. L. Horsfall & Son, architects, Lord Street Chambers, Halifax.

STOCKPORT.—For erection of drapery and boot shops, offices, &c., at Poynton, near Stockport. Mr. Fredk. W. Dixon, architect, Trevelyan Buildings, Manchester.

STOCKTON-ON-TEES.—Feb. 20.—For erection of cottage homes, as follows:—Two pairs in Windsor Road; one pair in Hartington Road, east side; one pair in Hartington Road, west side. Mr. John Rodham, 16 Finkle Street, Stockton-on-Tees.

TENBY.—Feb. 20.—For erection of staircases and balconies for workmen's dwellings. Mr. H. T. Morley, architect, Tenby.

ULVERSTON.—March 1.—For erection of a Wesleyan church, &c. Mr. John Wills, architect, St. Peter's Churchyard, Derby.

UXBRIDGE.—Feb. 23.—For erection of additional bathrooms at the workhouse, Hillingdon East. Mr. W. L. Eves, architect, 54 High Street, Uxbridge.

WADEBRIDGE.—Feb. 17.—For erection of a vicarage at Egloshayle. Plans and specifications can be seen at Egloshayle Vicarage.

WALES.—Feb. 14.—For erection of a minister's house for the Tabernacle Congregational church, Ynysybwl. Mr. Dd. Jones, Co-operative Stores, Ynysybwl.

WALES.—Feb. 27.—For reparation of Llantwit Major parish church. Mr. G. E. Halliday, architect, Cardiff.

WALES.—March 7.—For alterations and additions to the schools at Abergwynfi to accommodate 264 children. Mr. O. Penton Lambert, architect, Bridgend.

WALTON.—Feb. 21.—For erection of two cottages. Mr. George Finch, Chapel Villa, Walton.

WARMINSTER.—Feb. 25.—For erection of vagrant wards at the workhouse. Mr. William Merrick, clerk, The Lindens, Emwell Street, Warminster.

WIMBLEDON.—Feb. 13.—For erection of isolation hospital, to include three ward blocks, administrative block, cottage, receiving and discharging block, laundry and disinfecting station and mortuary, on site off Gap Road. Mr. C. H. Cooper, surveyor, Council Offices, Broadway, Wimbledon.

WOLVERHAMPTON.—Feb. 27.—For erection of an extension of the electric-lighting station, Commercial Road. Mr. J. W. Bradley, borough engineer, Town Hall, Wolverhampton.

BASEMENT WALLS.

ON the 2nd inst. Mr. Verey, Official Referee, tried an action which was brought by Mr. Nathaniel Fortescue, housebreaker and excavator, of Mare Street, Hackney, against Mr. William Hyam, proprietor of the White Horse public-house, Fetter Lane, City, for 72*l.*, the balance of the contract price for pulling-down and clearing the site of the old White Horse. Mr. Powell appeared for the plaintiff, and Mr. Morton Smith (instructed by Mr. H. H. Richardson) for the defendant. The principal point in the case was whether basement walls which retained the roadway were included in the description in the specification of "all walls." Mr. Fortescue set up a custom in the trade that retaining walls were never pulled down unless actually specified, and that a provision for shoring the roadway should have been included if these walls had been intended to come down. Considerable evidence was given by housebreakers on one side, and surveyors (including Messrs. Cubitt & Collinson, Mr. T. Woodbridge Biggs, and Mr. Strudwick) on the other, and in the result the Official Referee found against the alleged custom, and directed judgment to be entered for the defendant, with costs.

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For construction of lavatory accommodation in Victoria Park.

Accepted tenders.

A. Milne & Sons, mason	£79 4 0
J. Brown, plumber	57 0 0
J. Forbes, joiner	29 10 0
J. Bannochie & Son, plasterer	28 9 0
Macgregor & Shand, slater	6 5 0
J. & S. Fyfe, painter	1 4 0

BIRKENHEAD.

For erection of public baths in Livingstone and Prince Streets. Mr. CHARLES BROWNRIDGE, borough surveyor.

J. MERRITT, Adelphi Street (*accepted*).

For erection of pier gates and buildings at entrance to Rock Ferry Pier.

R. ALLEN, Prior Street (*accepted*).

BURTON-ON-TRENT.

For sewerage work at Castle Gresley.

C. Davies	£208 8 0
H. Simpkin	212 15 0
W. Wood	205 0 0
T. PERKINS, Egginton, near Burton-on-Trent (*accepted*)	200 0 8

CARDIFF.

For extensions to the electric-lighting station, Eldon Road. Mr. W. HARPUR, borough engineer.

Jones Bros.	£4,924 0 0
J. Allan	4,880 0 0
W. H. Ingleson	4,879 0 0
Thomas & Co.	4,700 0 0
W. Symonds & Co.	4,640 0 0
T. Maggs	4,442 0 0
Rees & Thomas	4,363 0 0
E. Turner & Sons	4,288 0 0
Lattey & Co.	4,287 0 0
J. S. CHUBB & CO., Cardiff (*accepted*)	4,084 0 0

CASTLEFORD.

For erection of six dwelling-houses in Crowther Street. M ARTHUR HARTLEY, architect, Carlton Chambers, Castle ford.

Accepted tenders.

G. Bateson & Sons, Wood Street, plumber.
D. Evison, Pontefract Road, slater.
T. G. Wright & Sons, Beancroft Road, joiner.

CHELTENHAM.

For reconstruction of retaining wall at No. 3 reservoir Hewletts. Mr. JOSEPH HALL, borough engineer.

C. H. Channon & Son	£2,690 0
W. L. Meredith	2,495 0
Collins & Godfrey	1,995 0
C. MALVERN & SONS, Cheltenham (*accepted*)	1,854 0

DURHAM.

For construction of sewers in connection with the ma drainage scheme, and erection of a pumping statio mixing-house and other buildings at the outfall works Frankland Lane. Messrs. LOMAX & LOMAX, engineer 37 Cross Street, Manchester.

Contract No. 1.—Sewering.

E. TEMPEST, Manchester (*accepted*) . . £3,528 2

Pumping station.

E. TEMPEST (*accepted*) 2,390 11

EAST BEDFONT.

For erection and completion of three shops. Messrs. MORL & LETTS, surveyors, 185 Earl's Court Road, S.W.

W. T. HERBERT (*accepted*) £1,350 0

FAREHAM.

For extensions at county lunatic asylum, Fareham. Mr. TAYLOR, county surveyor.

Contract No. 3.—Boilers and hot-water plant.

Benham & Sons	£9,140 0
J. King, Limited	8,991 0
Easton, Anderson & Goolden	8,950 0
Garten & King	8,875 0
Körting Bros.	8,682 0
Wenham & Waters	7,112 0
HADEN & SONS, Trowbridge (*accepted*)	6,865 0

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FAREHAM—*continued.*

or extensions at county lunatic asylum. Mr. W. J. TAYLOR, county surveyor.

Contract No. 4.—Electric light and laundry plant.

Sax, Slatter & Co.	£9,500	0	0
Prestwich & Burt	5,804	0	0
Thomas & Taylor	5,700	0	0
Crompton & Co.	5,650	0	0
Heath, Snoxell & Co.	5,540	0	0
Matthews & Yates	5,385	0	0
Laing, Wharton & Down	4,998	0	0
Scott & Mountain	4,865	0	0
Joel & Potter, Limited	4,700	0	0
Bow, McLachlin & Co.	4,700	0	0
Calvert & Co.	4,650	0	0
Brush Electrical Company	4,630	0	0
F. SHALDERS, Southampton (*accepted*)	4,052	0	0
Summerscales & Sons (laundry only)	557	0	0

or concrete foundations and erection of brick, steel and concrete superstructure of infirmary wards, sanitary blocks, boiler-house, tall chimney shaft, &c., at the county lunatic asylum, Knowle, Fareham. Mr. W. J. TAYLOR, county surveyor.

C. Ford	£16,396	0	0
Stephens, Bastow & Co.	15,986	0	0
W. R. Light & Son	15,793	0	0
J. H. Cooke	15,200	0	0
Cooke & Co.	14,890	0	0
JENKINS & SONS, Bournemouth (*accepted*)	14,344	0	0

GREENWICH.

or paving the footways of Dinsdale Road and Glenforth Street with 2½-inch tooled York stone and Norwegian granite kerb, for paving the channels with Guernsey granite cubes, and for making up the roadways with broken Kentish ragstone and flints, and other works.

Dinsdale Road.

Fry Bros.	£1,188	0	0
J. MOWLEM & Co., Grosvenor Wharf (*accepted*)	1,080	0	0

Glenforth Street.

Fry Bros.	1,391	0	0
J. MOWLEM & Co. (*accepted*)	1,311	0	0

HARTLEY WINTNEY.

For providing and laying about 6,040 lineal yards of 6-inch, 9-inch, 10-inch and 12-inch pipe sewers, with manholes, &c. Messrs. FAIRBANK & SON, engineers, 13 Lendal, York.

W. L. Meredith	£4,155	2	6
W. Lee & Son	3,667	17	8
W. Coker	3,639	8	9
T. Turner	3,623	13	4
C. Ford	3,592	0	0
F. Talbot	3,393	4	6
Ballard, Limited	3,360	0	0
Grounds & Newton	3,237	0	0
Pool & Son	3,169	0	0
Collier & Catley	3,141	0	0
J. Ford	3,083	15	3
T. Bell	2,977	7	7
A. T. Catley (*too late*)	3,593	0	0
R. H. B. Neal (*too late*)	3,050	0	0

KINGSTON-ON-THAMES.

For the supply and fixing of cooking apparatus at the workhouse.

J. Fraser & Son	£1,404	0	0
H. F. Joel & Co.	1,094	15	6
Fletcher, Russell & Co.	937	0	0
Carron & Co.	880	16	6
Killick & Cockran	746	0	0
Bradford & Co.	718	0	0
Summerscales & Sons	715	0	0
Goddard, Massey & Warner	684	5	0
Benham & Sons	638	19	0
W. Green & Co.	628	0	0
Moorwood, Sons & Co.	620	0	0
Rosser & Russell	575	0	0
L. Hill	549	0	0
Farebrother & Co.	497	8	2
Barford & Perkins	439	0	0
T. C. Williams & Sons	398	0	0
COMYN CHING & Co., Long Acre, W.C. (*accepted*)	378	15	0
Hayward-Tyler & Co.	330	0	0
Princes Dry Dock Co.	313	0	0
J. F. Clarke & Sons	260	0	0
Dykes & Anderson	104	11	0

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HAMILTON, N.B.

For construction of new waterworks at Kype.

T. CRAWFORD & SON (*accepted*)	£38,808	2	1

HERTFORD.

For sewer works in the town. Mr. J. H. JEVONS, town surveyor.

J. JACKSON, Forest Gate, E. (*accepted*).

LITTLE HULTON.

For sewerage works (two contracts). Mr. C. C. HOOLEY, Council's Offices, Little Hulton.

Accepted tenders.

J. & M. Hawley, Stoneclough, Contract No. 1	£2,312	12	1
W. Snape & Sons, Eccles, Contract No. 2	886	5	0

LONDONDERRY.

For erection of a factory, Foyle Road. Mr. D. CONROY, architect, 2 Bishop Street, Londonderry.

J. Shannon	£13,970	0	0
M. Sweeney	13,875	0	0
Shannon & Rutledge	13,241	0	0
R. Colhoun	12,800	0	0
D. McCaffrey	11,345	0	0
J. COLHOUN, Strand Street, Londonderry (*accepted*)	10,784	0	0

LONDON.

For decorations at 77 Redcliffe Gardens, S.W. Messrs. MORLEY & LETTS, surveyors, 185 Earl's Court Road, S.W.

SIMMONDS BROS., South Kensington (*accepted*)	£125	0	0

LONDON SCHOOL BOARD.

For enlargement (including new hall)—infants, 181 (seat basis); providing additional lavatory and cloak accommodation, and enclosing, draining and tar-paving the additional land, Rolls Road.

Johnson & Co.	£5,320	0	0
Edwards & Medway	4,763	0	0
J. Outhwaite & Son	4,547	0	0
J. Smith & Sons	4,527	0	0
W. Downs	4,396	0	0
Stimpson & Co.*	4,280	0	0

* Recommended for acceptance.

LONDON SCHOOL BOARD—*continued.*

For enlargement—boys, 140; girls, 140; infants, 120 (se basis); total, 400—providing new staircase for boys' d partment and additional cloak-room accommodation, a w.c.s for all departments, Rathfern Road.

J. Garrett & Son	£5,415	0
A. White & Co.	5,347	0
S. Hart	5,127	0
J. Marsland	5,092	0
Kirk & Randall	5,076	0
Edwards & Medway	5,022	0
J. & C. Bowyer	4,977	0
E. Parsons & Co.	4,924	0
J. Smith & Sons	4,869	0
W. Johnson & Co., Limited	4,800	0
E. P. Bulled & Co., Croydon*	4,555	0

For improvements, Nichol Street.

J. Outhwaite & Son	£8,546	0
J. Chessum & Sons	8,205	0
G. S. S. Williams & Son	8,110	0
Snewin Bros. & Co.	8,090	0
W. Shurmur	7,935	0
J. Grover & Son	7,744	0
E. Lawrance & Sons	7,457	0
L. H. & R. Roberts	6,762	0
J. & M. Patrick	6,436	0
C. Cox	6,418	0
E. Triggs	6,359	0
T. L. Green*	6,185	0

For covered playground for junior girls, Highway.

W. Shurmur	£189	0
G. Kemp	170	0
F. Bull	168	0
E. Jackson & Son	165	0
G. Barker*	129	0

For providing additional lavatory accommodation at foot west staircase, head offices.

Staines & Son	£120	0
Lathey Bros.	99	0
J. Marsland	95	0
B. E. Nightingale*	79	0

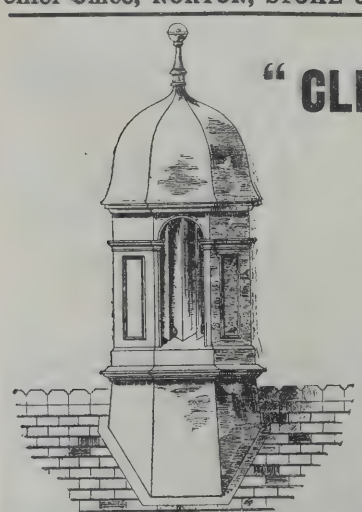
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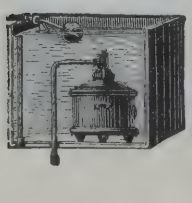
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LONDON SCHOOL BOARD—*continued.*

or removing iron troughs and refitting old offices with separate pans and syphon cisterns, replacing the girls' teachers' closet inside the building, and alterations to lavatories and new drainage scheme, Hanbury Street.

Second Competition.

G. Godson & Sons	£1,718	0	0
C. W. Killingback & Co.	1,713	0	0
W. V. Goad	1,624	10	0
Unsigned	1,556	9	0
Willmott & Sons	1,538	0	0
Lathey Bros.	1,479	0	0
Ashby Bros.	1,478	0	0
F. & F. J. Wood	1,420	0	0
F. G. Minter	1,399	0	0
E. Triggs	1,340	0	0
F. Britton	1,320	0	0
F. Bull *	1,296	0	0

* Recommended for acceptance.

MAIDENHEAD.

or sewering Powney Road. Mr. PERCY JOHNS, borough surveyor.

J. K. Bolton	£315	0	0
W. Partlo	308	0	0
T. Free & Son	199	10	0
W. Lee & Son	198	1	6
F. TALBOT, Reading (*accepted*)	198	1	6

MARYPORT.

or alterations and additions to premises in Senhouse Street. Mr. C. EAGLESFIELD, architect, Maryport.

Accepted tenders.

W. Marshall, mason.
J. Bell, joiner.
T. Mandle, slater.
T. Kirk, plasterer.
T. Skelton, plumber.
J. McKay, painter and glazier.

MEXBOROUGH.

For sewering, levelling, kerbing, flagging, channelling, making, &c., for the construction of Helena Street. Mr. G. FENWICK CARTER, surveyor.

J. Rothery	£617	10	0
G. EYRE, Crookes, Sheffield (*accepted*)	549	10	6

NORMANTON-BY-DERBY.

For (*a*) fencing, laying-out and planting the new burial-ground at Normanton; (*b*) erection of a chapel and lodge thereon. Mr. T. A. FULLER, architect, The College, All Saints, Derby.

Contract A.

Hawley & Son	£1,272	0	0
Pickthall & Son	1,160	0	0
G. F. Tomlinson	979	0	0
J. TOMLINSON, Derby (*accepted*)	949	12	6
G. Wagg	916	17	5

Contract B.

G. Wagg	1,031	14	3
R. Platts	1,030	0	0
Pickthall & Son	1,008	0	0
King & Harrison	1,004	11	0
Parker & Son	955	0	0
H. Chattle	915	0	0
A. SMITH, Derby (*accepted*)	913	0	0
Adams & Brailsford	900	0	0

PETERBOROUGH.

For erection of two houses, butcher's shop, stables, &c., in Vergette Street. Mr. HALL, architect, Huntly Grove, Peterborough.

Bailey	£943	11	8
Gutteridge	850	0	0
Hicks Bros.	801	0	0
Nicholls	795	0	0
Sibley Bros.	790	0	0
D. GRAY, Peterborough (*accepted*)	750	0	0

ROCHDALE.

For alteration of the dressing-boxes at the baths. Mr. S. S. PLATT, borough surveyor.

T. BUSSY (*accepted*).

For erection of buildings for electricity works.

W. A. PETERS & SONS, Rochdale (*accepted*).

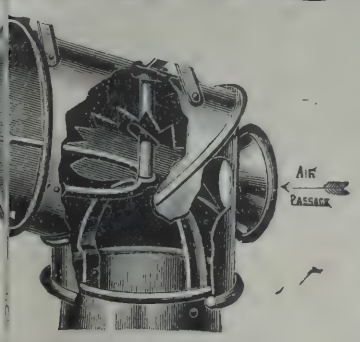
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"Your cowl has proved a complete success, no matter which way the wind blows. Please forward me another one at once.

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TELEPHONE NO. 3743.

REDHILL.

For superstructure of business premises for Messrs. Nicol & Son at corner of High Street and Station Road on the Market Hall Estate. Mr. A. BROAD, architect, 22 George Street, Croydon. Quantities by the architect.

Pink & Moon	£5,568 0 0
T. Bushby & Son	5,325 0 0
J. Longley & Co.	5,260 0 0
C. Nightingale & Sons	5,230 0 0
C. Parsons	5,170 0 0
S. J. Jerrard & Sons	5,135 0 0
Buckland & Waters	5,100 0 0
W. H. Lorden & Sons	5,093 0 0
W. Akers & Co.	4,977 0 0
E. Worssell	4,975 0 0
J. Smith & Sons	4,884 0 0
S. Page	4,864 0 0
E. J. Saunders	4,850 0 0
J. J. Carrick	4,796 0 0
E. P. Bulled & Co.	4,720 0 0
D. W. BARKER, Croydon (*accepted*)	4,645 0 0
Terra-cotta dressings.	
Gibbs & Canning	507 0 0
J. STIFF & SONS (*accepted*)	495 10 0

RIPPONDEN.

For erection of a fireproof mill adjoining the present mills. Messrs. RICHARD HORSFALL & SON, architects, 22A Commercial Street, Halifax.

Accepted tenders.

Crashaw Bros., Ripponden, mason.
J. Schoefield, Rishworth, joiner.
J. Stafford, Sowerby Bridge, plumber.
Robinson & Son, Sowerby Bridge, slater and plasterer.
Bagshaw & Son, Batley, ironfounder.

STRATTON ST. MARGARET.

For alterations at the workhouse, Stratton St. Margaret, Swindon. Mr. O. KIMBER, architect, 64 Exmouth Street, New Swindon.

Tydeman Bros.	£133 6 0
H. C. Looker	102 12 0
A. J. COBBORNE & SONS, Swindon (*accepted*)	89 9 3

SHEFFIELD.

For erection of a bakehouse, water-closets, &c., Button Lane and Horse Lane. Messrs. HALL & FENTON, architects, 14 St. James's Row, Sheffield. Quantities by the architects.

C. Roberts	£382 13
J. W. Dickens	366 0
J. & H. Wheen	317 0
T. Roper	307 15
Abey & Son	300 0
Bee & Son	298 0
Martin & Hughes	289 0
E. Hancock	289 0
A. Turner	287 0
H. LAIDLER, St. Barnabas Lane (*accepted*)	281 0

STAINES.

For erection of stabling, Kingston Road.

A. Jordan	£339 0
T. Trust	326 10
J. A. BAKER & Co., Limited, Staines (*accepted*)	306 3

STEETON.

For erection of eighteen cottages. Messrs. JOHN JUDSON MOORE, architects, Keighley.

Accepted tenders.

T. Atkinson, Curn, contractor.
J. Gill, Eastburn, joiner.
J. Greenwood, Crosshills, plasterer.
T. Nelson, Manningham Lane, Bradford, slater.
H. Firth, Crosshills, plumber.

For erection of the Steeton institute. Messrs. JOHN JUDSO & MOORE, architects, Keighley.

Accepted tenders.

T. Atkinson, Eastburn, mason.
Riddiough, Crosshills, joiner.
Smith & Pickles, Silsden, plumber.
W. Thornton, Bingley, slater.
J. Greenwood, Crosshills, plasterer.
Holmes & Sons, Steeton, painter.



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SURBITON.

For construction of 1,450 feet of 9-inch stoneware pipe sewer, manholes, house connections, &c., at Minnie Dale. Mr. SAMUEL MATHER, engineer, Victoria Road, Surbiton.

R. T. Burnell	£827 14 0
C. W. Killingback & Co.	557 0 0
S. Kavanagh	510 4 4
S. ATKINS, Kingston-on-Thames (*accepted*)	482 0 0

SUTTON.

For sewering, levelling, metalling, kerbing, &c., the following roads, viz. (1) Albion Road and (2) Western Road (B to C section). Mr. C. CHAMBERS SMITH, surveyor, Public Hall, Sutton, Surrey.

Accepted tenders.

Albion Road.

Lawrence & Thacker, Clapham Common, S.W.	£747 16 0
W. Jenner, Sutton	606 2 10

Western Road.

Lawrence & Thacker	401 7 6
W. Jenner	325 4 1

WALES.

For supplying and laying about 3,000 lineal yards of cast-iron and stoneware pipe sewers, with the necessary manholes, lampholes, flushing-tanks, &c., in the parishes of Llanishen and Whitchurch. Mr. W. FRASER, engineer, Llandaff Chambers, 35 St. Mary's Street, Cardiff.

S. Hanson	£1,677 0 10
Batchelor & Snowden	1,475 7 0
Monk & Newell	1,410 4 6
F. Ashley	1,265 19 6
E. Williams	1,253 3 0
Williams & Thomas	1,231 16 4
W. Evans	1,199 0 0
Barnes, Chaplin & Co.	1,195 16 8
Mackey & Davies	1,169 19 4
E. Moore	1,100 17 0
E. H. Page	1,093 5 7
A. S. MORGAN & Co., Newport (*accepted*)	1,086 0 0

WALES—*continued*).

For widening and improvement of the Embankment Road, Pwllheli, and the sluice bridge forming part of the embankment, and construction of a tramway along the embankment. Mr. ARTHUR DICKINSON, borough surveyor.

J. Phœnix	£3,520 0 0
G. F. Bugbird	1,800 0 0
W. & R. Jones	1,500 0 0
Owen & Jones	1,450 0 0
W. Harris	1,350 0 0
J. H. Roberts	1,199 0 0
Borough surveyor's estimate	1,000 0 0

Note.—No tender accepted; borough surveyor instructed to proceed with the work

For supplying and laying about 1,000 lineal yards of cast-iron and stoneware pipe sewers, with manholes, lampholes, flushing tanks, &c., in the parish of Llandaff. Mr. W. FRASER, engineer, Llandaff Chambers, 35 St. Mary Street, Cardiff.

Batchelor & Snowden	£720 9 0
Williams & Thomas	644 15 0
J. Rees	608 3 0
F. Ashley	573 7 6
E. Moore	554 9 0
A. S. Morgan & Co.	534 0 0
Barnes, Chaplin & Co.	515 17 4
E. H. Page	507 8 8
MACKEY & DAVIES, Cardiff (*accepted*)	501 19 4

For additions to the Trinaut and Ynysddu Board schools, Mynyddislwyn. Mr. R. L. ROBERTS, architect, Abercarn.

Trinaut School.

W. Morgan	£520 0 0
T. L. Morgan	511 5 0
C. Rowlands	428 11 9
J. Jenkins	415 0 0
C. F. Morgan	410 0 0
E. WILLIAMS, Newbridge (*aceepted*)	396 7 6

Ynysddu School.

T. L. Morgan	495 10 0
W. Morgan	487 0 0
C. F. Morgan	418 0 0
J. Jenkins	412 0 0
Davies Bros.	398 0 0
E. WILLIAMS (*accepted*)	397 10 0

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WEDNESBURY.

For additions to public baths superintendent's house. Mr. E. MARTIN SCOTT, borough surveyor.

G. Summerhill	£99 10 0
F. J. Smith	98 0 0
G. Williamson	94 10 0
J. HOLLOWAY, Wednesbury (*accepted*)	90 0 0

WEST HARTLEPOOL.

For erection of a block of school buildings providing accommodation for 1,502 children, caretaker's house, &c., in Lister Street, Osborne Road and Flaxton Street. Mr. E PERCY HINDE, architect, Liverpool.

T. BEETHAM, Villiers Street (*accepted*) . . £14,085 13 8

TRADE NOTES.

THE new Infectious Diseases Hospital, Chester, which is nearing completion, is being erected from the plans and under the supervision of Mr. H. Beswick, county architect, Chester, the builder being Mr. W. W. Freeman. The whole of the wards are being warmed and ventilated by means of Shorland's patent Manchester stoves with descending smoke-flues, Manchester grates, Shorland's patent exhaust roof-ventilators and inlets.

THE new offices and stables, &c., for the Urban District Council of Eastleigh are being ventilated by means of Mackay's patent invisible roof ventilator, supplied by the sole makers, Cousland & Mackay, 150 Hope Street, Glasgow.

THE parish church of Biggin, Derbyshire, has just received an addition in the shape of a tower clock, which has been erected at the cost of Mrs. Wraith in memory of her father. It has two dials facing north and south, and strikes the hours. Messrs. Smith & Sons, Midland Clock Works, Derby, carried out the work.

MR. H. MORELL, picture-frame and moulding manufacturer, of St. Andrew Street, Bloomsbury, has just completed and issued a somewhat voluminous sketch-book containing several hundreds of well-drawn and printed sketches of mouldings of every description and adapted to every purpose for which mouldings can be used.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: EXTERIOR, LOOKING SOUTH-WEST FROM CHURCHYARD. LANTERN OF CENTRAL TOWER, LOOKING UP. DETAIL OF TOP OF CENTRAL TOWER.

ST. GEORGE'S SCHOOLS, SOUTH STREET, MAYFAIR, W.: SOUTH FRONT. NORTH FRONT.

ELECTRIC NOTES.

IT was reported at the meeting of the members of the Liverpool electric power and lighting committee on the 3rd inst. that the Local Government Board had given their sanction for a further loan of 44,000*l.* to be obtained for electric-lighting purposes in the city.

AT a special meeting of the Greenock Police Board on Tuesday the plans of the power-house prepared by Mr. Fedden, the engineer, to be erected at Hunter Place, were unanimously approved.

PREPARATIONS are being made in the vicinity of Henry the Eighth's Gate for connecting Windsor Castle with the Windsor and Eton Electric Installation Company's service, by which the principal apartments of the royal residence will in future be lighted. Iron pipes are being laid up Castle Hill for the reception of the cable, and by the 11th inst., a few days before the Queen's arrival, the new service will be ready for use.

THE Bootle scheme of electric lighting, which is an elaborate one, and will cost some 37,000*l.*, is now rapidly approaching completion. It has been designed and the carrying out of the works superintended by Mr. Thos. L. Miller M.Inst.C.E., Tower Buildings, Liverpool, the consulting engineer to the Corporation, Mr. O. F. Francis, Assoc.Inst.E.E. acting as his clerk of works; the buildings being from the plans prepared by the borough engineer, Mr. J. A. Crowther Assoc.M.Inst.C.E.

IT has been decided to erect a hospital for infectious diseases at Birstall. It is to be known as the Oakley Joint Hospital, will cost about 13,000*l.*, and will be situated at Foxhall, between Fieldhead and Geldard Road.

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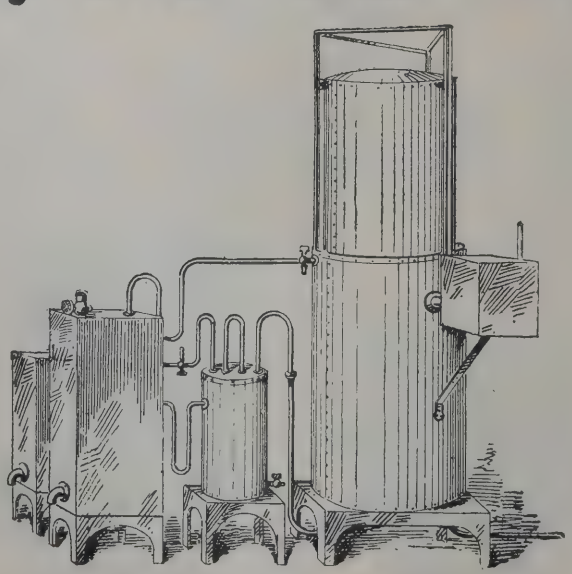
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VARIETIES.

THREE new sub-building inspectors are to be appointed by the Leeds Corporation.

IT is proposed, says the *City Press*, to connect St. Margaret's with the South-Eastern and London & Chatham systems by a light railway running between that watering-place and Martin Mill station on the Dover and Deal Railway.

"WHITAKER'S TITLED PERSONS" is a volume of which the interest is not confined to those whose names are recorded, for it furnishes an accurate work of reference for the use of business houses, giving particulars respecting people of position, with the town and country residences, arranged in the simplest manner and produced at the lowest possible price.

THE Dominican Church of St. Sebastian, now in course of erection in the Gerald Road, Pendleton, is growing rapidly. A priory, to accommodate a larger number of fathers, will soon be built according to the designs of Messrs. Sinnott, Sinnott & Powell, the architects of the new church. The church and priory buildings will present a fine frontage to the Gerald Road.

DURING some excavations for a new building at the Scotch Gate, which forms part of Berwick rampart, a number of human bones have been found. An ancient church dedicated to the Virgin Mary stood at this spot, and it was removed when the ramparts were built in the reign of Queen Elizabeth. The remains of a graveyard were found some time ago, when a water cistern was constructed about fifty yards away.

IT has been decided to open the Alexandra Palace and grounds each Sunday next summer to holders of season tickets and a limited number of their friends. Sacred music will be provided in the afternoons and evenings, and the programmes will include orchestral, military, vocal, and occasionally choral selections.

THE London County Council have given their consent to the formation of a new street, 50 feet wide and nearly a quarter of a mile long, starting close to St. Paul's Schools at West Kensington, and terminating opposite the house of the late Sir E. Burne-Jones. The street will be known as Fitzgeorge Avenue, and will be occupied on both sides of its entire length by blocks of residential flats. The contract for the whole operation is being carried out by Mr. Henry Lovatt from the designs of Mr. Delissa Joseph, F.R.I.B.A.

THE new County Club for Ladies, at 21 Hanover Square, W., promises to be a success. The situation is excellent, in the centre of the fashionable shopping world; the subscription is moderate, the comforts and conveniences offered to ladies up from the country are excellent, and the furnishing and decorations in refined taste, and such as the most luxury-loving club woman could desire, Messrs. Oetzmann & Co of Hampstead Road, N.W., having carried out everything. The dining-room and reading-room are dainty and cosy in brocaded furniture, saddle-bags, &c., with richly decorative papers; and the bedrooms are fresh and pretty in pure white furniture, with dainty papers very like old French silks in design.

THE Horton estate, Northamptonshire, formerly the seat of Sir Robert Henry Gunning, Bart., has just been sold by Messrs. Knight, Frank & Rutley, of Conduit Street, for a sum approaching 90,000*l*. The estate, which covers an area of 3,300 acres, was successively possessed by the Salisburys, Montagues, and the Earl of Halifax, the latter erecting the mansion which at present exists. To the south of the Hall is the building formerly used by Lord Halifax as a menagerie. We understand that the purchaser is Mr. G. Harold Winterbottom, of Manchester.

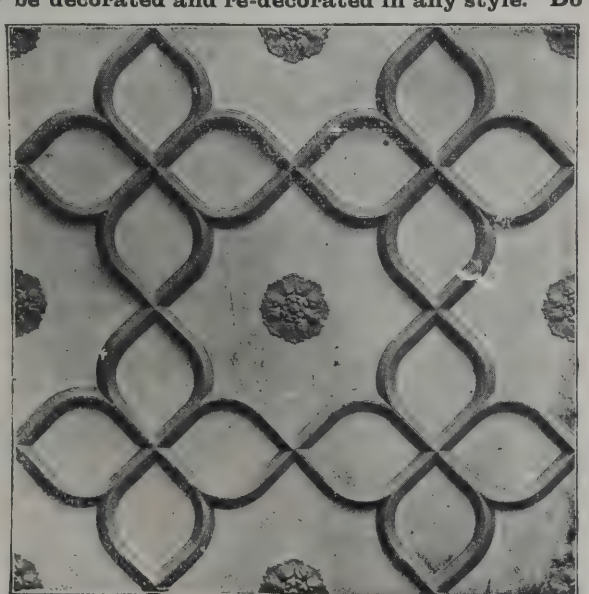
AN important and highly interesting demonstration took place last week outside the Town Hall, Lavender Hill, Battersea, where, in the presence of an assembly of experts and members from the London County Council, insurance companies, and various vestries, the merits and working of the combined lamp-post and fire hydrant, patented by Mr. W. Jones, were thoroughly tested and examined. The object of the invention is to remedy the defects and disadvantages apparent in the present system of hydrants. Mr. Jones's invention combines the hydrant with the lamp-post, and includes the painting of the latter a red colour, the word "fire" being written in large letters on the lamp-glass, so that the position of the hydrant is always and immediately evident. The water supply is obtainable by means of a pipe placed in the base of the lamp-post, a screw-joint being attached to it, while a valve alongside admits of the water being turned on almost instantaneously. By a syphon arrangement it is claimed that the water cannot freeze in the pipes while it is liquid in the mains. An exhibition of the *modus operandi* was afforded to the spectators, the hose being attached and a jet of water some 50 feet high being at once thrown into the air.

THE new Baptist chapel in Adnitt Road, Northampton which has been erected at a cost of 2,232*l*. 10*s*., including site, is now open It is in the Early Perpendicular style, and

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is of red brick, with dressings of yellow Weldon stone, and the front has a vaulted porch and tracery windows and pinnacles. The interior presents a spacious yet homely appearance. The width of the chapel is divided into three spaces by an ornamental timber arcade, which gives a central body and side aisles, while the clerestory over the arcade is in half-timber work. There are clerestory windows in addition to the aisle and transept lights, and chairs are used for seating accommodation. Four hundred chairs have been placed in the church, but the spacious interior is sufficient to allow of 600 persons assembling in the building at one time The decorating, which is very tastefully carried out, is in distemper, with woodwork stained green and varnished, and the traceried windows are glazed with leaded lights. At the rear of the church is the minister's vestry and a deacons' vestry. Under the minister's vestry is the heating basement, with a boiler for tea-making or any similar purpose. A through corridor at the back of the church gives ready means of egress in case of need, and will serve as a means of communication with the Sunday schools, which are to be built on the adjoining land. Messrs. Mosley & Anderson, of Northampton, are the architects.

BUILDING AND BUILDERS.

THE erection of a new Baptist church and schools at Stockton-on-Tees is to be at once proceeded with.

A NEW Wesleyan chapel is to be erected in Darlington Street, Wolverhampton, at a cost of about 12,000*l.*

A NEW theatre is to be erected at Stoke-on-Trent in the course of the present year at a cost of 15,000*l.*

IT has been decided to erect a new Wesleyan chapel in Darlington Street, Wolverhampton, at a cost of about 12,000*l.*

A VARIETY theatre is about to be erected at a cost of 30,000*l.* in Broadway, Trafford Road, Salford.

A NEW brickfield has been opened at Sandholme. Two kilns are to be built, each to hold 50,000 bricks. Nearly 20 acres will be developed.

A LARGE infant school is about to be erected in Eldon Road, Lower Edmonton, from plans prepared by Mr. Henry W. Dobb, architect, of 110 London Wall.

MESSRS. W. & J. BAILEY, architects, of Bradford, have received instructions to prepare plans for the extension of Thorpe School for the Idle School Board.

THE strike of Aberdeen joiners, which has lasted a week, was settled on Tuesday. The men demanded an immediate rise of a halfpenny per hour, and the masters have agreed to give a farthing increase in April and another farthing five months afterwards. The men, numbering 650, have resumed work.

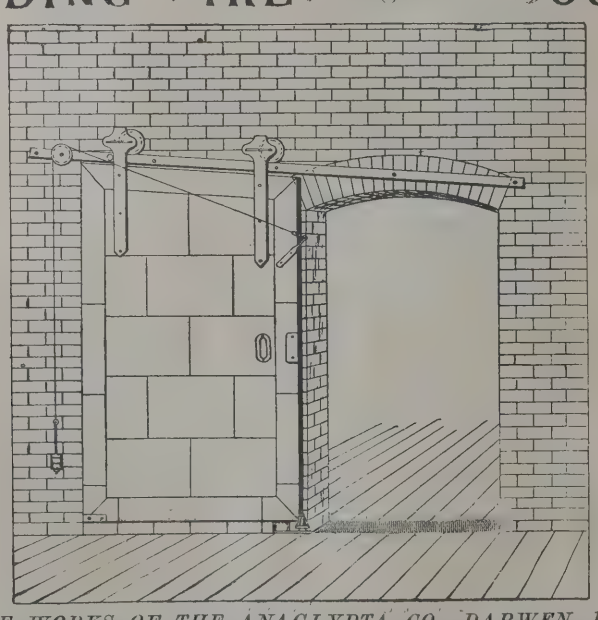
THE Dunoon School Board have passed the plans prepared by Mr. Fraser, architect, for the extension of the Dunoon Grammar School, at an outlay of between 3,000*l.* and 4,000*l.*, which is to be spent in erecting an additional storey over the central part of the school.

THE scheme to extend the Leith Hospital in commemoration of the Queen's Diamond Jubilee is likely to take practical shape in the course of a few months, the directors of the hospital having now matured plans to meet the views of the commemoration scheme committee.

AT a meeting on Tuesday of the Liverpool Select Vestry the special sub-committee on the hospital question reported that plans for the proposed new hospital at Highfield were now in their possession, and the estimated total cost of the building and equipment was 105,353*l.* The cost of the land was 10,000*l.*

A SHOCKING scaffolding accident, resulting in two deaths, occurred on Tuesday afternoon in the Lawnmarket, Edinburgh. Three slaters were engaged in repairing a chimney head when the scaffolding slipped. Two of the men were precipitated into the court 60 or 70 feet below, one being killed outright, while the second died while being conveyed to the infirmary. The third man had a marvellous escape, falling on to a ledge a few feet below the scaffolding, and sustaining only slight injuries

A NEW Palace of Varieties is to be erected on the site of the existing Theatre Royal, Kilburn, and the adjoining properties, which will form a magnificent corner block. The building, which will accommodate 1,500, will be without column, and an uninterrupted view of the stage will be given from all parts of the auditorium. The style adopted by the architects, Messrs. Palgrave & Co., Victoria Street, S.W., is a free rendering of French Renaissance, while the exterior principal front will be in glazed terra cotta faience work, by Burmantofts, Limited. The estimated cost is about 30,000*l.*, apart from the various properties to be acquired. It is expected the new building will be ready for opening in the late autumn. Messrs. Wylson & Long are acting as consulting architects.

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OPERATIONS are at once to be commenced for the erection of a new lighthouse at Barn Ness, on the Haddingtonshire coast, near Innerwick, a spot which has been the scene of wrecks for many years. The lighthouse is to be 100 feet high. The light will be a group showing three flashes in quick succession every half-minute, the beam of light of each of the flashes being 70,000 candle-power. It is also proposed at an early date to erect a lighthouse on the Bass Rock.

THE Mersey Docks and Harbour Board had before them last week a recommendation by the works committee involving the expenditure of nearly one million sterling. Some time ago a general scheme for improving and extending the dock system of the port was agreed to, the total estimated expenditure being close on four millions, and Parliamentary powers having been obtained, it is now proposed to proceed with the first instalment of the work. That was the recommendation which the committee brought forward, and it was stated that this portion of the scheme, which includes, among other things the construction of two large new graving docks, would probably cost 885,335*l*. After some discussion as to details, the committee's recommendation was allowed to stand over for a fortnight, in order to comply with standing orders.

AN accident, by which seven men were injured, occurred at Christ Church, Birmingham, on Tuesday. The church, which is situated in the heart of the city, is one of the oldest, and at the present time is being demolished under the Church Extension scheme. It had been closed because it was no longer required in its present position, the resident population having moved from around it. A new church is being erected in the suburbs in its place. For some days crowds of people have watched the operations of the steeple-jacks in taking down the spire, and this work of demolition was proceeding when the accident took place. A number of men were engaged upon the roof of the building when one of the large beams running into the turret from which the spire springs suddenly gave way. The men fell a distance of upwards of 30 feet. Besides those on the roof other men were at work inside the building, but most of them luckily escaped. For a time the greatest excitement prevailed, and it was feared that several men were buried beneath the débris. They were all, however, accounted for, but it was found that no fewer than seven of them had been rather seriously injured. They were all taken to the General Hospital and detained. Several others were treated for minor injuries.

IMPROVED PLUMBING.

A DEBATE was opened by Dr. Mansel-Howe on Friday last at King's College on "The Testing of the House-drain and Stack-pipes, their Cleansing and Disinfection after Illness," in connection with the classes of instruction for plumbers and sanitary inspectors conducted at the college. There was a large attendance of plumbers. The opener showed by lantern illustrations some of the ordinary means adopted by plumbers for examining the reliability of pipes, viz. the water test, the smoke test, and the various odour tests. He also illustrated and considered the testing of pipes by compressed air and the use of the mercury gauge, and of rarefaction of the air in conjunction with the vacuum gauge, pointing out for these tests greater simplicity, efficiency, and the lesser liability of damage to property than by the use of the water test.

The cleansing of the house-drain and shaft-pipes was advocated as a wise and sanitary operation to be followed from time to time independent of sickness, but after many illnesses should be compulsorily insisted on by the public sanitary authorities. At the present time, when so many house-drains were provided with inspection, ventilating and disconnecting chambers, it was comparatively easy to thoroughly brush out and scour this channel. And in like manner the fittings and traps in association with the stack-pipes were provided in all better-class plumbing work with inspection and cleaning eyes, in order that the curves and bends of the pipes in these fittings might be cleansed.

Unfortunately these inspection eyes were rarely employed for cleansing purposes pure and simple, and only made use of when some temporary stoppage or lodgment in the pipes necessitated immediate attention.

When, however, the house-drain and stack-pipes had been treated mechanically by means of brushes, &c., it was recommended that all those pipes should be subjected to the disinfecting properties of chlorine gas, for the destruction of all pathogenic germs that were lingering in the inaccessible parts of the pipes, and in the meshes of the hemp too frequently found in the many unions of the house drain-pipe.

The opener of the debate stated he was greatly indebted to Mr. Edmund White, B Sc., of St. Thomas's Hospital, for valuable information respecting the disinfection of the stack-pipes, and for the use and recommendation of chlorine gas in this particular.

In the discussion and debate which followed, and which was attended by some 300 plumbers, the opinion was freely



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expressed that hemp might be very readily dispensed with in the uniting of iron drain-pipes, and that when the house-drain was constructed of stoneware pipes hemp should never be employed.

Professor George Aitchison, in speaking on "Utility and Art in Plumbers' Work," said :—

The Plumbers' Company has done a most excellent work in having those plumbers that are masters of their business certificated, and I may say that there is a great dearth of them, and when I ask builders why they have not a certificated plumber they say it is impossible to get one.

The principal thing we require is to have men who can be trusted to wipe joints so that they are air-tight, and make other junctions air-tight too. By this means we have prevented a great many of the diseases that faulty pipes and junctions cause, and have besides improved the health of those persons who would otherwise have their health lowered by the exhalations from faulty pipes ; and besides these advantages the men have learned to execute ordinary plumbers' work much better. We cannot be too careful of our health, for without that life becomes a burden, but at the same time we must consider that "man does not live by bread alone." Nature spreads out before us all the beauties of the sky, the earth, and the oceans for man's instruction, delight, and solace, and the plumbers were of yore as skilful in embodying the beauties of nature they had admired as the other craftsmen in the building trades ; in fact, when I was a boy the plumbers' shop window was one of my greatest delights, for in it were beautifully ornamented cisterns, lead vases, lead statues, and ornamental lead plaques for dates and inscriptions, not to speak of the quaint, if not beautiful, rain-water pipes and heads. All this has departed, and certainly every architect and every person of taste is anxious to see it revived. Some of the walks in Hampton Court gardens are still adorned with leaden statues and leaden vases, and when I was a boy the gardens of the great merchants in the City were adorned in the same manner, and very often with lead fountains too. In the Middle Ages and in the early Renaissance considerable portions of buildings then erected were ornamented with leaden crestings on the roof ; there were lead tops to pinnacles and lead sockets to weathercocks, and the leadwork to the lights was made in beautiful or curious patterns. I don't know why all these charming applications of design should be utterly laid aside and forgotten for more utilitarian objects.

The exercise of the artistic part of the craft must surely give more pleasure and pride to the craftsman than the mere wiping of a joint, or the beating out of a cesspool, however well done, besides the interest and pleasure that it causes to the public.

I hope the Company, while still continuing to instruct the workman in that which regards our health and convenience, may also add to his cultivation and interest in his work by showing him that he has not yet mastered the whole of the craft when he can execute properly the mere utilitarian parts of his trade.

Ornamental plumbing is not entirely disused, as there is a beautiful leaded lantern on one of the churches at Brighton designed, I think, by Mr. Bodley.

WIDTH OF STREETS IN FOREIGN CITIES.

VARIOUS officials having contributed information about the means of communication in foreign cities to the Society of Arts, the following abstract has been prepared concerning the width of streets :—

Berlin.—Unter den Linden (includes a broad walk with two rows of trees for nearly half of the whole length), 196 feet ; Leipziger Strasse, 72 feet ; Friedrich Strasse, 72 feet ; Friedrich Strasse, from the corner of Behren Strasse to Unter den Linden, 41 feet ; König Strasse, 57 feet. The width of the pavements on both sides of the street is included.

Brussels.—Le Boulevard Circulaire, between les Places de Namur and Louise, 220 feet ; L'Avenue Louise, 183 feet ; L'Avenue du Midi, 118 feet ; Le Boulevard Anspach, 91 feet ; Le Boulevard du Nord, 78 feet ; Le Rue de la Nord, 65 feet ; Le Rue Royale, 65 feet.

Paris.—Rue de Rivoli, 88 feet ; Rue Montmartre, 72 feet ; Avenue de l'Opéra (Boulevard St. Germain), 98 feet ; Grands Boulevards, 114 feet ; Avenue des Champs Elysées, 229 feet ; Avenue de Grande Armée, 295 feet ; Avenue Bois de Boulogne, 393 feet.

Vienna.—Ringstrasse, 187 feet ; Kärntnerstrasse (Upper), 62 feet ; Kärntnerstrasse (Lower), 121 feet ; Praterstrasse, 118 feet ; Rennwegg, 65 feet ; Hauptstrasse, third and fourth districts, 65 feet each ; Hauptstrasse, fifth district, 72 feet.

New York.—The streets vary in width from about 60 feet to 150 feet. The ordinary residence streets—beginning at First Street, and extending across the island of Manhattan from east to west, up as far as 220th Street—are 60 feet wide, excepting

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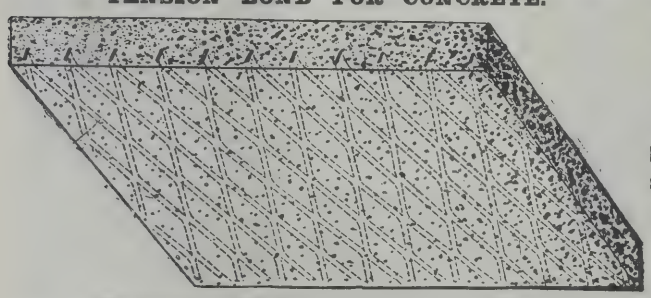
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at intervals of about half a mile, when they are 100 feet. The avenues which run north and west at right angles with the cross-streets are 80 to 150 feet wide. Below Houston Street or First Street, on Manhattan Island, the streets and thoroughfares are of irregular widths, following for the most part lines of paths, lanes or roadways originally followed for the convenience of the early colonists or settlers.

Washington.—Most of the avenues named after the different States are 160 feet wide from building-line to building-line, with 50 to 107 feet roadway respectively.

Avenue.	Width. Feet.	Roadway. Feet.
Virginia	160	50
Maryland	160	50
Delaware	160	50
New Jersey	160	60
Pennsylvania	160	107½
North Carolina	160	50

COLUMBIAN MARBLES.

ONE of the most important collections of marbles in the world may be seen in Chicago. In respect to the size and perfection of the specimens no collection equals it either in America or Europe. The specimens in the most important European collection, that of the Vienna Museum, are much smaller and therefore do not give as good an idea of each variety. The marble collections of the Field Columbian Museum are installed in the "Marble Room," a hall 40 feet square lighted from above. Here about 350 polished marble slabs, mostly of the uniform size of 9 by 16 inches, are displayed in pyramidal form in eight wall cases and two upright centre cases. A minor collection of 150 smaller polished slabs, varying in size from 3 by 4 to 6 inches, is installed with the lithological collections of the adjoining room. Many of these small specimens, however, are duplicates of the marbles in the main collection.

The collection is divided into (*a*) marbles proper, (*b*) travertines (onyx marbles), (*c*) serpentines, and (*d*) eruptive rocks used for decoration. The marbles are arranged geographically. Under the geographical divisions they are so placed as to produce the most harmonious effect. All the specimens are labelled with the locations of the quarries, the trade names of the varieties, and the lithological names where the specimens are other than ordinary marble. This collection has been built up by purchase, by gifts from quarry owners, and by cutting and polishing slabs from marbles received at the close of the World's Fair.

The marbles of France, which occupy one of the centre cases, are easily pre-eminent in variety and beauty. The Henriettas and the Notre Dame are examples of the many browns and grays, all delicate in colour and same in constitution.

The brocatelles furnish yellows; the Rouge Antique and the griottes, red; the campans, with their delicate veinings, green; and the St. Amandes, black. These and intermediate colours occur in many patterns, each with its proper name. These marbles have a richness and softness which are unequalled in the rest of the collection. The judgment of the French quarrymen in selecting euphonious names for their marbles is to be commended.

The Italian marbles in the wall case opposite include a number of attractive forms, such as the black and gold Portor, so well known from the successful imitations made of it in marbelised slate and the white and violet brecciated paonazetto. The marbles of Greece and Norway, which occupy a prominent position in one of the centre cases, offer strong contrasts. The Norwegian resemble in many respects Georgia marbles. They are costly crystalline and vary in colour from white to salmon and steel grey, with some green. Besides the distribution of the colours in cloudings and indistinct bandings like those of the Georgia marbles, a common marking is what may be described as a partially obliterated breccia. Owing to the coarse crystals they have a characteristic sparkle and brilliancy.

The Greek marbles are fine-grained and the colours are softer. Among them may be noted a very good black, a number of dove marbles, a number of striking reddish-brown breccias, and a soft brown with a unique wavy design.

The well-known ivory Numidian and some Egyptian marbles represent Africa, and Asia is represented by a white and grey marble from Hong Kong. From Japan come the Ishi-no-tam or balls of stone. These are polished spheres of a breccia marble of Carboniferous age found in Kishni or the Province of Kii, where the art of making these balls has been practised for centuries. In general effect this breccia resembles the best Devon marble.

The marbles of Great Britain are of many varieties, from the white, translucent alabaster of Devon to the black Madrepore marble of Antrim, Ireland. This Madrepore marble has a black background, upon which the coralline form of the

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Madrepore is marked in pure white. The rosewood marble of Devon, the colour of rosewood and with markings closely simulating the grain of wood, is a curiosity among marbles. The encrinal marble, really a porous limestone made up of countless crinoid stems, is made to serve as a marble by means of a waxy filling which takes a somewhat resinous polish. Among the most pleasing marbles in the collection are twelve varieties of Ogwell, Ashburton, and Pettitor marbles from Devon. The colours are soft and rich, and run from a dark rich maroon through brownish-red to pearl-grey. The pattern may, perhaps, be described as being usually a mottling.

Among the American marbles the Winooski dolomites of Swanton, Vermont, are conspicuous with their peculiar patterns in dark red and white. In some varieties the colour changes to a very attractive violet-grey. With but little change in colour the pattern varies enough to give nine named varieties. The well-known Vermont marbles are represented by a very complete series of some fifteen specimens. The coarsely crystalline brilliant white, grey and salmon Georgia marbles find their place beside the Vermont specimens. Outside of the Vermont and Georgia stones the collection is very weak in American marbles. The Tennessee and other well-known stones are practically not represented. Practically the only coloured breccia to compare favourably with foreign specimens is that of the Point of Pines, Maryland, not now quarried.

The onyx marbles owing to their nature are represented by slabs of varying size, some larger, some smaller than standard. Cylindrical and curious fruit-like forms of Mexican origin give the effect of the onyx banding on curved surfaces. Besides the ordinary "Mexican onyx" from Mexico, Lower California and Arizona, less well-known localities, such as the new stalagmite marble quarries of Utah, are represented. Among other foreign localities Egypt and Syria are represented by travertines of great beauty, the same known as alabaster in Biblical times.

All the serpentines with a pronounced green body colour have been labelled, in accord with the recognised tendency of the times, Verde Antique, although many are far removed from the true Verde Antique in colour. It is evident that they form a distinct class of decorative stone which needs a name, and, moreover, that they are going to be called Verde Antique anyway. They vary from the deep velvety and slightly mottled green of the true Verde Antique from Greece to the yellow-green, strongly varied colours of the Los Angeles serpentine. With the Verde Antique, but not included among them, are displayed the speckled green and white ophite of New York, the green and white Connemara of Ireland, and the curious onion-like Cipollino of Saxony. Certain red and other serpentines displayed here are utilised more for small ornamental forms and turned objects than for architectural purposes. These include a deep green from Santa Catalina Island; a dark green, almost black, from Zoblitz, Saxony; and the well-known mottled red of Lizard Point, Cornwall.

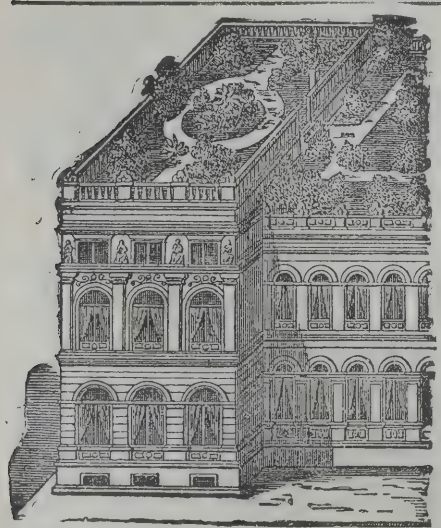
Certain of the eruptive rocks are used for decoration. Of interest among these are the porphyries of ancient Rome and a dark green diabase porphyrite of ancient Egypt. One of the most beautiful of such stones is the garnet rock of Xalostoc, Mexico. There is much among this material which equals the best of marble in beauty, while such stones, of course, far excel it in durability. But the excessive cost of working prevents their general use.

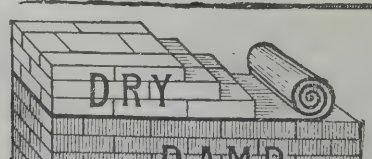
MUNICIPAL TRADING.*

A SYSTEM of bureaucracy tends not to progress, but to stagnation; to the fixing, that is, of ideas at their existing level of development. It may be able to carry on a simple trade such as the supply of water, a commodity of universal necessity, which, therefore, needs no pushing, cannot ever be replaced by the advancement of science, and can be managed on a system of strict routine; but in any branch of industry which is of a mobile character, and which depends on the education of the public, and the tempting of customers, the private capitalist who understands his own business, and is free to conduct it in his own way without having to reckon with the opinion of a host of other people who know nothing about it, must have an incalculable advantage. To attempt to pre-surmise how this stagnating tendency inherent in municipal enterprise will operate must necessarily be to some extent speculative, and, for sheer lack of imagination, must fall short of the realisation. One probable effect may be noticed; our municipalities, naturally on account of their democratic basis, and very properly on all occasions, take a great interest in the welfare of the working classes. They consider they best conduce to this welfare by supporting the regulations of the trade unions. There can be no doubt that these bodies have been of great service in

* From a paper by Mr. Dixon H. Davies, read before the Society of Arts on the 1st inst.

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raising the condition of the workmen, but it is equally certain that some of their methods are infected by gross economic error, and have tended not merely to the raising of wages, but to the restriction of the production per head. The prevalence of these errors, and the serious results of the recent industrial wars, in which the trade unions are ranged on one side and the employers on the other, have set thoughtful men in all classes searching after some new form of industrial organism which will take the men out of the position of mere wage earners (to the conservation and protection of which position the efforts of the trades unions are directed) and make them partners in the whole produce of their industry. The germs of such developments have already shown themselves in the co-operative manufactories and in the labour partnerships, which have in some instances made promising progress, with every indication of success in the removal of the fatal rivalries referred to.

The evolution of such new collective fabrics, so devoutly to be wished by all friends of the working classes and by all patriotic citizens, is just one of those improvements which experience and theory show to be impossible of development in the sterile medium of government routine. Further, the action of the trading municipality, always insisting on trades union regulations being observed, not only in its own works, but even by the manufacturers or contractors who deal with it, does much to hamper the free spirit of experiment in these directions, and to retard the operation of those spontaneous tendencies which in an open market would work toward the accomplishment in due time of such new industrial plans.

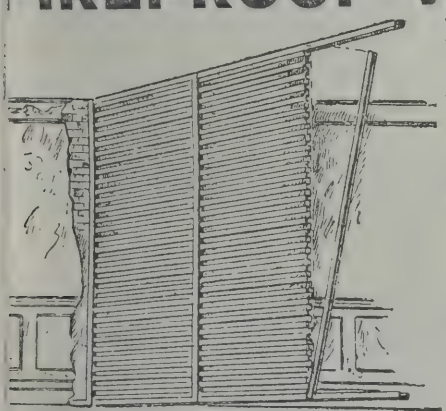
There is no need, however, to draw upon the imagination to illustrate the deplorable effects of the enslavement of free energies which results from handing over an industry to municipal enterprise. We have one existent example of it in the state of the electrical industry.

How is it that this country, which taught the world the use of steam, should be so backward in electricity? How is it that whilst great systems of electrical power transmission are common in America, in Italy, in Germany, in Austria (constituting, as such systems do, an important new development in the division of labour, by enabling the small workman in a remote village to obtain his power on tap, as it were, and so to produce almost as cheaply as can be done in the great steam workshops in the town), Englishmen are content with insignificant installations in monopolised areas? How is it that while English machinery in the mechanical departments still holds its supremacy at home as well as abroad, in electrical matters we have to give place to other nations, and the whole of the plant for the electric traction of the underground railways of London is being ordered from America, and also that for the tramways of Leeds, of Liverpool, of Sheffield, of Glasgow, and of many more towns that can be named? Surely this state of things can only be accounted for by the unwise action of the Legislature in discouraging and restricting the enterprise of the capitalist and in committing this promising industry to the sterile and monopolist hands of municipal enterprise. What is the history of this subject?

Parliament yielded to the fears of gas-owning corporations (municipal adventurers are always protectionists of the most timid order) and the Electric Lighting Act of 1882 was passed. Under this Act the municipal authorities were enabled to obtain power to supply electricity under license or provisional order from the Board of Trade, but private capitalists who might apply for such power were subjected to two disadvantages—first, they had to obtain the consent of the local authorities, and, secondly, the municipalities could, at the end of the twenty-one years, step in and acquire the undertaking at the then value of its material effects without paying anything for compulsory purchase, or for prospective profits, or for the cost of pioneer and educational work. In effect, therefore, municipal enterprise was encouraged to embark in this promising field, and every obstacle was thrown in the way of private enterprise doing so. The result was, of course, that the discouragements were too great for private adventurers to encounter, and they soon left the business alone. The municipal trader, in spite of the legislative encouragement, remained true to his tradition of taking no risks and of avoiding new inventions. He sat down and did nothing, and the industry stagnated until 1888, only one provisional order having been granted in the previous four years. Parliament then thought it time to interfere, and passed an amending Act by which, while the encouragements to the municipalities were not one bit abated, the obstacles to a private enterprise were partly removed by the extension to forty-two years of the period during which the concern was exempt from expropriation by the authority.

Still municipal enterprise stagnated, but commercial adventure made a fresh start, and almost all the existing electric stations were established in London, in Liverpool, in Sheffield, in Nottingham, in Birmingham, and all over the country by electric companies. In many cases the undertakings of these companies have since been acquired by the town before the

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right of compulsory purchase matured, at of course a handsome price, for a municipality can never drive a good bargain in an open market, and with the tardy advent of the municipal trader his monopolist tendencies begin to assert their mischievous influence. There is not of right any monopoly in electric supply in this country. The first section of the Electric Lighting Act of 1888 reads as follows :—"The grant of authority to any undertakers to supply electricity within any area, whether by license or provisional order, shall not in any way hinder or restrict the granting of a license or order to the local authority or to any company or person in the same area."

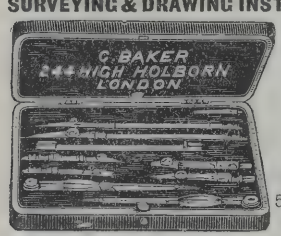
Whenever electric stations belonged to companies the local authorities were most anxious to take advantage of this section and to promote competition. They readily gave their consent to two or more rival companies working together in the same area. In London, for instance, there are two electric companies competing against each other in every parish, except the City, and in Westminster there are three. But what was sauce for the company goose was by no means to be sauce for the municipal gander. When the means of insulating high-tension currents became improved, it was discovered that the parochial limits (which were fixed, we are told, in the time of Alfred the Great) did not form a scientific division for confining a peculiarly elastic and transmissible force. Some parties therefore proposed, in full reliance on the section of the Act of Parliament above quoted, to establish electric transmission systems on a much larger and more modern scale than has hitherto been known in this country, and, in consideration of the economies that would thereby be effected, to subject themselves to a maximum charge less than one-half the rate which the corporations were authorised to charge, and were, as a general rule, charging for the electrical unit.

This interesting and novel proposition was submitted to Parliament last year. No monopoly was sought for the company, who merely wished to trade in competition with any existing stations, just as a new railway seeks power to compete in the carrying trade. The right to disturb the streets was confined to cases where the authorities refused, unreasonably, facilities for the deliverance of the company's wares through the Corporation's wires. The proposal was welcomed by the trading community, as one would have expected. The Chambers of Commerce petitioned in its favour, and no one opposed it except the municipalities. The nature of their objections is sufficiently indicated in the following recent resolution of the Municipal Corporations Association, passed in reference to this very Bill :—"That this Association affirms the principle that where local authorities have, with the sanction of Parliament, established or are in course of establishing undertakings for public benefit, and have not failed in their duties, it is not right or expedient that powers should be granted to companies to compete with them."

Surely here we see the municipal trader in his true colours. He does not wish to trade in the same way that any commercial man trades, facing difficulties as they come, contending with his rivals, whoever they may be, adapting himself to new conditions, scrapping his existing plant as soon as it is superseded, and substituting more efficient plant often at great sacrifice. Your municipal trader won't hear of scrapping superseded plant. He wants protection for the ratepayers' trade. If science has shown that he is on the wrong lines, and has made an improvident investment, so much the worse for science, which must go to the wall before the necessities of municipal trading. Science must wait until his machinery wears out; that will be quite time to introduce anything new.

The Bill, however, having in principle received the approval of a joint committee of the two Houses, was passed by the select committee of the House of Lords. At both these inquiries the corporations were strongly represented, and clauses were inserted for the protection of their interest. Not content with this, however, these bodies continued their hostility, and took the course, unusual in the case of a private Bill, of organising a strong opposition to its second reading when it reached the second House. There was thus presented the strange spectacle of the corporations opposing the granting of facilities to traders whose advent to their town their own Chambers of Commerce were actively supporting, and whom the same corporations would, as they candidly admitted, have themselves cordially welcomed had they appeared a year or two earlier, before they the corporations had embarked in the electrical business. The opposition was conducted not in the usual way, each town upon its own bottom, but by a kind of centralised union of corporations, called the Municipal Corporations Association. This body raises its funds for such proceedings by a rateable levy over the whole of the affected towns, so that, although ostensibly preserving its local character, the opposition is centralised and rendered unamenable to local influence. Further, such an organisation wields a power which, for the purpose of a second-reading opposition in the Commons, is most formidable. For the Association calls upon the corporations all over the kingdom to bring pressure upon their

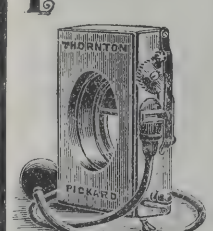
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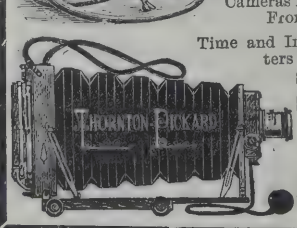


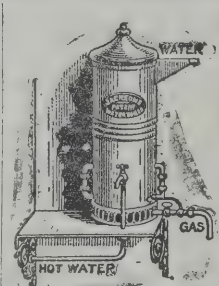
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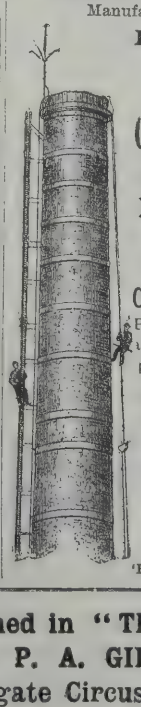






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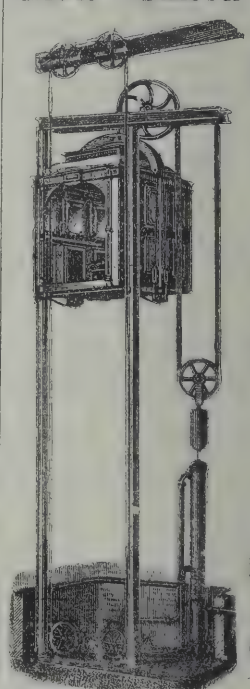
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respective borough members, so that in this case, which could not affect the interests of a single person north of Barnsley or south of Derby, the member for a borough in the north of Scotland and the member for one in the extreme south of Ireland would be whipped each by his own town clerk to vote against this private Bill. When it is borne in mind how great (and, speaking generally, justly great) is the Parliamentary influence of the corporations, whose councillors are elected very often through the same organisations as are employed for the political elections, it can readily be conceived how great a bar to the initiation of an enterprise which requires Parliamentary sanction is the mere risk of having to face such an opposition. It is hardly too much to say that such a one-sided use of the united power of these local bodies (power granted, be it remembered, for the common good, not for the protection of selfish interests) for the purpose of stifling a new enterprise at its birth, and so securing for themselves a monopoly which they would not otherwise be entitled to, savours more of oppression than of fair dealing. Now, oppression is not to be tolerated on the part of our local bodies. If we were capable of tolerating injustice we should cease to be a people worthy of free institutions, and if the effect of the acquisition by the corporations of these trading undertakings is to put partiality in the seat of authority, then the cost of municipal enterprise will be much more serious than any that has yet been contemplated.

Surely the corporations have forgotten the sins whereof they have been purged. It was because of the monopolies and restrictions which the old self-elected corporations imposed on the trade of the towns that, strong as they were in Parliamentary influence (for the old corporations actually elected the borough members themselves), they forfeited the public confidence, and they were abolished by the Act of 5 and 6 William IV., cap. 76, section XIV. of which read as follows :—"Be it enacted that, notwithstanding any custom or by-law, every person in any borough may keep any shop for the sale of all lawful wares and merchandise by wholesale or retail, and use every lawful trade, occupation, mystery and handicraft for hire, gain, sale or otherwise within any borough." The consequence of this new policy of freedom for industry is the extraordinary growth of population and resources which has succeeded the reform. But the oppressive treatment of the electrical traders would seem to indicate a reactive tendency towards the old mischief again.

All this points to yet another danger of municipal trading —a danger, that is, to the stability of the municipal institutions themselves. These institutions, which are the most ancient, and, as they exist to day since their constitution was broadened by the Act referred to, among the most efficient examples of the self-governing faculties of our race, are deserving of our uncompromising support. The towns are, besides, dependent upon them to an incalculable extent for some of the first necessities of modern life. It is therefore a duty imposed on all by self-interest, as well as by gratitude and patriotism, to point out fearlessly the insidious error which is creeping into the practice of these bodies, and to use every effort to arrest it before the decadence becomes irretrievable. It would be wrong to overlook the serious state of the municipal institutions of America, arising, as competent advisers tell us, from the unlimited enlargement of the functions of the Government. The consequence is that public employment is excessively multiplied, and the municipal debts have risen to colossal dimensions. The affairs of the cities are left to professional politicians, and are conducted in such a nauseous atmosphere of class corruption and party trickery that the better class decline to have anything to do with them. A distrust of the servants and representatives of the people is everywhere manifest. We are a long way from such a state of things in this country, but can it be doubted that this ambition to embark in trade will be injurious to the corporations?—for their efficiency must depend, not upon the profits which they may be able to make out of their various trading advantages, but upon the degree to which they can absorb into themselves the energies of the most capable citizens. Is a course of action which puts them in competition with their own traders, which results in the imposition of something like an octroi duty upon a commodity that is fast becoming the necessity of every manufacturer, calculated to secure the respect of the trading community? Further, is it calculated in the long run to secure the respect of the working class? The expenditure of public money in a district; the establishment of municipal works; the employment of large numbers of the ratepayers at municipal wages; these are very popular things while they last, but they are also very difficult things to stop, for they necessarily create in the minds of the more ignorant of the ratepayers false ideas of the functions of the local government. How can you blame the wage-earner if he comes to think that it is the duty of the municipality to find employment for him, and how can you blame him if, when the inevitable disillusionment comes, he is disappointed and disgusted on finding that he is mistaken? Municipal trading is thus infected with the communistic poison. It begins

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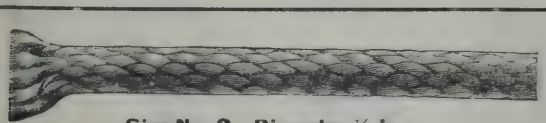
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by alienating the confidence of the manufacturers, and ends by alienating the confidence of the workmen from institutions which, so long as they confine themselves to their proper functions, are productive of such great good to the country. Surely, therefore, the corporations would be well advised to confine their functions to those important public matters in which all their constituents are equally interested, and which must of their nature be performed by the ratepayers in common, and which involve no taint of partiality or suspicion of class bribery; such are the administration of justice and police, the care of the public health, the provision of parks and open spaces and so forth. Let them leave to private enterprise whatever private enterprise will undertake, keeping themselves in an impartial position, so that they may secure the unsuspicious loyalty and obedience of all the traders to the regulations which they impose upon them for the protection of the common interest. Let them adhere to the spirit of the constitution of Alabama, which declares "That the sole and only legitimate end of Government is to protect the citizen in the enjoyment of life, liberty and property, and when the Government assumes other functions it is usurpation and oppression."

A policy of antagonism to the trading companies on the part of our corporations would be an undoing of their own work. The immediate cause of the active commercial energies of which so much jealousy has been expressed is the liberty which has been secured to the individuals in the towns by municipal institutions, "that liberty which is the nurse of all great wits," and for these institutions to interfere with and repress trading liberties is both unnatural and self-destructive.

The following words, addressed by one of the great apostles of liberty to the Lords and Commons of England, so long ago as the first half of the seventeenth century, are still pregnant with wisdom worthy of the attention of our reformed municipalities on the eve of the twentieth :—

"Ye cannot now make us less capable, less knowing, less eagerly pursuing of the truth, unless ye first make yourselves, that made us so, less the lovers of our true liberty. We can grow ignorant again, brutish, formal, slavish, as ye found us, but then ye must first become that which ye cannot be, oppressive, arbitrary, and tyrannous, as they were from whom ye have freed us."

SOCIETY OF ENGINEERS.

The first ordinary meeting of the Society of Engineers for the present year was held on Monday evening, February 6, at the Royal United Service Institution, Whitehall. Mr. William Worby Beaumont, the president for 1898, occupied the chair, and presented the premiums awarded for papers read during that year, viz.:—The President's Gold Medal to Mr. William Fox for his paper on "Reservoir Embankments, with Suggestions for avoiding and remedying Failures." The Bessemer Premium to Mr. Sherard O. Cowper-Coles for his paper on "Protective Metallic Coatings for Iron and Steel." The Rawlinson Premium to Dr. J. C. Thresh for his paper on "The Protection of Underground Water Supplies," and a Society's Premium to Mr. George Thudichum for his paper on "Bacterial Treatment of Sewage."

Mr. Beaumont then introduced the President for the present year, Mr. John Corry Fell, to the meeting, and retired from the chair, receiving a hearty and unanimous vote of thanks for his services during the past year.

Mr. Fell then proceeded to deliver his inaugural address.

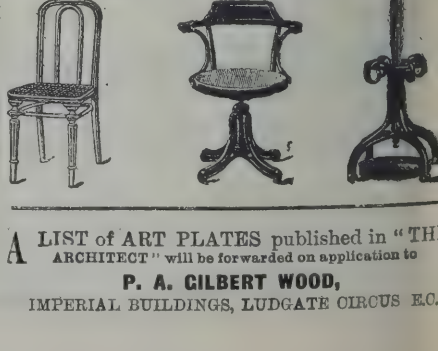
After thanking the members for having elected him to the chair, the President referred to the present position of the Society and the work of the past year. Its financial position, he said, was very satisfactory, as shown by the auditors' report and balance sheet, and it had increased its numbers during 1898. The papers read had been of the usual interesting and practical character, and the visits made to works during the vacation had been equally interesting and instructive. He regretted to say that during the past year they had lost by death no fewer than six of their honorary members, namely, Sir William Anderson, Sir Henry Bessemer, Sir James N. Douglass, Sir John Fowler, Lord Playfair, and Sir Robert Rawlinson. The Society, however, was honoured by having the vacancies thus created filled by Sir John Wolfe Barry, Sir Albert John Durston, Sir David L. Salomons, Prof. A. B. W. Kennedy, Mr. W. H. Preece, and Mr. Alexander Siemens.

Turning next to the question of the protection of inventions by patents in engineering practice, the President pointed out that it was a curious fact that civil engineers availed themselves less than any other members of the profession of the privileges accorded to inventors by patents, designs, or copyright pro-

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tection. This, he said, was perhaps due to the circumstance that civil constructive engineers took a higher professional standpoint, and considered that the credit attached to their designs, however useful or beautiful, was a sufficient reward without seeking to retain a monopoly in them by patents, even for a time. This view, he said, did not extend to the mechanical branches of the profession, where every little detail improvement in machinery was protected, and a commercial end thus served. He did not, however, see why the same principle should not be observed by the civil engineer in regard to bridges, roofs, girders and the like constructive details.

As regards invention as represented by nationalities, the President observed that it had been said that the British nation was less inventive than the American. Prior to 1883 that view appeared to be supported by the number of patent applicants in the United States as compared with those in Great Britain, which in 1883 was over 30,000 for the United States, and barely 6,000 for Great Britain. This discrepancy appeared to have been accounted for by the high rate of Government fees in Great Britain, which were much in excess of those in the United States. Upon a reduction of the fees in 1883 the applications rose from 5,993 in that year to 17,110 in 1884, and they had now reached over 30,000 per annum, and Great Britain now took a foremost place in the inventive world. Taking an average of the last ten years, about half the applications come to completion. About 20 per cent. of the completed, or 10 per cent. of the applications, are renewed up to seven years, and 5 per cent. of the completed, or 2½ per cent. of the applications, are maintained to fourteen years.

With regard to successful invention, the President observed that the conditions should be the result of analysis or synthesis, not mere chance dashes into an unknown field. The method of analysis may be defined to be first an appreciation of a want to be met, with which the inventor is familiar, and then, by a laborious selection from what is known, the development, by successive efforts, of a combination of suitable means to meet the want.

The President then went on to point out the necessity of having a special court for the trial of patent actions. He had for long past been of opinion that such a court should be established, and of late the Lord Chancellor and other judges had expressed the same views. They had publicly attributed the block in the Law Courts to the increasing number of patent casec and the inordinate time many of them occupied. So serious was the condition of matters that the Lord Chancellor upon one occasion intimated that it might be necessary to hand over to a special tribunal the trial of cases for which the ordinary method of procedure appeared to be inapt. Mr. Justice Romer, too, who has had very considerable experience in trying patent cases, has also expressed the opinion that it was a great hardship that the proper business of the Court should have to wait for the trial of prolonged patent actions. The President pointed out that the remedy undoubtedly was the establishment of a Patent Court presided over by a judge possessing the necessary qualifications for dealing with patent actions, and whom it would not be difficult to find.

The President then proceeded to give a short summary of the advances made of late years in various departments of engineering, in which he first referred to the increase in horse-power in engines which was obtained from a minimum of dead weight of material, and he explained the way in which it had been effected. In steam boilers, too, great advances had been made by the development of the water-tube system. He then referred to the progress made in electric lighting, and in the application of electricity to the driving of machinery, especially in its use on railways. In this latter connection he described the recent development of the electric railway system in the metropolis. Improvements in gas-lighting and the progress of acetylene as an illuminant were then discussed, and, finally, the latest phases of naval construction, including submarine torpedo-boats, were considered.

The address was listened to with marked attention by an appreciative audience, and at its close a hearty vote of thanks was accorded to the President.

HOUSING OF THE WORKING CLASSES.

A REPORT on the application of the Housing of the Working Classes Act to local requirements has been drawn up by Alderman W. Thompson, of the Richmond (Surrey) Town Council, at the request of its health committee. Mr. Thompson goes into the question thoroughly with figures and full details, devoting special attention to the dwellings for workmen erected by the Richmond Council. In his general survey of present conditions he points out that, broadly speaking, the housing difficulty in large towns is essentially a land question and in rural districts a wages question, and that in order to prevent recurring and increasing evils in this respect it will be necessary

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to devise some means for dealing with the "corner" in urban land values and with the improvement of the income of the agricultural labourer. The attempts made to deal with similar districts are described. In Liverpool accommodation is provided at the rate of about 1*s.* per room per week. The rent for two rooms and a scullery is 2*s.* 6*d.* a week. There is no loss, and it is possible the terms may be reduced. In the dwellings provided by the London County Council the rents vary from 3*s.* 6*d.* to 5*s.* for one room, and 8*s.* to 12*s.* 6*d.* for four rooms. The Artizans' Dwellings Company provide accommodation in Noel Park at 6*s.* per week for four rooms and 11*s.* for eight rooms. The Alderman grafts another scheme on his housing project, for he would confer on a tenant who had paid 1*s.* 4*d.* a week in his ordinary rent towards the sinking fund, at the end of forty-two years, an old age pension of 5*s.* per week in the form of rent charges on the houses. "It is desirable, then," Mr. Thompson concludes, "that every encouragement and facility should be given by the Legislature to the sale and appropriation of sites for workmen's dwellings, and for the continuance of cottages on existing sites." The following are among the recommendations made to assist in this direction:—That owners of all unoccupied land (except open spaces, parks, and other specially exempted lands) in urban districts should be required to declare the fair market "site value" of such land, and that it should be rated for local purposes on a percentage of half such "site value"; that local authorities should be empowered to take vacant land compulsorily for workmen's dwellings at the fair market "site value" thus obtained by a simple procedure on the lines of the Allotments Clauses of the Local Government Act, 1894; that both the State and the local authorities should give facilities for the extension of light railways, tramways, and workmen's trains to the outskirts of large towns at cheap fares on the zone system; that the Government should lend money to local authorities for erecting workmen's dwellings at 2½ or 2¾ per cent.; that in every district a standard rental per cubic foot should be fixed for workmen's dwellings, and that total or partial exemption from existing and future land taxes or taxation of ground values should be granted on a sliding scale (according to rental) to municipalities, companies, landowners, and others letting their cottages below this standard rate (a rental of 6*d.* per room per week in rural districts, and 1*s.* per room per week in large towns, with intermediate amounts for small towns, is suggested as a fair basis for arriving at a definite conclusion on the subject of such standard rental); that half of the rates of such cottages should be remitted, as in the case of the Agricultural Rating Act, the money to be obtained if necessary by a tax on ground values or a municipal sur-tax on the death duties; that no cottages should be entitled to such exemption except such as the sanitary authority should certify to be in a proper sanitary condition. Mr. Thompson puts forward as a reform urgently needed the extension of the period for repayment of loans made in connection with municipal workmen's dwellings. He would like to see the time extended to 100 years in the case of land, and to sixty years in the case of buildings and other works, and he recommends that steps should be at once taken by local authorities to secure this change.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

Applications for Patents.

1558. Lewis Benson Kennedy, for "Improvements in brick presses."

1565. Edward Henry Hurry and Harry John Seaman, for "Improved refractory-lined rotary cement furnace and method of lining the same."

1573. Hugo Werths, for "An improved process for the production of building stones, bricks, and like articles."

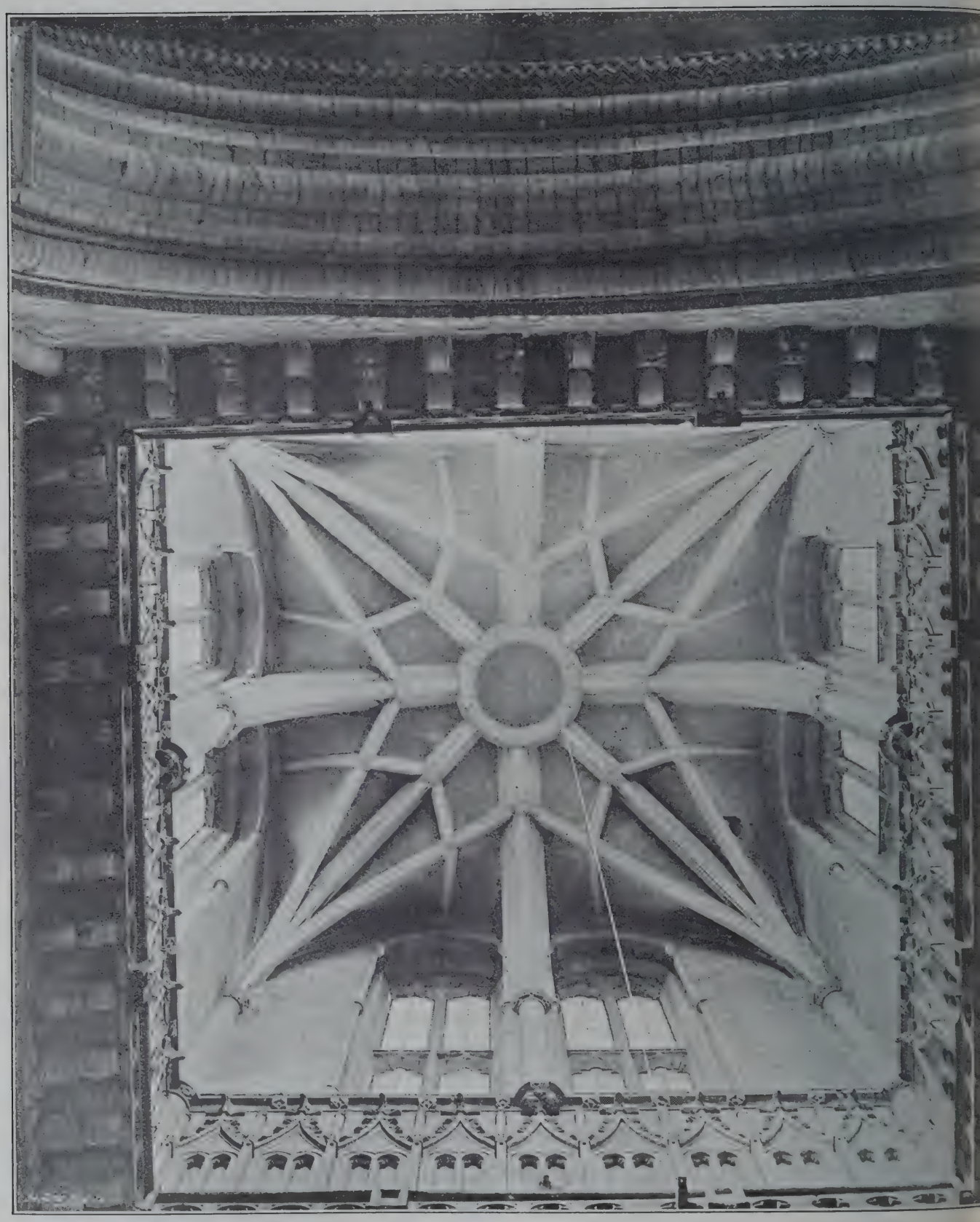
1756. Preston Davies and Edward John Vavasour Earle, for "Improvements in and relating to drying apparatus applicable for use in the manufacture of Portland cement and for analogous purposes."

1762. John French Golding, for "Improvements in the construction of partitions for buildings and other structures."

1987. Julien Flueret, for "Improvements in building construction."

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CATHEDRAL SERIES, No. 198.—DURHAM: EXTERIOR, LOOKING SOUTH-WEST FROM CHURCHYARD.





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ST. GEORGE'S SCHOOLS, SOUTH STREET, MAYFAIR, W.: SOUTH FRONT.

E. R. ROBSON, F.S.A., Architect.



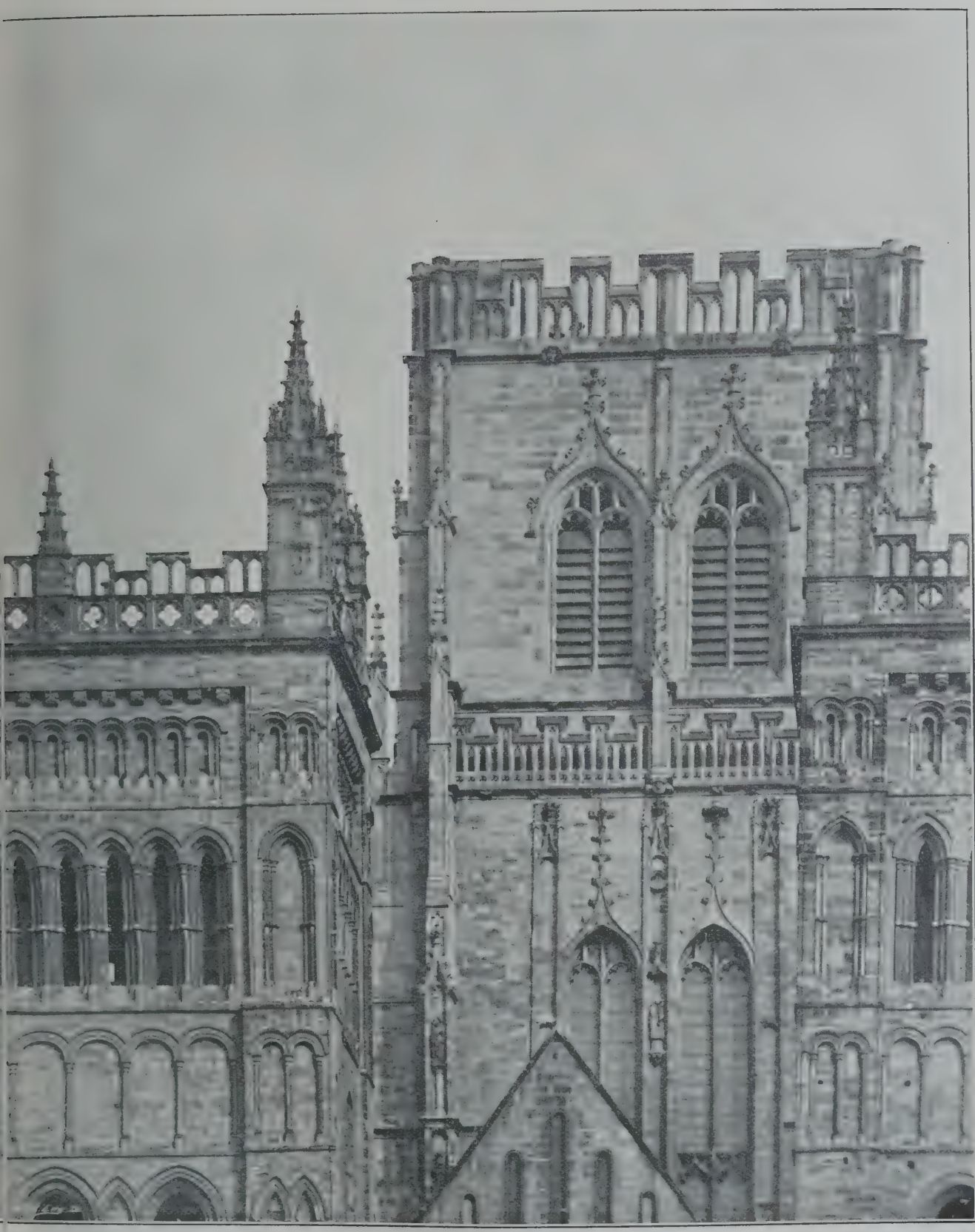


FROM A PHOTOGRAPH BY J. BULBECK & CO., 166-8 STRAND, LONDON

INK-PHOTO. SPRAGUE & Co. LTD. 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

ST. GEORGE'S SCHOOLS, SOUTH STREET, MAYFAIR, W.: NORTH FRONT.

E. R. ROBSON, F.S.A., Architect.



TOGRAPHED BY S. B. BOLAS & CO., 77 OXFORD STREET, W.

CATHEDRAL SERIES, No. 200.—DURHAM: DETAIL OF TOP OF CENTRAL TOWER.

The Architect.

THE WEEK.

FROM what was said in the House of Commons this eek it would appear that the contest between science and rt for the ground at South Kensington has been arranged. he Royal College of Science on the east side of the xhibition Road will continue to be devoted to scientific urposes, although not necessarily for classes. But the ther buildings which science demands are to be erected n the western side of the road. Art will consequently be ble to monopolise the land on the east side. It is under- ood that the new buildings for the enlargement of the outh Kensington Museum will be shortly commenced, nd it is hoped that the foundation-stone will be laid by ER MAJESTY early in the autumn.

THE differences between estimates and accounts for orks executed which arose in some of the buildings of the etropolitan Asylums Board have made it necessary to ggest that a new system of conducting works was to be lopted. If hospitals have to be raised to meet epidemics cannot be expected that the work will be as economical that in ordinary buildings where there is no hurry. oreover, it is necessary in hospitals to aim at extra curity, for as there is a host of rival theorists to be tisfied no ordinary precautions will suffice. The public o not realise those plain facts, and they imagine that spitals can be very safe and very cheap. They will be atified when they learn that for the future "every archi- t employed by the managers be engaged under an agree- ent sealed by the Board, and that it be referred to the works mmittee to draw upon and submit to the managers the m of such committee." The works committee being of inion that the principle which this motion embodied should affirmed, instructed the clerk to draw up the draft of an reement with an architect, and they recommended that ery architect employed by the managers be, as a general le, engaged under an agreement sealed by the Board. They o considered the question of the desirability of laying wn certain regulations having reference to the duties, ges, &c., of clerks of works in the managers' employ, and ich they had prepared, and recommended that the power appointing clerks of works and of fixing their remunera- n be delegated to the works committee. The new system inspired by a decree to promote economy, but we doubt under circumstances like those which prevailed during ent years the cost per bed can be much diminished by e most elaborate agreements with architects and clerks of rks.

THE proposal to sell TELFORD'S Menai Bridge to the al authorities of Carnarvonshire and Anglesea for ,000*l.* will, we hope, lead to the conservation of a struc- e of which England should be proud. The bridge was mmenced eighty years ago, and took about seven years complete. A more graceful structure of its class is not be found, and it has stood well. It is commonly sup- sed that the early engineers were indifferent to the ength of materials, but TELFORD insisted on each bar ing tested by a strain of 11 tons per square inch. It s assumed that the tenacity of the best Shropshire iron s 50,000 lbs. per square inch, which was not an exaggera- n. About 2,200 tons were used. For the masonry glesea grey marble was employed, the price paid by the vernment for it being 6*d.* per ton. The masonry of the rs above the roadway was strengthened by drilling holes ough the stones of each course, in which iron bolts were erted. There are four sets of main chains, each being de up of 935 bars. The saddles and ties for them are cast-iron, and TELFORD adopted the precaution of g on the apex of each pier wrought-iron rollers in order ovide for any expansion or contraction of the chains. ridge on the same principle would not now be attempted, l for that reason great care should be taken of LFORD'S work, for it marks an era in the history of civil ineering.

ENGLISH judges generally hold that when a building in progress is destroyed by fire the contractor cannot recover from the building owner, and the same rule applies to contracts for additions unless in special cases where the damage is unforeseen. But if there is a clause to rebuild in case of fire the contractor will of course be liable. Fortunately cases of the kind do not often occur in England, but an action relating to a fire has been tried in Hamilton, Canada. A building was being altered when a fire broke out. At the time a balance of 1,000 dols. was due to the builder for work done and material supplied since the last certificate was issued. The owner declined to pay because, by one of the clauses in the contract, he was to be relieved from liability in case of fire arising during the progress of the work. A common clause relating to the owners insuring the premises was struck out, and it was therefore inferred that the builder was to have secured himself against such a contingency by insuring. The owner had not received any money on account of insurance, and Judge SNIDER decided that there was no fault on either side, but the fire had determined the contract, and there was no cause for action. The suit was dismissed, but the action is likely to be heard again on appeal. There will be differences of opinion among lawyers about the judgment. By an American case which was decided some twenty years ago it was laid down that where a sub-contractor has performed substantially all he contracted for, and, before the entire work is performed by the principal contractor, the building is destroyed by fire, and the owner and the original contractor make a settlement in which deduction is made of the value of whatever remained unperformed on the sub-contract, the sub-contractor is entitled to recover for the work actually done by him, notwithstanding that the sub-contract is not completely performed. Now, in all equity, a similar principle should be applied to the relations of contractor and building owner. All materials supplied should be paid for, and any labour that was completed, the architect being the sole judge. In America, owing to the numerous fires, the law on the subject should be more definite than it appears to be. But English builders should derive a lesson from the HAMILTON case. There is a little uncertainty in English Courts about the application of law, and on that account it will generally be prudent to take the precaution of insuring as far as companies are prepared to go, for the premium to be paid is not easily ascertained.

THE paintings by JOHN PHILLIP are now so costly the humble origin of the artist is likely to be overlooked. According to Mr. ROBERT WALKER, who delivered a lecture in Glasgow on the painter, PHILLIP began life as a messenger in a tinsmith's shop, and afterwards was apprenticed to a house-painter. He received little instruction before he painted signboards, and then advanced to portraits. Determined to see the Royal Academy exhibition, and having no money to go to London in a regular way, he hid himself as a stowaway on board a brig belonging to a friend of his father's. Arrived in London, he was kept two days shifting cargo, and got one day to himself to see the exhibition. He made a long day of it there, went back to the brig, and returned to Aberdeen. Shortly after his return his work attracted the notice of Major GORDON and Lord PANMURE, the latter of whom generously offered to defray the cost of young PHILLIP'S art education in London. PHILLIP attended the Academy schools, made steady progress, painted portraits, and exhibited at the Academy and other London exhibitions. He returned for a few years to Aberdeen, and finally settled in London in 1847. He had by this time painted several very meritorious pictures, mostly of Scottish subjects, something after the style of WILKIE. The turning-point in his life came in 1851, when, on account of a failure in his health—his health never was good—he paid a lengthened visit to Spain. His art henceforward took a more individual and more vigorous form of expression. Influenced by the great pictures he saw, and by the picturesque and strange life that environed him, he gave free rein to his natural love of colour and vivacious composition, and became a distinctive artist, whose work commanded the attention of both fellow-painters and the public. Henceforward his chief triumphs were won in depicting Spanish scenes. His death came suddenly in 1867, when he was barely fifty years of age.

THE LEIGHTON BEQUEST.

DURING Lord Leighton's lifetime it was not generally supposed he was wealthy. The prices he received for his pictures were below those paid to several of his contemporaries. On the other hand, his position necessitated a large outlay. Officially he was the representative artist of Great Britain, and it was incumbent on him to demonstrate the fallacy of the ordinary notion of the inevitable tendency of artists, and especially of painters, to gravitate to a Bohemian existence. The President was a fine gentleman by nature, and did not need any aid of a Turveydrop to acquire the polished air of which society approves. He exemplified in his own person the happier condition of modern painters when compared with their predecessors. It seemed incredible that he could have belonged to a body of which one prominent member named James Barry appeared in the streets wearing a coat of green baize stained with paint, and another named Richard Wilson was glad to turn his unsold Classic landscapes into waistcoats. Neither of those early Academicians could have anticipated a time when a painter who produced few portraits, and who endeavoured to follow ideals which were not those of the market, would be able to enjoy not only comfort but luxury. But still more remarkable to those artists and many who followed them would be the fact that after living expensively Lord Leighton would have bequeathed 10,000*l.* to the Academy. Not one of his predecessors in office was so munificent. And yet they had fewer calls on their purses, and the majority of them as portrait painters followed a branch of art which is the most liberally rewarded of all in this country. In many ways Lord Leighton departed from precedents, but never was he more original than when on his death bed he requested his sisters to give so large a sum to the institution he had adorned.

The gift being unrestricted by conditions, it has required a couple of years to determine the purposes to which the money could be most fittingly applied. The Academicians, while endeavouring to use the bequest for the advantage of living artists, would naturally wish to create a memorial of the generous donor. Lord Leighton was so wide in his sympathies, a disbursement for any purpose connected with art could easily be associated with his name. But as a thinker there was one purpose which seemed paramount with him, and that was the application of art for the public benefit and delight. In his first presidential address we find him regretting that through the absence of fostering conditions works of art are now too often considered as merely profitable merchandise or vehicles of speculation. He followed Agrippa in believing that works of art were far more useful when seen in public places than when exiled in private mansions. But as the President knew, the private commissions produced most lucre, and therefore he warned students, saying, "The day on which the deadening fumes of this insidious lust for gold cast their first blurring mists across the pure light of his ideal is the herald of a struggle on which hang not only the wreck or the triumph of his better self, but the marring or the maintaining in his art of whatever is that better self's reflection."

The Academicians have therefore decided that the money is to be expended not in remembrance of Leighton the painter of easel pictures which were marked by prettiness, but of Leighton the advocate of the beautifying of public places, covered or uncovered, and the versatile artist who admired architecture and sculpture equally with painting. He had made sacrifices to promote wall painting, and was ready to do more in that way if the public had been less indifferent. The resolutions of the Academicians are as follows :—

That the money received from Mrs. Orr and Mrs. Matthews, sisters of Lord Leighton, P.R.A., in memory of their brother, be invested in Consols or other securities allowed by law as a separate trust fund to be called "The Leighton Bequest." That the income derived from this fund be spent in acquiring or commissioning works of decorative painting, sculpture and architecture. The paintings to be placed in public institutions; the sculpture in or on public buildings and in the open air, such as in parks, squares and streets; the architecture, alone or in combination with sculpture, to be in the form of fountains, seats in marble, bronze, or stone, lamp-posts and similar objects for the adornment of public places. The income of the fund not necessarily to be spent annually, but, if thought desirable, reserved and accumulated for a period not exceeding five years.

It will be observed that the inconvenience caus by one of the conditions of the Chantrey Beque will not be repeated. The sculptor, or rather his lawye insisted that the only works which were to be purchas must have been exhibited; but the highest class of wo are not necessarily to be seen in exhibition rooms. Unc the Leighton Bequest works can be commissioned as w as acquired, and the fear of the risks which must be curred in producing examples of decoration need no long be an obstacle.

If we assume that the sum available is 400*l.* a year interest on 10,000*l.*, then by refraining from a purchase five years there will be 2,000*l.* to expend on a single wo It is possible, however, that under existing circumstanc more benefit will be derived by adhering to an ann outlay. There is a notion that such work as is conte plated is exceedingly costly. Consequently individu hesitate about giving commissions which they believe wo involve them in an expenditure of some thousands pounds. When Baron Grant transformed Leices Square, although the sculpture is not of extraordinary me he had to provide a sum which few but company promot could afford to give away. His spirited action was imitated. Municipal authorities are also prevented fr expending much money on art in any form. But if it co be demonstrated that there were artists who were sec against the fumes of the insidious love of gold, and who four or five hundred pounds could enrich a public place w something which, although of modest proportions, was a th of beauty and therefore a joy for ever, then we might exp to see many patriotic citizens prepared to give commissi for such ornaments. We believe that ignorance about extent of responsibilities is as operative as indifference preventing people from enriching towns with decorat painting and sculpture. If another "Man of Ross" w to arise with as much esteem for the æsthetic as for useful, he would demonstrate that art is not beyond attainment of philanthropists who are not millionai John Kyrle would at least endeavour to realise Ruskin's advice :—"If you carve a piece of stone and it on the outside of your house it will give pleasure every person who passes along the street—to an innun able multitude instead of a few."

Abroad if not with us there are many instances works which embellish towns and cities with their cha and yet could not have been very costly. The "Go Merchant" of Nuremberg is a personage of unive renown. So is the impudent "Manikin" of Brussels, has his tailors and officers. Quentin Matsys's "Well" several niches at the corners of streets have helped to incr the reputation of Antwerp. It requires education appreciate Notre Dame, Paris; but the wicked spirits seem to revel in the confusion of Paris are better kn than any of the literary cynics. In old German to fountains are to be found which gratify all eyes without diminution of their hydraulic usefulness. Very s squares are to be found in Paris which by the introduc of a statue or two become entirely different from our ra enclosures. What is needed in England is some on take the initiative and to provide works of lighter more pleasing character than the massive portrait-sta which usually appear to be out of place when surrou by trees or shrubs. They are generally memorials respect which is not enduring. The men who are supp to be "historic celebrities" very often are forgotten be a generation passes, and it is hard on people hereafter we should appear to insist on their acceptance of favourites, whose claims to esteem may be falsified in a period.

Unless it can be increased by donations from sources the revenue derived from the Leighton Bec cannot accomplish much. There are opportunities expend one hundred times the amount if such work those suggested by the Academy's resolutions are t realised. But what can be done is to suggest wha practicable, and if a happy selection can be credited t Academy there need be no doubt that liberal support be forthcoming. As in other things, the first effort i hardest to accomplish.

HE EVOLUTION OF THE ENGLISH HOUSE.*

NE of the advantages of the theory of evolution is in giving the *coup de grâce* to the stereotyped method writing histories. That theory is practically inapplicable individuals, for the degrees of progress in one human ing are too infinitesimal to be measured by any philo- phic scale. The old ADAM is still manifest in each of s sons, especially in their weakness, which is as primitive any archæologist can desire. Now, histories used to e concern only about a limited class of individuals who ed in the atmosphere of courts, with an occasional excur- n to battlefields, as if for a change of air. As men of t class are much the same in all ages, the process of velopment could not be exemplified by them. It came therefore necessary to select materials of another d. "The History of Europe" consequently became The History of Civilisation," and GUIZOT supplanted SSELL. "The Social England Series," of which the lume relating to the house is before us, is another tance of the application of the theory. It disclaims graphical aims, for, as Mr. COTES, the editor, says, he stability of law that is seen in a large number of tances cannot be discovered by watching single lives, wever exalted." Consequently, the attempt is being de by him and his co-operators to give an account, t of what the units may have done, but of the work of millions. Instead of vague allusions to the gorgeous- s of palaces, it was proposed to "observe the changing les of building, distinguish the international influence, part that the facility of obtaining material played, and ice the gradual evolution of the rooms, the way that y were adorned and furnished, to see how far in beds l baths, in the provision for study and privacy, civilisa- n was advancing."

Students of architecture have had an inkling of the ject. The Greek temple, with which the art was posed to begin, was usually explained in the first books into their hands to be only a glorification of the Greek tage. The cottage was afterwards supposed to be a ivation of the tent. But so simple a solution of an torical difficulty is no longer acceptable. In our time tages and tents are scrutinised, and little value is ached to them unless shelters resembling them are to be nd somewhere in use on the globe. "Two thousand rs have rolled in vain over the cabin of the Irish sant," was the conclusion of TOM MOORE, the poet, en he attempted to write the history of his country, and hat unfortunate island almost prehistoric conditions of can be observed in other things beside houses, but ewhere progress has signified destruction, and for dence of a vanished past it is necessary to turn to regions ere the law of progress is almost a dead letter.

England has been transformed as much as most coun- s, but there are in it survivals of remote times, and ong them are enough examples of houses to serve the poses of inquirers who desire to contrast the present h the past. The charcoal burner's hut recalls the primi- e circular habitations. There are many references to the stence of dwellings which apparently were similar to it early legends. According to the late Professor W. K. SULLIVAN, who was the most remarkable union of the ientist and the archæologist seen in this century, the ient mode of constructing them in Ireland was "by king two basket-like cylinders, one within the other, and arated by an annular space of about a foot, by inserting ight posts in the ground and interweaving hazel wattles ween, the annular space being filled with clay. Upon cylinder was placed a conical cap thatched with reeds straw." The round hut was not peculiar to the western nds, and, judging by the remains found at Glastonbury, parts of the circle were not at equal distance from the tre. Progress in building is dependent on tools. It comparatively easy to make wattles subservient to the ntions of the old house-builder, but to operate on trees ired aid which he did not possess. It is therefore sible that beehive houses were erected in Ireland for a ; period before the English round houses were aban- doned. The reason is that boulders of small size and other field stones were to be picked up in Ireland and could be used in walling without any change from the form they received during their migrations in the glacial period. It was therefore easy to have a house that was rectangular in plan, like the oratories which are still to be seen on the west coast. But as soon as tools were to be obtained which enabled the races that lived in England to operate on trees a new era began. It could not, then, be said that 2,000 years were to pass in vain over the English habitation, for the power of adapting materials was too fascinating to remain unexercised.

It is remarkable at first sight that a similarity exists between early English houses and great engineering works like the St. Pancras Station, the St. Enoch's Station, the Hall of the 100 Metres in the Champ-de-Mars and many other examples of the latest engineering science, but in all the principle is identical. In one class of structure steel or iron trusses are continued from the ground to the centre of the roof, and thus form supports for the wall filling and roof covering. The western builders took trees from the forest and either bent them or shaped them into a curved form, so that when the pieces met they would form a pointed timber arch which became a principal for the habitation that was to be constructed. The origin of the arrangement is to be sought elsewhere. It probably began with the employment in more northern regions of a rover's boat that was no longer seaworthy as a shelter or dwelling. If DAVID COPPERFIELD firmly believed that Mr. PEGGOTTY'S upturned boat on the Yarmouth shore was a fairy palace surpassing all the Blunderstone Rookeries in the world, may we not imagine that those who had fewer means of comparison would be no less fascinated by arrangements which had withstood the fury of the seas and remained water-tight? The word *navis*, or "ship," from which our word "nave" is derived, suggests that the Romans were also aware of some affinity between boats and buildings. Wherever the framing came from it was an important discovery in English building. As Mr. ADDY says :—

> The wooden framework of a house is often far older than the outer walls, so that the plainest exterior may be accompanied by an ancient and picturesque interior. The change from the ancient method of supporting the roof by pairs of arches springing from the ground to the modern way of supporting it by "pairs of principals" was made very slowly. To us, in these days, the modern roof resting on upright walls of stone or brick seems too plain and simple a thing to be regarded as a triumph of human skill. And yet it is of comparatively modern date in the English popular art of building. Nowhere is the spirit of conservatism more conspicuous than in architecture. As the Romans usually framed their roofs with tie-beam and king-post, it is strange that the English people should have been so long in adopting this method of construction.

The old surveyors regarded the bay as the standard of measurement. Thus, John Harrison, who about the year 1637 made a survey of the estates of the Earl of Arundel in South Yorkshire, speaks of "a dwelling-house of 4 bayes, a stable being an outshoot, and other outhouses are 7 little bayes, besides a barne of 4 bayes." Just as the buildings were measured by the number of bays which they contained, so they were sold or let by the bay, as cloth is sold by the yard. In deeds and wills of the sixteenth and seventeenth centuries houses are very often estimated or described by the number of bays which they contain. Often, too, we meet with deeds of this period in which bays of houses or other buildings are separately conveyed. In Derbyshire hay is sometimes sold by the "bay," and in the sixteenth century a "gulf of corn" was as much as would lie between any two pairs of "cruchs." Holinshed in 1577 speaks of "two-and-fortie baies of houses." In "Measure for Measure" Pompey, the servant, says :—"If this law hold in Vienna ten year, I'll rent the fairest house in it after threepence a bay."

Dr. JOHNSON explained "bay" as a common term in many parts of England for the space between the main beams of the roof; so that a barn crossed twice with beams was a barn of three bays. In Staffordshire the word was applied to "the two open spaces of a barn on each side of the threshing-floor."

The sides, spaces, or aisles were not possible without more skill in construction. A section of a barn at Bolsterstone in South Yorkshire, in Mr. ADDY'S book, shows the difficulty of the builders, who were obliged to employ a vast amount of timber when they wished to have a tripartite

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* *Social England Series :—The Evolution of the English House.* By Sidney Oldall Addy, M.A. With 42 illustrations. London : Swan Sonnenschein & Co., Limited.

division in their structures. It was necessary to supplement the timber by wattles, with turf or moss for an outer covering. It is often objected to the Irish peasant that he allows a pig to share his cabin, but in the English as in Frisian and Saxon farmhouses, the cattle appeared to be as important as the human inhabitants. It was not until 1419 that the practice of keeping cows and pigs in London houses was prohibited, and long afterwards the custom was retained in the country. The introduction of lofts was an advance in refinement, and, according to Mr. ADDY, "people are still living who remember how farmers' men-servants in England used to sleep on the hay in a gallery or hayloft over the cows."

Town houses being mainly intended for business purposes, it was to be expected that the sites should be utilised to their fullest extent. Narrow streets not only favoured protection, for the occupiers could easily combine in case of robberies, but the buyers were more satisfied when they saw a variety of goods within their reach. There were not only booths on the ground level but also below the ground, for cellars are not a modern invention. Business purposes in all ages appear to have been the first consideration with us in England, and the projecting upper storeys, which of late years are accepted as evidence of the old English love of the picturesque, may have arisen from the endeavour "to give shelter from the sun or rain to stalls and booths, and to goods displayed in the streets." In country houses their value must have been derived from other considerations.

The chimney affords an apt illustration of the evolutionary process. One which survived until a recent time in Oughtibridge Hall, Sheffield, exemplified the old arrangement by which it was placed in the middle of the living hall, and the stack was carried through upper rooms as if it were a prop instead of a weight. In the sixteenth century LELAND expressed surprise at seeing flues carried up along the side walls of a room instead of obstructing the central part. Prior to 1419 wooden chimneys were allowed to be erected in London; in that year there was a by-law issued prohibiting the use of any materials for them except stone, bricks or plaster.

Windows also reveal the influence of progress. In Old English a window was an "eye-hole," and that does not suggest a large area to admit light and air. According to Mr. ADDY, "as late as the sixteenth century glass windows did not pass to the heir as part of the freehold estate, but to the personal representatives. They consisted of a series of movable casements, which could be easily taken out." It would be interesting to have the opinions of lovers of the good old times when, the manufacture of glass having advanced, it became easy to have more glass than masonry or brickwork in the front of a house. They must have believed there was an end of English building.

The manor-house was almost like a farmhouse on a larger scale, and the plan prevailed to a late period. As Mr. ADDY says:—"We know from many extant examples of the sixteenth and seventeenth centuries that the typical country house of the larger and better kind consisted of a 'house place' or central room, with a large room on either side of it, entrance to the building being obtained by a central door opening into the 'house place.'" The examples which he describes, viz. Padley Hall, Derbyshire; a house at Charney Basset, Berkshire; Beaurepaire, near Durham, are in a condition which can reveal the general arrangement adopted for the accommodation of country gentlemen and their retainers.

The castles were suited to an age of marauders, and were places of refuge as well as strongholds for chiefs who were generally robbers, although they considered themselves to be models of honesty. They were among the first structures which succumbed as civilisation was developed. But it is overlooked that church towers occasionally served as substitutes for keeps. They were planned to resist attack, and they could be employed for watching. As the castles died out progress introduced municipal buildings, which represented entirely new theories of government. It seems incredible that the ancient representatives of our county, city, urban and parish councils were compelled to deliberate in the open air; sometimes they were obliged to use churchyards for halls. Necessity and the weather obliged them occasionally to have recourse to the parish churches, which in Wales were employed as law courts.

Mr. ADDY'S book, it will be seen, treats of many interesting topics, and it is creditable to him to have compressed so much information within the limited space assigned to him. The volume will compel many to take a new interest in houses, especially those which belonged to ancient days, for since individuality has asserted itself in buildings, as in many other forms, it is not so easy to point to instances of evolutionary power. Mr. ADDY it is evident has accumulated materials which would enable him to write a much larger volume, and we hope to see a further explanation of the theory in the series. What he has produced should be considered as an introduction to the histories of English domestic architecture.

GLASGOW ARCHITECTURAL ASSOCIATION

AT a meeting of the above Association held in the rooms 187 Pitt Street, on February 7, Mr. G. S. Hill in the chair, a paper was read by Mr. John Lochhead entitled "Shop Fronts." The essayist shortly described the shops of the seventeenth and eighteenth centuries, and quoted several enactments passed about those times regulating the projection of stall-board resulting in the flat bow window, which was still a common feature of English shops. With the introduction of plate-glass, the necessity for numerous astragals had been done away with, and with the possibilities of having large windows in single sheets the desires of tenants had increased, and shops to please them must have the whole front practically one sheet of glass. It was almost always the desire of the tenant of a corner site to carry his windows unbroken round the corner, and this caused a great loss of appearance to the whole building, as all idea of strength at the corner was gone when the corner butt was dispensed with. The system of recessing the shop front and carrying along a colonnade was good, as it afforded not only protection to the windows, but also to the public while examining the goods on view. The interesting series of shops called the "Row" at Chester was referred to, where the first floor was also devoted to shops, access being obtained by means of a gallery running along at that level. The essayist advocated that greater individuality should be given to shops occupied by tenants carrying on different trades, and showed by means of photos and sketches the different treatment which could be accorded with pleasing effect to provision shops, public-houses, &c. In this connection also a large number of drawings were shown, illustrating the treatment which the upper portion of a show window could have either by dividing the pane by vertical or radiating astragals or by the use of etched lines, &c., round the panes, as only a height of 7 to 8 feet was required for the showcase in the window. The treatment thus given did not detract from the showing of goods, while at the same time giving a pleasing effect to the whole window. At the close of his paper the meeting accorded a vote of thanks to Mr. Lochhead.

THE SENEFELDER CENTENARY EXHIBITION OF LITHOGRAPHS, 1898-99.*

THE circumstances which led to the organisation of the exhibition are pretty well known; but for the sake of the record it may be advisable to shortly recapitulate them.

It had been clearly shown that the year 1798 was that in which the invention should properly be ascribed, inasmuch as it saw the discovery of what Senefelder himself called "chemical printing," the essential principle of lithography. An early representation to this effect was made by Mr. Joseph Pennell who pointed out to the Society of Arts the importance of the opportunity and the advantages that might accrue to the art by a formal celebration and exhibition of work. The Society from the years 1818 and 1819, when medals were awarded to Senefelder and Hullmandel, one for his invention, the other for skill in the use of it, has taken a keen and practical interest in the subject. Its *Journals* contain many important communications and from time to time papers have been read before it and awards made for various improvements. The proposal was therefore welcomed, and a committee formed to carry it out, but after several meetings and the most careful consideration it was decided to seek for some means of making the exhibition more comprehensive than was possible with the immediate facilities at the Society's disposal. Ultimately it was suggested that the Department of Science and Art should carry out the scheme, and hold a loan exhibition in the South Kensington

* A paper by Mr. Edward F. Strange, read at a meeting of the Applied Art Section of the Society of Arts

Museum. This proposal was accepted by the Department in July last; a committee, including the whole of that formed by the Society, with some few additions, was called together, and the exhibition opened to the public on November 21, 1898. It will remain open till February 28 next.

The total number of exhibits exceeds 2,200, and on the whole the collection is very representative of the artistic and historical sides of the art; but it was not possible at so short a notice to provide space for the important technical and industrial interests involved. These might well prove a subject for a future exhibition, if it should be found possible to hold one.

On the present occasion I do not propose to enter into any systematic examination of the history of lithography. But the exhibition has afforded a means of making comparisons between the varying fortunes of the art; and perhaps of arriving at an estimate of the characteristics of successive phases, with more accuracy than has hitherto been possible. To this end I shall direct my endeavours in the hope that the suggestions I have to place before you may be found worth consideration, discussion and, if necessary, refutation.

There still exists, if the published criticisms on the exhibition may be trusted, a considerable amount of ignorance as to the so-called "Polyautography," a collection of which prints occupies the earliest place at the beginning of the British section. Within the last few days the prints have been said to "appear to have been produced from drawings made on paper, whilst Senefelder drew directly on the stone." (As we know, one of the first things Senefelder invented was a transfer paper.) The writer goes on to remark, sagely enough, "But it is worth noting they were all by the pen, and consequently we may suppose chalk or coloured drawings were beyond the power of polyautography, which apparently resembled some of the processes still employed in offices for manifold copies." Now a conclusion of this sort really seems to call for a precise statement of the circumstances, as far as they are known, under which this special and easily recognisable class of lithographs came to be produced.

Senefelder came to London in 1800. He stayed with his agent, Philip André, who, says he, "kept me in a perfect seclusion from society, for fear of losing the secret, for seven months, before even the first step towards obtaining our object was taken." He did succeed in getting his patent, No. 2518, dated June 20, 1801, and returned to Germany, having "sufficiently instructed" André. "I also," says he, "made some progress in the aqua-tinta manner, in which Mr. Gessner . . . an artist of talent, drew some pleasing landscapes." (These, by the way, I have not been able to trace.) "I am convinced," he proceeds, "that the public would have a greater number of masterly productions of the new art before them if it had been my fortune to fall in with an enterprising printseller, who employed proper artists and undertook interesting works."

It seems very much as if, for purposes of his own, André had misled Senefelder, for one can with difficulty otherwise explain this complaint in the face of the fact that on April 30, 1803, André published "Specimens of Polyautography, consisting of Impressions taken from Original Drawings made purposely for this Work." André heads his title, "By His Majesty's Royal Letters Patent," and styles himself "Patentee." But, as a fact, he never took out a patent for any process whatever, and his "specimens are ordinary lithographs in the "pen manner." Senefelder was clearly under the impression when he wrote his book in 1817-18 that he had not had a fair chance at the hands of British artists. But André's prints are by Stothard, West, Barry, Fuseli, Sir R. K. Porter, R. Corbould, T. Hearne, W. Delamotte, T. Barker and R. Cooper, and surely no more representative set of artists could have been got together at the time. The earliest of these is by West, and is dated 1801. He evidently gave the process a fair trial, for in 1802 he produced another in the chalk manner. From this date until 1811 a constant succession of dated prints has been found of similar character. Afterwards, only a few, until 1816, the period of the last in the style. Most of these are in the so-called "pen-manner," or in imitation of engravings, etchings or woodcuts, but in the exhibition will be found, in addition to the print by West already mentioned, Nos. 13 and 14, by H. B. Chalon (1804), No. 35, by Fuseli, and No. 46, by Varley (1811), all in the chalk manner; while several are entitled "printed from stone," and No. 28, "printed from a pen and ink drawing on stone"—evidence as to their nature which is too explicit to leave room for any doubt. There are also numerous references to the "Polyautographic Office," and Volnieler printed the illustrations to the frescoes of the Chapel of the Holy Trinity, Stratford-on-Avon, before April, 1807, in precisely the same manner—"from stone, at the Polyautographic Press."

The preface to Francis Moser's specimen book (1819) sufficiently explains the failure of polyautography, and, at the same time, identifies it beyond a doubt with lithography. It also confirms our impression as to André's treatment of Senefelder, whose very name Moser does not mention. He says:—"The unfavourable opinion of lithography which now prevails may be traced to the circumstances under which it was introduced into their country. When Mr. André came to England in 1803, many of the first artists in the kingdom practised lithography, but as the art of printing from stone was not then brought to perfection, the impressions obtained were few in number and not good." Also, lower down:—"Drawings may be made with ink or chalk. The latter is the best for use, but the more difficult to print." The specimens in the book are by Hullmandel, Blore, H. Corbould and G. Scharf, sen.

After Senefelder, it is most certainly to Charles Joseph Hullmandel that we must give credit for the propagation of lithography in this country. It was he who in 1819 gained the silver medal of the Society of Arts for the "best specimens of lithography executed on German stone," the work submitted including specimens of the various styles, and especially of the "imitations of acqua tinta." This latter method he afterwards developed into what he called lithotint—a process used with such fine effect by Prout, Hulme, Cattermole and Taylor. The patent (No. 8683) for this is dated November 5, 1840, and the title describes it as a "new effect of light and shadow, imitating a brush or stump drawing, or both combined, being an impression on paper from a prepared paper or stone, preparing the said plate or stone."

It is, I think, one of the sad conclusions forced on a visitor to the exhibition, that the beautiful process should have been allowed to die. With the exception of a single print by Mr. Frank Short, which is more nearly akin to mezzotint, I am not aware of any modern attempt at anything of the kind. It would be claiming too much to set it on a level with mezzotint at its best, but surely the examples shown display effects and capabilities worthy of any artist's attention. The technique does not seem to have been too laborious—it certainly cannot be compared in this respect with that of mezzotint—and it seems not unreasonable to expect that for certain classes of subjects it should prove to be absolutely the right tool to use. A well-known lithographer told me recently that he did not know of a single man who was now practising lithotint. Perhaps the advantages of distinguished isolation may induce some one to take it up.

In looking at the exhibition as a whole, one is bound to remark the curious manner in which the exhibits classify themselves. With the polyautographic prints we have already dealt, and I shall only supplement my earlier remarks by now pointing out that the device of enlisting the services of prominent artists in order to popularise lithography has been tried in this country on no less than three occasions, and that each time the results of their experiments are very nearly all that we could find to represent the nation during each specific period. The polyautographic prints form the first of these series. The second is due to the exertions of Mr. T. Way, who in 1871 induced E. J. Gregory, R.A., R. Thornwaite, F. R. Stocks, J. Parker, A. Morgan, Sir J. D. Linton, Joseph Knight, J. W. Buxton Knight, E. Hayes, Charles Green and J. W. Chapman to try the merits of drawing on stone. The results form the set published as "Hogarth Sketches;" but I think I am right in saying that the movement was not followed up. It is to a demonstration by Mr. T. R. Way, at the Art Workers' Guild in 1893, that is due the next effect to awaken interest in lithography. On this occasion transfer paper and chalk were served out to several of the members, and a practical proof given of the ease with which a print could be produced by this means. Consequently, on the approach of the Paris Exhibition of 1896, when it was found that unless something heroic was done, this country would be represented by only two or three names in the catalogue, Messrs. T. R. Way and Goulding again approached a number of prominent artists, and so secured a reasonable set of studies under circumstances of great difficulty. The work produced on this occasion was in many instances of such merit, and had the added advantage of being so easy for the artist, that many were induced to continue its practice both on the stone and on paper with results that are perhaps too recent for criticism. At all events, the revival in the eyes of the public became an accomplished fact, though it must not be forgotten that lithography has never been dead to the same extent as engraving on wood, and even more, on steel. It has been and is continually practised by hundreds of draughtsmen, thoroughly skilled in its technique, but whose business in life is to work for various industries rather than for art galleries or illustrated books. It is hardly likely that so large a body of craftsmen should not contain some artistic talent; and it is a matter for regret that, although the exhibition was widely announced both in the trade periodicals and all the other journals of importance, very few works were contributed to us from this source.

But to go back to the question of grouping. The first case is the set of lithographs executed for Baron Taylor's "Voyages Pittoresques." The early volumes are illustrated by Baron Atthalin, Fragonard, Isabey, Horace Vernet, Villeneuve and others; but very early in the series will be found examples of the work of Bonington, Prout, Louis Haghe, Boys and G. Barnard. We may claim that these stand out clearly from the

work of their French collaborators; but this may, none the less, have been due to the influence of the latter. And by way of Harding, Lane, Nash and their school it reacted on British lithography. However this may be, we have for our next group the productions of the famous circle of artists gathered together by Baron Taylor for his monumental work. Time is too short to do more than specify some of the other groups. In England we had the drawing-master type, perfect in technique from the mechanical point of view, but with little originality; and later on the group of portrait lithographers, Baugniet, Lynch, Maguire, Fairland, and Messrs. J. A. Vinter and J. R. Dicksee, who are still with us. Taylor, Cattermole and Hulme I have already dealt with. Louis Haghe and Nash are each at the head of small schools of disciples, and again their merits lie rather in the excellent reproduction of a drawing or true representation of an object, than in any exercise of imagination or design. In fact, this must be looked on as the prevailing characteristic of British lithography, and I am inclined to think that the influence of Baron Taylor's work was not too remotely responsible for it.

But in France the sharp changes of political fortune and general unrest of the nation have produced very different results. There is nothing in the history of the art to compare with the battle pieces and military episodes of Raffet and Horace Vernet, with the satires of Daumier and Vernier, the early artists of *Charivari*, with the often grotesque force of Delacroix and the keen and pathetic characterisation of Gavarni. Géricault, whose album was published in London in 1821, has occasionally received the credit of having inspired the outburst of lithographic work in this country which undoubtedly marked the years succeeding that date. But it will be difficult to trace his influence in contemporary British work. Isabey stands alone as a master of original landscape work, both in his surpassing technique and the beauty of the subjects selected by him.

Then comes another great group of workers, those associated with the publication, *L'Artiste*. Much of their work is limited to the reproduction of pictures; and they developed a close, highly-finished method which is not without a charm of its own, but cannot for a moment stand by the side of the great original painter-lithographers just mentioned.

In Holland we have the series of lithographs produced since 1840 for the *Kunst Kroniek*, on much the same lines, though I fancy it is hardly so well known. The work is not so good on the whole as that of the French series, though some of the plates issued in the Sixties have a distinct value.

Germany, the home of the art, has proved singularly barren, so far as its earlier lithographs are concerned. The reproductions of pictures in the great galleries, which engaged so many French and Spanish artists, were, perhaps, by none so well executed as by Piloty and Strixner, who were closely associated with Senefelder himself. It is perhaps a pity that the only work of the inventor in the exhibition should have been the specimen plates of his book, but a loan exhibition cannot command the public, and no examples were offered.

It will, I hope, have been seen then that while on the Continent lithography had the support or stimulus of a series of great undertakings or movements of national feeling, it never received any such in England. Lane was, indeed, an Associate of the Royal Academy, and Her Majesty the Queen, who is deeply interested in the art, has always supported it by the institution at court of the post of lithographer in ordinary, so long and honourably held by Mr. J. A. Vinter. The men who in the Sixties might have made a brave show with their own work instead of relying on the transcription of the wood-engraver, seem not to have tried it even in the least degree; and whatever reputation may be gained by British lithography—I speak for the present of the original work of artists only, and not of the excellence of British workmanship on the industrial side—lies in the hands of the artists of my own generation. Happily there are those who already give notable promise, and have even already achieved much.

But the questions still remain to be answered—Is artistic lithography alive again, what has it got to show, and what is it going to do? Well, more or less in this country there are perhaps half a dozen British and two American artists, Messrs. Shannon, T. R. Way, Rothenstein, C. J. Watson, Strang, McCulloch, Oliver Hall, Whistler and Pennell who practise the art in the proper sense of the word. And there are, perhaps, thirty or forty other artists who have tried their hands at it to the extent of from one to five or six prints. And that is all. But when we get across the Channel in France, Holland, Germany, we can number the new lithographers by the score. Fantin-Latour, whose splendid series is one of the remarkable features of the exhibition, and Menzel, who is by no means adequately represented, I do not include. But Willette, Carrière, Cheret, Blanche, Charpentier, Rivière, Dillon, Ten Cate, Havermann, Van Hoytema, Greiner, Burger, Orlik, Daur, Khnopf, Hans Thoma, Kampmann, Langhein—to name only a few—are all hard at work. And they are not content with the mere chalk sketch or even the more highly-finished drawing. Most of them are using colour, not, as w so finely done here in the early history of chromo-lithograp in the reproduction of oil or water-colour pictures, but as integral part of the design from the beginning. It is early to count results. With the exception of Whistler's well-kno experiments, I believe the device has never been tried befo And the specimens so far seen are calculated to provoke most varied criticism. But in some instances, I think it mu be conceded that the result is a technical success, and that ev the maddest or weakest productions may serve to show th there is a future for lithography in colour. But it must sta on its own merits, with all its limitations and advantages. T most fatal quality in lithography is the facility it affords imitating any other process of illustration on the face of t earth. And yet it is capable of individuality. The works Daumier and Gavarni, of Raffet, Menzel and Isabey ha proved that in the matter of black and white. It will have be the same in colour. If the limits imposed by the use of few tints only be frankly accepted and the convention of t picture adjusted to them, whether the result be a decorati panel like those of Rivière or an almost realistic landscape li the "Winter" of Baum, its success will depend on the arti The process is competent enough. I see no reason why t colour-print produced in this manner should not achieve t fine results of the woodcuts of Japan, and be as widely popul here as those beautiful prints were in their own country. does not follow that the subjects need be restricted to t acute symbolism of one school, or the slavish adherence another to alleged decoration. If British—and American—artis would give us just their own ideas with the added charm colour, I think they would find us appreciative. I am not skill enough in the technique of colour lithography to know how it is possible for transfer paper to be used in the production such prints as we are getting from Karlsruhe and Munich. do know that several of the artists at the former place a working lithographers in every sense of the word, and that pa of their employment is on what is rather invidiously known commercial work. But even if the paper be impossible, seems as if salvation might be found in the aluminium pla The colour-work of Thoma certainly indicates great po sibilities.

Within my limited space I have had necessarily to confi myself to a few phases only of the art. Its application industrial purposes is an enormous and most interesti question, including as it does not only that of the competiti of the photo processes, but also the assistance afforded by the to the further development and extended use of the lithograph stone. I have been compelled, as I say, to speak of lithograp as if the artistic side of it was the only one; but institutio whose scope and interests are as wide as those of both t Society of Arts and the Department to which I belong cou not confine themselves to so rigid if attractive a boundary, a I hope that the technical and industrial portions of the subje may shortly engage the attention of both bodies. As to artist lithography, the artists have its future in their own hand Perhaps I may be forgiven if I suggest that more of the should invest a little enterprise in a process which should no means be always identified with inferior or commonpla productions.

TESSERÆ.

Norman Construction.

THE skill of the Norman builders in the science of constru tion is attested by the strength and durability of the structures. The three essential ingredients of which they co posed their walls—squared stone, rubble and cement—wh combined could be equally relied upon for their firmne against pressure, or their resistance for a very long period the operations of time and weather. The system, therefore, bonding or tying together the ashlar-work on both sides of t wall was very rarely practised, and there is not an example it in a wall of great thickness. The practice would have be useless; solidity and capacity were indispensably requisite Norman construction, and the concrete was so dexterous composed that it would have derived no advantage from t introduction of blocks in a transverse direction. For the sam reason neither timber nor iron were concealed in walls th composed. The rugged, rock-like aspect of many buildin which once exhibited a well-wrought surface of stonewo mingled with the elegant ornaments of architecture proclai the toil with which their strength had been secured. Fountai Abbey and St. Pancras Priory at Lewes are interesting a deplorable examples; but in still stronger confirmation of t durability of ancient cement there are places in the walls Conway and Bamborough Castles where the stone has be forced from the mortar, which protrudes in large and promine masses, and which are not in any perceptible degree injured the weather. Another peculiarity occasionally observable

the construction of Norman masonry is that the angles of openings and the mouldings or piers composing the jambs attached to them are not bonded together, but that every member of the jamb throughout the thickness of the wall consists of distinct and similar layers of stone, which when not compactly joined and firmly sustained by cement become crippled by length of time, and fall asunder beneath the pressure of their arches. The tower of Canterbury Cathedral was a remarkable instance of this imperfect kind of construction.

Sir Charles Barry.

Barry was too little conscious of abstract principles or philosophic views to be willingly set up as an oracle of art. He was the last man to found a school of architecture or to enunciate sounding dogmas on the æsthetics of his profession. The whole bent of his mind was practical. The rules by which he worked were those of intuitive feeling rather than of an organic method of art. He probably never enunciated a theory in his life. We are not aware that he ever published a line. No one ever got him to open his mouth in a lecture or speech of a professional kind. It is by the buildings he reared that he will be known. And these are the embodiments of his moral nature no less than of his constructive skill. His simplicity of character is seen in the plainness and unity of his designs. His love of truth led to his horror of a sham window, a masked buttress, or an illusive façade. His courage, strength of will, and singleness of aim shine visibly in his resolute grappling with difficulties, and his quiet unflinching subordination of means to ends. The man and his work throughout are one—sound, genuine, practical, and instinct with truth. Charles Barry was one of those whose rise in life is the gradual result of sheer hard-working improvement of good inherent powers of mind and character. He owed nothing to advantages of birth, and but little to those of education. He was the fourth son of a London stationer of fair position and means. Neither in his home life, nor in the commonplace schools in which he was brought up, was there anything to foster high aspirations of any kind, or to lay the groundwork of artistic training in any sense. All he could get from the wholesome, though humdrum, atmosphere of home were habits of regularity, uprightness, and attention to business—qualities which would go far towards making up one side of his future professional character, while they would tend to supply a healthy corrective to what might otherwise have been an unreal and enthusiastic temperament. From school he carried away little beyond a superficial knowledge of English, a fair proficiency in arithmetic, and, at all events, a beautiful handwriting. His was by no means that heaven-born genius which takes the heavens of art by storm. He climbed to eminence by the steady conscientious culture of sound natural abilities. From the first his most strongly marked talent was for drawing, and the dull period of his "articles" was enlivened by the indulgence of a taste both for landscape and for caricature, as a kind of artistic by-play to the more prosaic work of surveying, valuing, and "taking quantities." He early strove, however, to soar above the semi-mechanical drudgery of the office.

Greek Measures of Length.

It is well known that the Aryan family possessed words for all numerals from one to a hundred before it was broken up into so many nationalities, before the Hindoos crossed into India, before Greeks and Romans had set foot on European soil. These numerals follow the decimal system, the oldest system both among Aryan and Semitic nations. It can also be proved by the evidence of language that, like the Hindus, the Greeks had formed certain technical terms to express certain measures of length, of space, and time, nay, even of weight, without borrowing from foreign sources. Though we do not know the exact measure of the Homeric pelethron, gues, pugon, doron, we know that they were intended to convey the idea of a definite magnitude. Pelethron or plethron, a measure of land, meant probably what can be ploughed in one day, being derived from the same root which yielded the Latin plaustrum and the Slavonic plug, from which the Germans, in turn, borrowed their word for plough. Gues, likewise a measure of land, seems connected with the old Ayran word for cow, the Sanskrit gô, and would have signified originally, like the Sanskrit gav-yûti, a meadow or pasture-ground for cattle, unless, like jugum and jugerum in Latin, it meant a piece of land that could be ploughed in one day by one ox, or, as in Latin, by one pair of oxen. The general meaning of pugon, too, is clear enough, whatever uncertainty may prevail as to its exact number of inches. Like ulna and ell, it meant originally elbow, and was probably intended for a foot and a half, or a measure of six hands, or twenty-four fingers. The Homeric doron meant most likely a hand, a hand given, and hence a measure of four fingers, just as in later times the Greek drachme, originally a handful, came to mean a certain weight, and afterwards a certain coin. The Greek pous (foot), palame and palaiste (palm), oregma (stride), require no more explanation than their English synonyms. All these words are so much direct evidence that the Greeks, before their contact with Semitic nations, were not such barbarians as not to be able to count, or to measure, or, if we consider the purely Greek word talanton (balance and pound), to weigh any article they wished to value or to exchange. But if we find such a word as mnâ, the Latin mina, without any etymology in Greek or Latin, signifying not a weight in general, but a weight sixty of which make a talent, then we have two definite problems before us. First, how did this Semitic word find its way into the Greek and Latin dictionaries? Secondly, why does a talent consist of the definite number of sixty minæ? If hereafter, and long hereafter, a scholar, say of the fiftieth century, were to find such names as centimètre or millimètre in fragments of newspapers dug up from the ruins of what once was London, he would be able to assert with perfect confidence that the English adopted their new system of measures from the French, and that the French system was formed on a decimal basis. The Greeks, using such a word as mnâ, must, directly or indirectly, have adopted the metric system of the Babylonians, and the Babylonian system must have been founded on a sexagesimal basis. These are two very important points, and they throw light on a distant period of history which almost escapes the vision of the ordinary historian. Here we see from incontrovertible evidence that the great empires of Mesopotamia, which almost bewilder us by their reality as we examine their ruins in the halls and the corridors, and, we are ashamed to add, in the cellars, of the British Museum, have left ruins of a different but no less startling character in the language, the civilisation, the literature of Greece. Here we are impressed with a lesson which it is as important to learn in the history of the world as in natura history—the lesson of that wonderful continuity which holds together everything that is, and everything that has been, whether it be the work of man or the work of nature.

Associations of London Streets.

If a man becomes conscious of the various bits of history which may be associated with the houses before which he daily passes, they tend to become rather more interesting to him than they were before, and there is a certain pleasure in trying to restore a picture of what a familiar place used to be in former times. Lord Macaulay's story about the gentleman who had shot snipe upon the fields which are now crossed by Regent Street is one of those picturesque touches which, whether authentic or not, enable us to realise a historical change more vividly, and it must have made Regent Street rather more interesting to a certain number of passengers for a few days. People, however, who make a collection of such associations ought to remember one or two things which they are very apt to forget. In the first place, it is very difficult to make a place historically interesting when there is nothing in its present aspect which enables us to recall the former state of things. If we examine a battle-field where the natural features of the ground have remained unaltered we can understand the battle better than we did before, and the place itself gains in interest. Marathon or Waterloo will always be worth a visit, in spite of the Cockney profanation of the last. But many places where remarkable things happened are exactly like places where they did not happen. A good many people have been put in the pillory or executed at Charing Cross, but the sight of Charing Cross does not help us to recollect the execution more vividly; on the contrary, cabs and omnibuses have a distinct tendency to call us back to the present. Now, a great many of the noteworthy places in London are remarkable for the precise reason that their present aspect is so very unlike the former aspect. The cicerone takes us to a street, and tells us that it is the very spot where something happened, only that everything about it is entirely changed, and we naturally feel that we would as soon have seen any other spot.

San Pietro, Pavia.

The basilica of San Pietro in Ciel d'Oro, at Pavia, is celebrated by Dante, Boccaccio, and Vasari. It took its name from the vault of the principal apse being gilded, after the fashion of the Byzantine artists. Its foundation is assigned by the chroniclers to the Lombard king Agilulph in 604. Liutprand, in the following century, is said to have employed in its decoration the skill of the numerous Byzantine artists who fled from the persecution of Leo the Isaurian during the rage of the Iconoclasts. No further historic record of it remains till the year 1132, when it was consecrated, and probably reconstructed, under Pope Innocent II. The interior has long been ruinous, through wilful destruction, though portions of the ancient beams of the ceiling still remain. The composition of the west front shows a marvellous combination of lightness with strength. An airy arcade in terra-cotta, broken here and there with stone and relieved with columns of marble, follows the slope of the roof, and is topped with a cornice of the same material; the space between being gracefully filled with interlaced semicircles springing from corbels. There are traces of a vestibule or narthex in the Greek fashion projecting from the face of the basilica.

NOTES AND COMMENTS.

THE late Mr. J. J. COLMAN aided most effectually in convincing amateurs of the importance of the Norwich School. He purchased examples at a liberal price, and he was willing to allow the public to enjoy them by lending his property to exhibitions. It was well known that he intended to enrich Norwich with some of the works he possessed, and the city has not been disappointed. His bequest is given in a characteristic manner. Mr. COLMAN did not wish to compel people to admire, as he had done, by bestowing the examples which he considered to be most suitable. He stipulated that the choice was to be made by Mr. JAMES REEVE, many of whose splendid drawings by COTMAN we have reproduced, and another representative of the Castle Museum. The value of the works to be taken was 5,000*l.*, reckoning by the sums for which they were insured and which are much below the present market prices. Mr. REEVE and his colleague have made the following selection:—Oil paintings.—(1) By JOHN CROME, commonly called "Old Crome," four paintings—"Yarmouth Jetty," "Back of New Mills," "Scene between Bruges and Ostend," and "Burdock." (2) By JOHN SELL COTMAN—"The Baggage Wagon," "Mishap," "Fishing Boats off Yarmouth," "Old Houses at Gorleston." (3) By JAMES STARK—"Wood Scene," "The Forest Oak," and "Small Landscape." (4) By GEORGE VINCENT—"Trowse Meadows." (5) By MILES E. COTMAN—"Boats on the Medway," and (6) by JOHN BERNEY CROME—"Burgh Castle." Three water-colour drawings by J. S. COTMAN, and one, of "The Devil's Tower, Norwich," by JOHN THIRTLE. A portrait of JOHN CROME, by OPIE, who in virtue of his second marriage was brought into intimate relations with Norwich and its artists, and a portrait of GEORGE VINCENT by J. CLOVER. There can be no question of the value of the gifts, but there is still room in the Castle Museum for many more examples of the Norwich school. We hope Mr. BULWER, Q.C., will be incited to rivalry by the bequest.

IT is strange to see the French Government taking up the business of picture-dealing. Hitherto a multitude of pictures, old and new, were purchased for the public galleries. Now there is to be a little variation of the monotony, for there is to be a sale of paintings. The first experiment is to be on a small scale, for only three works have been selected for disposal. One is a landscape, which is attributed to CLAUDE. The second is a *Joseph and Potiphar's Wife*, which is supposed to be the work of some Dutch artist. The third is a portrait of a child, and is put forth as an English work. How the three works found their way to the national Pantechnicon there is no State paper to explain, and we suppose they are not of sufficient merit to serve in any of the remote provincial galleries. In London they would be frankly described as speculative lots, and on a Friday night in the "Slaughter House" they would be knocked down for a modest sum. But the officials expect the State will be enriched to the extent of 60,000 francs by parting with them, and the money will no doubt be applied towards the cost of submarine torpedo boats for blowing up all England.

THERE are a great many rival methods for measuring earthwork, but the most elaborate is that of Sir JOHN MACNEILL, which is worked out so as to form a large volume of tables, which are easily employed. The basis is the prismoidal formula, which is as applicable to the simplest computations for solids as the triangle is for superficial measurement. The formula may be considered as an universal one, and it is, therefore, hardly surprising to find the Supreme Court of California employing it before giving a judgment. The circumstances were curious. Everyone knows that in railway works cuttings and embankments should balance as nearly as possible, otherwise land for "spoil" has to be obtained. But if a certain quantity of earth is excavated it will not necessarily form an embankment of similar cubical capacity. The plaintiff (Mr. SCANLAN) had contracted with the San Francisco and San Joaquin Railway Company. It was arranged that the earthwork was to be measured in the embankments and not in the cuttings. One of the plaintiff's witnesses said he had calculated a trial embankment from cross sections, an adopted an average area. The engineer's calculation showed a lesser quantity. The judges decided to adop neither, but to make their own calculations by adoptin the prismoidal formula as a basis. The judges con sidered that the plaintiff was claiming for an excess o earth in the banks which had been laid on to meet th inevitable shrinkage. But the contract deed said that "n measurement will be made of the material added fo shrinkage nor payment made for the same." It was sai that if the section by the railway company's enginee showed the extra earth it should have been corrected befor the work was commenced. The Court therefore said tha if there was another trial both sides were to put in th measurements as evidence, and then errors in computatio could be corrected by the Court itself. Judgment wa given for the defendants. It certainly is risky for judges t take out quantities, and it appears to us there is as muc vagueness in their calculations as in those of the litigants The fairest way is to pay for excavations and to leave margin if embankments are unusually disproportionate t the cuttings.

IT was arranged at one time that the Pavillon d Flore, which has survived the destruction of the Tuileries was to be prepared for the reception of any royalty wh visited Paris in 1900. The building was latterly occupie by the Colonial Minister, and he has received an order o eviction. It is uncertain whether the building is to b used as a continuation of the Louvre, or as a roya caravanserie. The inmates would be the guests of th State. The Paris municipality also considers it is incumben to show hospitality, and the Château de Bagatelle in th Bois de Boulogne has been considered as a suitable buildin for the guests. Originally it was of modest size, and was erecte in the last century for Mlle. DE CHAROLOIS, a daughter of th third Prince DE CONDÉ. Afterwards it passed into th possession of the Comte D'ARTOIS, the brother of LOUI XVI., by whom it was greatly enlarged. He had made bet with MARIE ANTOINETTE that he would have the ne building constructed in a month. He gained, but he ha to pay 600,000 livres for the expeditious work. The plac was used as a restaurant during the Revolution. CHARLES X (who had erected it), when he came to the throne, resume possession of it, and passed it to the Duc DE BERRY. Th Marquis of HERTFORD purchased it, and it was among th property inherited by Sir RICHARD WALLACE. The châtea appears to be fated to have a variety of tenants, and there fore it would be suitable for the use contemplated by th Municipal Council.

THE Calendar, History, &c., of the Science and A Department for 1899 has not much that is new to relat about that decadent institution. Although there is n director for art and no official examiner the cumbrou machine revolves. The question must arise how man more of the highly paid offices could remain vacant withou any loss following to science or to art? Nobody can doub the distribution of enormous sums—last year the residu derived under the Local Taxation Act alone was 875,000*l.*— but the advantages to the public are not commensurate t the outlay. Even lethargic London has been compelled t think of imitating Birmingham, Manchester, Nottingha and other provincial places in order to escape the fruitles waste of money on officials of all grades. Another indica tion of the public feeling is to be found in the surprisin decline of gifts to the South Kensington Museum. Thos of last year consisted of a plate and proof by the "Printsellers Association," an old English dresser with pewter plates an dishes, and a water-colour drawing. Unless there is change, it will be a long time before the museum is enriche with another million's worth of treasures, that is if th presents come in so slowly, and are to consist mainly o plates.

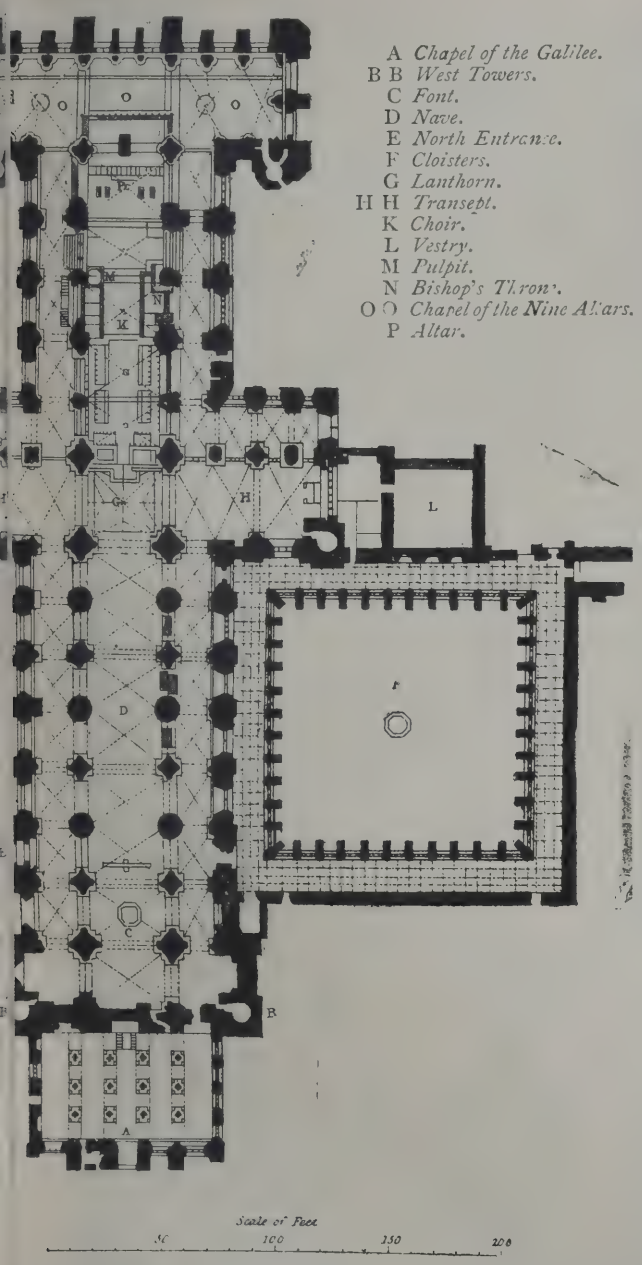
ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: NORTH TRANSEPT. DETAILS O NORTH PORCH. WEST DOOR, FROM INSIDE.

BEAULIEU, WIMBLEDON PARK.—BILLIARD ROOM GALLERY. FIREPLACE. TO WINDOW. TO FIREPLACE.

DURHAM CATHEDRAL.

THE plan of Durham Cathedral shows a nave and choir which more nearly correspond in length than is usual in several of the English cathedrals. The choir needed a large area, for attached to the cathedral was one of the most important of Benedictine monasteries. As we have already related, the secular priests who were attached to Durham Cathedral, and who appear to have enjoyed a comfortable life, were removed by the Norman bishop, WILLIAM OF ST. CARILEF. He was originally a monk, who rose to the abbacy in Normandy, and, like many of the clerics of that time, was remarkable for energy. His predecessor, WALCHER, who was murdered at Gateshead, had resolved to bring monks from Jarrow and Wearmouth to Durham, but the reform was accomplished by WILLIAM OF ST. CARILEF. The arrangements appear to have been concluded prior to the removal of ALDWIN'S church in 1092.



In the history of the cathedral the priors of the monastery are often mentioned. It was understood in CARILEF'S time that the bishops were to find the money for the cathedral, and the monks for the monastery buildings. After the bishop's death, which occurred at the end of 1095, a great part of the cathedral funds was supplied by them. About 1140 Bishop GEOFFREY died, and CUMIN, the Scottish chancellor, seized the bishopric. The prior escaped to York, and there he was consecrated Bishop of Durham. CUMIN, however, contrived to retain his hold with the aid of his retainers for over a year. It was not surprising that when one prior was able to preside over the diocese, another should wish to succeed him. That was Prior LAURENCE, who wrote poetry. He was disappointed, for HUGH PUDSEY, a young priest who was treasurer at York, was appointed to the see. The two were reconciled, and filled their offices without any collision. After LAURENCE'S death the relations between PUDSEY and the monastery were not always peaceful. It was to Bishop PUDSEY Durham was indebted for the Galilee, but with what intention he erected so novel an appendage is not to be discovered. He was one of the magnificent prelates that were not uncommon in that period. He was apparently of Norman extraction, and possessed the support of King STEPHEN and his court. PUDSEY could therefore act as a despotic prince whenever it pleased him to do so. He sided with HENRY II. against BECKET, and when the king contemplated taking a share in the crusade the Bishop of Durham was to be one of the party, and not one of the nobles went to war in a more costly style. Afterwards PUDSEY by purchase became Earl of Northumberland. In his last days he endeavoured to make amends to the monks for his high-handed proceedings towards them.

Some of his successors imitated the earlier rather than the later days of PUDSEY, and the monastery fared badly with them. It was to be expected that whenever an opportunity arose the monks exhibited opposition to the bishops, and they could not be blamed. But when that great lover of architecture, RICHARD THE POOR, whose name will always be associated with Salisbury Cathedral, was elected to Durham the monks became his most loyal supporters. THOMAS DE MELSAMBY was then their prior, and he also was an enthusiast for the new Gothic. Between them they planned the beautiful chapel at the east end, known as the Nine Altars, which, in spite of JAMES WYATT'S vandalism, is still one of the glories of the cathedral. MELSAMBY should have succeeded his brother architect, who died in 1237, but King HENRY III. was obdurate, and the royal physician, who was Bishop of COVENTRY, succeeded.

The monks had one advantage in any disputes between them and the episcopal rulers. They could claim to be the representatives of the brethren who fled from Chester-le-Street when the Danes invaded the district, and who found a refuge for the body of ST. CUTHBERT in Dunholme, or Durham. The incident by which they were assured they had reached the place which was revealed to EADMER the monk was carved in a relief on the building. What arrangement was adopted for the original composition must be left to imagination, but the treatment of the relief which existed a century ago can be judged from the following description by JOHN CARTER :—

> St. Cuthbert's body being in danger of defilement by barbarians, the religious of the monastery in Holy Island, where it then was deposited, bore the body away in hopes of finding a more peaceful resting-place. After various adventures, perils and visions, they arrived at the site where Durham now stands, then a rude, uncultivated wild; when, hearing a maiden, who was in quest of a strayed cow, receive information that she was in Dunholme or Durham (which place they knew by revelation they were to fix on as a terminating point to all their trouble) they rejoiced at the heavenly sound, understanding thereby their toils were at an end. They resolved, therefore, to remain in the propitious region, and to build a fane in honour of their saint, whose bones might henceforth repose in hallowed aisles and calm security. The basso-relievo has been resculptured, where we find the late religious therein metamorphosed (agreeably to modern truth of ideas) into a classic Grecian or Roman senator, who with long, flowing hair, toga nicely folded (and, by-the-by, a London Bluecoat boy's cap in his hand), paying court to the fair dairymaid dizened out like to a celebrated toast of the present milky train in this fair city of Durham.

The relief which is now to be seen does not correspond with that described by CARTER, and might have been modelled after a group of milkmaids in Derby or Chelsea porcelain. But it is of interest, as it helps to carry on a tradition which Mediæval sculptors were glad to utilise. If at Laon the oxen who dragged the stone have their memorial, the strayed cow that was an agent in the founding of Durham Cathedral and the creation of its palatines was at least entitled to similar recognition. Rightly or wrongly, one of the first objects sought out by American visitors is the cow, and we suppose it will always continue to be an object of attraction.

Another object which rivals the "Dun Cow" in popularity and with more reason is the "Sanctuary Ring," which appears in one of the illustrations. It is a memorial of a time when the power of ecclesiasticism was feared by the strongest and greatest. MACAULAY, who would have Parliament supreme, admitted that "in times when life and when females were exposed to daily risk from tyrants and marauders, it was better that the precincts of a shrine should be regarded with an irrational awe than that there should be no refuge inaccessible to cruelty and licentiousness." But in a later age the Durham memorial was not always respected. In JOHN CARTER'S time the ring was on certain days stuck with candles by way of ridiculing the warning which was expressed by the terrific face. But happily more respect for antiquity is shown in our time, and, apart from its historic interest, the Sanctuary Ring merits to be valued on account of the skill of its unknown creator.

That any example of antiquity is found at Durham ma be considered as almost providential. There was n English building in which renovation appeared to be d stined to run to such extremes as in Durham Cathedra Bishop SHUTE BARRINGTON, who was transferred fro Llandaff in 1797, was most liberal in expending money, an when he called in JAMES WYATT he was prepared to dispens large sums in bringing the cathedral into a state whic would please the arbiters of taste. With so munificent client WYATT was ready to surpass his previous operation He wished to destroy the Galilee in order to form a carriag approach to the principal entrance, and the Chapel the Nine Altars to extend the choir. But the spirit opposition, which was a characteristic of the ancie priors, had descended to the Dean and Chapter, and their exertions the re-creative ambition of WYATT w checked.



DURHAM CATHEDRAL: THE DUN COW.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

By the Author of "Ecclesiologia Germanica," &c.

(*Continued from page* 84.)

XII.

Pontigny—Auxerre.

THURSDAY, August 4, 1892, is a day ever to be remembered, for on it I make my long-looked-forward-to visit to the celebrated abbey of Pontigny.

The morning is most glorious, and after "assisting at" one of the early Masses in the great church of St. Florentin, notes upon which I defer for the present, I make a good breakfast, and, leaving superfluous baggage to be called for on my return, start on my Pontigny pilgrimage. "The omnibus of one o'clock," as Madame terms it, being about to start for the station, I again avail myself of its services, and so get over the dusty and somewhat uninteresting bit of road between the town and the station very agreeably. Equipped in flannels and a straw hat, knapsack on back, and stout stick in hand, I branch off on the road to Auxerre, and after a most enjoyable walk of about an hour and a half—meeting no one but a peasant or two, who gives me a cheery "Bonjour"—come in sight of the long red-tiled roof belonging to the great Cistercian church of Pontigny, which still remains to testify to the severity of taste with which St. Bernard inspired the order. Built in the very simplest Lancet style, the abbey church of Pontigny embraces a nave and apsidal choir under one continuous roof, both aisled; the latter with an outer aisle, forming, internally, a series of chapels; transepts roofed at a lower level, and a lean-to western narthex, like that at Maulbronn, a typical German church, built for the same order. The fittings of the choir, the high altar, and the shrine of St Edmund date from the beginning of the eighteenth century, otherwise the church remains in the same state as when Becket received in it the monastic habit at the hands of Guickard, the second abbot A.D. 1164. Externally, this church presents an almost barn-like simplicity, from its long unbroken line of roof, absence of towers or pinnacles, plain Lancet windows, and no ornaments of any sort. If I mistake not it has, in some details, served as a model to several of the ablest architects of the Anglo-Catholic revival—notably, Brooks in his fine but as yet unfinished Church of the Ascension, Lavender Hill; Burges, at St. Faith, Stoke Newington; and Pearson, at St. Michael and All Angels, Croydon, the last-named example bearing a most striking resemblance to Pontigny, with its Lancet-lighted apse, vaulted in such a manner as to produce the most enchanting play of light and shade, and showing how much effect can be obtained with the smallest possible amount of elaborate detail.

Pontigny Abbey Church has great claims upon the veneration of English Churchmen. The remembrance of Thomas à Becket—who, according to the legend, while in prayer here before one of the altars had a Divine vision, accompanied by the words, "Thomas, Thomas, my Church shall be glorified by thy blood"—is not the only link between Canterbury and Pontigny. Two other of our archbishops found shelter here, and one of them still lies in the church. Stephen Langton, with some of the Chapter of Canterbury, took refuge here from the tyranny of King John in 1207, and, if the tradition be correct which assigns to Langton the existing division of our Bible into chapters and verses, Pontigny was most probably the scene of his labours in this respect. But the crowning glory of this religious house is the shelter it gave to Edmund, Archbishop of Canterbury, who with St. Richard his chancellor, despairing of the condition of England and of her Church, which was completely (A.D. 1240) in the hands of foreigners, voluntarily exiled himself, and in November of the same year died here, enfeebled, it is said, by excessive abstinence. The remains of St. Edmund, now and for centuries the object of great reverence at Pontigny, still exist here in the "chasse" behind the high altar,* having for a wonder escaped the devastations of the Huguenots who burnt the church in 1567, and also the blind fury of the Revolutionists.

Shorn of its endowments, and the sole remains of a once large conventual establishment, the abbey of Pontigny is now but the parish church of a humble village. About forty years ago subscriptions were opened for its restoration, and it is pleasing to observe that the Ecclesiological Society, confessing that differences of time and differences of opinion were no reason for a nation to neglect its historical celebrities, took the matter up most earnestly, and on this account we English Churchmen should have a special interest in the grand old Cistercian abbey of Pontigny, which sheltered three such illustrious prelates. Some remains of the conventual buildings have been fitted up for the residence of the ten clergy who form "a congregation of St. Edmund"—"Pères de St. Edmé," they call themselves—and who possess curious deeds and letters relating to St. Edmund (1243), Robert Grostête, Oxford University, Merton Abbey, &c.



Pontigny: West Front of the Abbey.

An avenue of trees leads up to the western door of the abbey, with its lean-to porch. The nave is destitute of furniture, with the exception of a fine stone screen in the Italian style, just above the west door, and supporting a noble-looking organ, whose brightly burnished pipes, as well as of those of the choir organ in front, stand out in wondrous relief from the rich case. The two easternmost bays of the nave are occupied by the *chorus cantorum* with its finely carved stalls of early eighteenth-century date returned at the west end, where the view is closed by a high and close but somewhat poor screen of sham materials surmounted by a crucifix. Above the stalls on either side two large pictures conceal the arcades. Iron grilles are

* The remains of St. Edmund were the object of a so-called "pilgrimage" undertaken in 1874 by the Roman Catholics of England.

carried across the arches opening into the transepts, as well as between the arcades of the eastern limb and of the apse, where the pillars, with their capitals somewhat rudely chiselled in Early Burgundian Pointed, are isolated, and sustain nine narrow pointed arches, the centremost being blocked by the "chasse" or reliquary containing the remains of St. Edmund. There is no triforium arcade. The absence of this feature, the whiteness of the restored stone, and the plain glass which fills the windows of the apse clerestory impart an air of great simplicity and sternness, the predominating attributes of a Cistercian building. I notice that the chapels opening out of the circumambient aisle have a stone altar apiece, but very sparely furnished. In the choir stalls I sit awhile. Such is the awful stillness of the place, broken occasionally by such country sounds as the crowing of cocks and the clucking of hens in the farm buildings outside the church, as the summer breeze wafts them through the open windows in the transepts, that "I have an exposition of sleep come upon me." Softly be it spoken, I sink into a gentle doze, from which I am only awakened at twelve o'clock by the deep-toned Angelus booming along the roof, upon which I pull myself together, and, desirous of procuring a few souvenirs of my visit in the shape of photographs, repair to the domestic buildings attached to the church. I



PONTIGNY: CHOIR OF THE ABBEY LOOKING EAST.

ring the bell of the Conciergerie and state my errand. "The Fathers are at déjeuner." Clearly they are, from the clatter of knives, forks, and spoons, and the rattling of crockery-ware which fall upon the ears. "Will monsieur have the extreme great goodness to call again in half an hour?" "With all the pleasure in life," is the reply. So I repair to the somewhat humble inn where I have left my knapsack, and am presently in the enjoyment of a simple meal of bread, cheese, and butter, and hard-boiled eggs, washed down by a little Burgundy, chatting meanwhile with the hostess, who stands transfixed with astonishment when I tell her that I am walking to Auxerre.

Photographs purchased in the clean parlour of the Conciergerie, off whose floor, as Miss Tox would have said, "You could eat your dinner"; a short gossip with one of the "Fathers of St. Edmé," an affable person, who shakes hands and wishes me "bon voyage" in the most pleasant manner; a cup of tea at the inn, which mine hostess has all ready for me; a strapping-on of knapsack, and I am on the road to Auxerre, casting many an admiring look back at that simple old Cistercian church, nestling in a valley standing "thick with corn" just below me. Five miles further on I reac Montigny le Roi, another small scattered village, in whos Early Pointed one-aisled church—enshrining remains of th earlier building in the shape of rich Romanesque doors an sedilia—I rest for a short time. Anon, the road—neve fatiguing, because so diversified—leads me through large vin yards, without, however, the picturesqueness of a Kentish ho garden—and at about half-past four, on arriving at the brow the last hill, I come once more in sight of my old friend th Yonne, and a little to the left—crowning the slope on i opposite bank, still two miles distant—Auxerre.

Whether approached by road or rail, Auxerre is decided prepossessing, and at first sight reminds me of that Norma city—Coutances—with its cathedral rising between the tw great churches. The Burgundian city, however, has a decide advantage over the Norman one, since it is fortunate in th possession of a fine river—the Yonne—very broad here, an crossed by two substantial bridges.

It is getting on for six o'clock when I arrive at the Pont d Sud. Standing upon it for some moments before wending m way up the steep streets, I am rapt in admiration of the pi turesque scene before me, all steeped in the golden afternoo sunlight. Bordering the river is a pleasant shady boulevar



AUXERRE: THE LADY CHAPEL.

then come the irregular houses overtopping one another, a dominating all the glorious cathedral, built of a warm taw stone. A little to the north lies the church of St. Germain, wi its lofty apsidal choir, transepts, truncated nave and isolat Early Pointed spire. Both churches promise a rare archite tural treat. Somewhat fatigued, I at once seek the Hôtel l'Epée, pleasantly situated in the bustling main street, a which I can heartily recommend. After some ablutio dinner is served, and, it is needless to say, has ample justi done to it. By the time the meal concludes the cathedr is shut for the night, so I am obliged to be content with stroll about its precincts, whose charming peace and seclusi suggest an English cathedral city. The cathedrals a churches hereabouts appear to be closed at seven o'clock. the more northern districts, and especially in Normandy, th are kept open to a much later hour; indeed, I have recolle tions of sauntering round the dusky aisles and choir chapels St. Jacques and St. Remi at Dieppe, the various Caen church and the cathedrals of Bayeux and Coutances as late as ni o'clock, and remember distinctly how very awful the voice

ıe custodian calling "On ferme l'église" sounded once in ouen Cathedral, when paying a late visit to that superb lifice—one, by the way, whose value and beauty is not ıfficiently appreciated by the large number of our compatriots ho visit Rouen, probably in their anxiety to see St. Ouen, a ructure which, while exhibiting Pointed architecture in its oblest form, and as illustrating the period when it had attained s acme before passing into the Flamboyant, has been elevated y a strong popular delusion into the great attraction of the ty.

To return to Auxerre, about whose quaint hilly streets it is xtremely enjoyable to dawdle in the sweet morning air. It is arket day here, and as early as six o'clock carts of every escription, each accompanied by its dog, are rattling over the ony streets of the city, towards the large covered "Halles," den with country produce. I enjoy the bustling scene around, ıd above all the sight of the grand old tawny-coloured juare north-west tower of the cathedral rising up into the ear blue sky above the houses. Viewed from the market, where e Burgundy peasant women, in their cleanest and freshest owns and white caps, are arranging their wares, and chattering cessantly, it forms a noble object. A charming sight is a ntinental market.

The cathedral of St. Etienne at Auxerre * is glorious. How orious I knew not until I had examined it. The mighty bric itself, the western and transept porches, which seem to vite a world to enter, the great sweeps of jewelled glass, the eople, too, using their church as it had always been meant to e used—coming in with their baskets, &c, at one transept oor, kneeling for a few moments before the high altar, and assing out at the other; all this strikes the imagination most vidly and ineffaceably. The nave arcades remind me of me of our English examples, the arch mouldings springing om slender attached shafts, as at Chester, only much loftier. urmounting the arcade is a triforium, like Worcester, and ove, again, a lofty clerestory of four-light Middle Pointed indows, many of which glow with old painted glass. A finely oined roof covers the nave, colour being applied to the bosses ıd to a small portion of the ribs radiating from these bosses ith excellent effect. There is some splendid early Middle ointed detail at the west end of the north aisle, just under the reat tower; while the chapels opening out of the aisles north ıd south are in several instances finely restored specimens of ıe same style. Others have been sadly tampered with by ebased Gothicists. Two windows in the northern range of hapels strike me as particularly good examples of modern rench painted glass. Mural painting is represented in these hapels by some very vivid frescoes of full-length bishops, dis-overed evidently during the restoration of the fabric. One of ıe chapels in the south aisle of the nave is dedicated to St. ermain, the patron saint of the diocese, who, with St. Loup, id Britain of Pelagianism. His statue surmounts the altar, ınd in the hand is placed a bunch of grapes, doubtless the first-ruits of the vintage.

Standing under the crossing, the views presented by the nterior of Auxerre Cathedral are enchanting in the extreme. Behind is the dusky Middle Pointed nave, with its light elegant rcades; right and left extend the short transepts, each having n its principal face a glorious Flamboyant rose. On all four ides, springing from huge clusters of tall slender shafts, are he arches spanning the entrance to nave, choir and transept. n front is the exquisite choir, which in purity of First Pointed Gothic rivals Coutances. Some of the piers are cylindrical, thers are composed of several small shafts, but all have most elicately foliaged capitals. Much of the detail here was re-roduced in our churches by the late Sir G. Gilbert Scott in he works entrusted to him about five-and-thirty years ago, otably in the large parish church of St. Mary, Stoke New-ıgton—a *chef d'œuvre*, and exhibiting, in a very marked degree, he love of foreign Gothic forms which had so strongly taken ossession of its author's mind at the period of its erection—855-58.

The exquisite early thirteenth-century choir of St. Etienne, hich it is a privilege to have seen and a duty to study, was begun by Auxerre's fifty-eighth bishop, Guillaume de Seignelay, eight years after his accession to the see, in 1207, and is therefore contemporary with those of Tours, Chartres, Soissons, Rouen, Troyes, Angers, Rheims, Beauvais, and a host of other examples, which combine truly to render the period comprised between 1215 and 1250 the Augustan age of French architecture. This prelate, as M. l'Abbé Lebeuf tells us in his "Histoire Ecclésiastique d'Auxerre," vol. i. pp. 339-360, "voyant que de tous côtés on rebâtissait les Eglises Cathédrales, il ménagea une somme d'argent pour rebâtir la sienne qui menaçait ruine en quelques endroits. Il fit commencer à détruire l'ancienne, du côté de l'Orient, l'an 1215. . . . On vit avancer considérablement dans l'espace d'un an l'ouvrage de la nouvelle cathédrale."

The triforium in the choir of Auxerre Cathedral has four simple Lancet arcades on slender detached shafts, and the wall, in true Burgundian fashion, not being pierced, an effect of great solidity is obtained. Above this rises a lofty clerestory, one large plate-traceried window of two lights, with a plain circle in the head, serving for each bay. In the apse these circles are cusped, but in a very curious and not altogether pleasing fashion, as my readers will see if they turn to their Parker's "Introductions," and open them on page 242 of his chapter on Continental Gothic.



AUXERRE: THE CHOIR FROM SOUTH TRANSEPT.

Pen fails to describe the priceless glass which fills all these great Early Pointed choir windows at Auxerre. Much of it is due to Bishop Henri de Villeneuve. He succeeded Guillaume de Seignelay in the see of Auxerre in 1220, and dying January 18, 1234, was the first prelate to find a resting-place in this magnificently reconstructed choir.

To quote once more from L'Abbé Lebeuf's work:—"Quand l'auteur de l'abrégé de sa vie ne dirait pas qu'il enrichit l'Eglise de Saint-Etienne par ses dons et ses bienfaits, les vitrages du Chœur parlent encore en sa faveur. On voit au haut de la grande vitre du fond de l'abside, la figure d'un Agnus Dei, avec un étendard, qui est la représentation même du revers de son sceau ou du contrescel, ainsi qu'elle se voit dans les actes de son temps avec ces mots '*secretum Episcopi.*' Il eut si à cœur l'avancement de l'édifice qu'il impétra que tous ceux qui contribueraient à son avancement seraient participans de tous les biens spirituels du Diocèse." In the sinister light

* Although a cathedral in name, St. Etienne has no collegiate establishment. The bishopric was suppressed in 1801 and united with ens.

of the central window of the apse is the Crucifixion; in the dexter light, the "Majesty," with a kneeling bishop beneath His feet. The early morning sun is streaming gloriously through this window, staining the floor of the choir with colour.

The separation between nave and choir is effected by a lofty eighteenth-century iron screen and gate, surmounted by a crucifix, so that from the great west doors an uninterrupted view is obtained to the very penetralia of the lady chapel.

The cathedral of Auxerre possesses two organs, the great one occupying a somewhat anomalous position in the south-west angle of the south transept. For the benefit of those who are unacquainted with the working of a great Continental church, it may be interesting to state that in nearly every town church there are two organs—a large one for the voluntaries and *sorties*; for the interludes played between the Psalms, verses of the Gospel Canticles, and office hymns; and for processions; another in the choir to accompany the plain chant. The usual place for the great organ is at the west end, as at Dieppe, Rouen (Cathedral, St. Ouen and St. Maclou), Amiens, Paris, Troyes, Coutances and Bayeux; and in most instances the cases are very richly carved. In several great churches, however, it is to be found nearer the choir, as at Eu, Laon, Tours and Rheims, where it occupies the transept; Chartres, Metz and Strasburg, where it hangs above the nave arches with grand effect; and Bruges, where it stands upon the choir screen in a very dignified and English fashion. The great Dom at Cologne possesses but one organ, and that is in the north transept. I have most pleasing recollections of the offices at Cologne, which are sung daily *in choro*. It was a glorious August afternoon and the hour of prayer when I entered this the most stupendous Gothic church in Christendom for the first time. Compline was just concluding, and I shall never forget the sonorous voices of the canons and cantors as they rose to the vaulted roof of the choir in the *Nunc Dimittis* and *Salva nos, Domine, vigilantes*. I remember the great bell, for some reason or other, was booming at the same time, and its continuous tone, heard on the pavement of the cathedral, resembled a gigantic bass diapason pipe, accompanying the plain chant.

But I am forgetting Auxerre. From the transept I pass into the choir aisles, which, like those at Sens, are destitute of side chapels. The Early Pointed French work here is unusually fine. Several of the large plain lancet windows glow with magnificent old glass; and a door pierced in an exquisitely arcaded wall, just to the left on entering the north aisle, admits to the sacristy, a spacious vaulted chamber, where copes are hanging up, and vestments for the day lie spread upon the table. Perhaps the gem of Auxerre Cathedral is its chapel, dedicated to her

> Whose name
> All but adoring love may claim.

Square-ended, but vaulted in such a manner as to give it an apsidal appearance, it is entered from the procession path behind the high altar by three stilted arches springing from shafts. "Nothing," says one of our most judicious architectural critics, "can be more elegant than the junction of the lady-chapel with the chevet; for, though this is almost always pleasingly arranged, the design has been unusually successful in this instance. The two slender shafts just suffice to give it pre-eminence and dignity without introducing any feature so large as to disturb the harmony of the whole." The morning sun pouring through the glorious old glass in the eastern triplet of lancets in this lady-chapel of Auxerre was a sight never to be forgotten.

(To be continued.)

BIRMINGHAM SCHOOL OF ART.

ON Friday in last week Sir William B. Richmond, R.A., distributed the prizes gained by the students at the Birmingham Municipal School of Art. In addition to the students, says the *Birmingham Post*, were about 500 teachers of art subjects in different schools of the city, and a large number of manufacturers and handicraftsmen connected with local industries, no fewer than a thousand tickets of admission having been applied for by these.

The Lord Mayor, after a few congratulatory words on the size and composition of the audience, read a letter addressed to him by Mr. George Frampton, A.R.A., in response to a invitation to be present. Mr. Frampton expressed regret tha his other engagements prevented his acceptance of the invita tion, and said, "It pleases me, my lord, to take this opportunit of congratulating you, as well as the city of Birmingham, o the unique achievement of your school under the able guidanc of Mr. Taylor. It is a school that has done more for th decorative arts than any other in the country, and those wh have studied there have turned out to be some of the mos serious workers of my acquaintance in the art world." Accep ing those complimentary words as not without their substratur of truth, they might feel, the Lord Mayor went on to say, tha they had begun to climb the ladder which they had set them selves to ascend, and how far they succeeded depended, a they knew, as much upon the city of Birmingham as it di upon the students of the school. He did not think the com mittee should want a better assurance that their work wa being appreciated than the fact that a thousand manufacturer and their foremen had applied for tickets.

Sir William Blake Richmond said that he had received th hospitality of the city on many occasions, and it was a lon time ago since he first visited Birmingham to address th students at the Midland Institute. That was before the splendid art school was built, and he remembered he took grea pains to write a kind of historical treatise upon the developmen of art all over the world. They listened to him with grea attention, and at the suggestion of Mr. Kenrick when he replie to the vote of thanks he referred to the students' work in th schools with a good deal of praise and also some blame. The took what he said very kindly, and that encouraged him tha night not to make a formal address, but to meet them upon common ground as one student talking to another. He ha watched with great interest the progress of the Birminghar school, and he did not think what they had heard from M Frampton was in the least degree exaggerated. He knew tha they had passed through many difficulties to establish them selves upon a firm footing, and that firm footing wa in a large degree due to their headmaster. The art of England of late had been in great trouble by th loss of some of their great leaders. He referred primaril to the loss by death of Lord Leighton, a great artis who, while he was also a great painter, was intensely and con stantly interested in the progress of the arts of design and c the crafts in this country. To him they owed a very grea debt, because it was he who first began to remove the some what insular prejudice which was perhaps natural to th country, that a work of art must necessarily be an oil picture But there remained to them a great teacher, John Ruskin. I was impossible to estimate what that great mind and that grea writer had done for the arts of this country, and notwithstand ing a kind of reversion of feeling which had taken place in new direction, which they called impressionism, that grea mind and that great writer still survived, still interested ther and would continue to interest England as long as Englan was interested in art. The first thing that Mr. Ruskin did wa to call the attention of the English people to the beauties c nature. He also enlisted their interest in the earlier forms c Italian art, and he led them in a purer direction. Naturally, reaction came, and they found themselves after that extra ordinary era of purism suddenly launched into a French atmo sphere, which now went under the name of impressionism However, he was thankful to say that he saw considerabl signs of the malady abating, because until it had abated th arts of design would not have a fair chance.

Before he passed on to say anything about the admirabl work he had seen exhibited in the Society of Artists that day, h must congratulate the students upon the progress they ha made. Upon the last occasion he spoke to them he had som reason for saying that he thought in some directions they wer going upon a very wrong tack; whether they listened to hi and profited by his advice he did not know, but he had that da looked in vain to find a disagreeable impressionistic smudg The number of works exhibited was 1,115. There were 1,00 scholars in the principal school of Birmingham, there wer 3,000 in the branch schools, and those 4,000 students wer under the headmastership of Mr. Taylor. The time he ha spent in inspecting their work was very inadequate to do fu justice to what was before him, and for the same reason he fe that he could hardly do justice to their headmaster in th remarks he should have to make. He had indicated that h took a great interest in the crafts. He regarded them a essential to the welfare of the art of England, and especiall in Birmingham, where so much jewellery was made He was extremely glad to see such pains taken ove the drawings from still life. It used to be the fashio when he was a young man to say that it wa all nonsense studying from still life, that they learne nothing and could not enlist anybody's sympathy by such a uninteresting experiment. Now he confessed to thinkin exactly the reverse. He would rather that that study wa more insisted upon even than it was, because for the student i

was absolutely essential that, before he attempted to paint, as it were upon his own account, he should first of all learn to paint what he saw. By having things dexterously and charmingly arranged, as they always were in the Birmingham school, the student not only acquired a technical power over his material, but he was also stimulating his taste and his judgment, so that when he was called upon later to employ his higher faculty of perception he had become qualified to represent a thing which was more difficult than still-life painting. He was delighted to find that their master was wise enough to give them birds and animals to paint from. He had seen that day some charming drawings, some of them hasty but full of movement, of mice and butterflies and all such creatures, and especially one set of drawings which contained moths. In all the water-colour drawings he saw a sense of colour, which he was able to congratulate them upon and to say he thought was wholly remarkable. He took it that was because they had approached that study from the proper point of view, they had thought of their colour while they had been thinking of their tones. The vacation studies also interested him, because during the vacation the student was perfectly free to express his own ideas. It was then that whatever genius he had in him was likely to come out. That class of work had enormously improved since he last visited the school. The work was firmer, it was less empirical, the drawing was sounder and the colour purer. At the same time, he would like to see somewhat higher finish in the pencil drawings. There was a little touch of cleverness in getting over the ground with a little too much dexterity here and there, and he should like to see a very hard pencil-drawing giving all the effects and showing the student to be extremely modest and painstaking when he was before nature. They should attempt during the vacation to work a good deal from memory. It was not at all necessary to stand in front of a sunset and copy it there and then. If they trained their memory they would be able to hold that beautiful sunset in their minds, and represent it, perchance as Turner did, when they got home in the evening. Almost all the water-colour drawings by Turner which were in the possession of the country were done not directly before nature, but in the evening from little pencil drawings which he made on the spot. He cultivated his memory to such an extraordinary extent that Ruskin once said that Turner told him that twenty years afterwards he could remember the shape of a cloud which hung over Mont Blanc. If they photographed the picture upon their minds and digested it they would be able to give to their work that great charm of originality. The oil-painting was not so good as the water-colour. He was aware that it was a more difficult material, but it seemed to him they were not quite going on the right tack with that extremely difficult medium. He noticed in most of the works—clever as some of them were—a disagreeable edginess and disagreeable streaks of colour, especially in the shadows, where there should be no streaks at all. He asked them, for the purpose of chastening their style in painting in what he had called the very difficult medium, to study as much as they could the Flemish masters and especially Holbein. The students' work looked too much like the work of amateurs, it was not sufficiently restrained, it looked as if the student had sometimes worked with pleasure and sometimes with toil. Passing to the heads from the life and the time studies, Sir William said he found a great deal of good work, some of it showing excellent feeling and fine execution. Other samples were not free from defects. In one case, which Sir William singled out for special mention, the student was warned that he was a great deal too clever, and was advised as to means which he should take to curb a proneness to superficiality. As to the nude studies, Sir William confessed that he never much cared about that department, disliking the white backgrounds. He knew it was essential that those who were going to receive prizes should have white backgrounds, but the white background always falsified the tone, and he did not think they need spend quite so much time over the nude studies as they did. He would far rather see swifter drawings—under the impulse of the moment seizing the action—and more of them than he would all such highly-finished drawings as were those from the nude. In the efforts of modelling he confessed to seeing a great tendency to sketch in clay. If sculpture was to be worth anything at all it must be complete. There was a deal of clever work in the modelling, and a great deal of dexterity, but it was a sort of cleverness and dexterity which would never get any further—it was too facile, it was too easy, and it looked too full of self-content, and it was lacking in modesty. Whatever they did in clay or wax, or any plastic materials, he begged them to make up their minds to finish their work as highly as possible, and by the time they were getting towards the end they would see for themselves that nature was a long way ahead of anything that they could do to resemble her. Turning to the needlework, he confessed that was an art that had for him great charms, and they had developed in their school a kind of originality which was extremely agreeable. He thought the simplicity of colour they had adopted, and the application of the wool mixed up with a little not too glossy silk woven upon the rough linen, produced a most delightful result. There were two enamels which really showed genius, and which he should have liked to have bought had they not already been acquired by his excellent friend, Mr. Kenrick. He cautioned students against making their enamels too smooth. There was nothing so objectionable in a work of art as that it should look as if it had gone through a mill. It ought to look as if it had proceeded from the most sensitive thing which God ever made, the human hand, and it should have the very faults of the human hand, that inequality and that delightful uncertainty which made it into a human work and gave it interest. Let them not give way to mechanical monotony; roughness was better than lifeless uniformity; your machine could give you lifeless uniformity, and always did infallibly, but the hand never. There was some admirable gesso-work, and one or two notable achievements in beaten metals. It was most desirable that the graver should be used as little as possible, and that the hammer should be trusted as much as possible. He believed some manufacturers were trying to imitate the accidents of the hand by that very clumsy thing machinery; but they had much better not do that, because it would be only a very bad imitation of what the hand could do very much better. The specimens of work done in the branch schools organised by the Jewellers' Association were for the most part rather dull and lifeless, simply because they were over-worked; they were over-neat, too precise, and the hand in conjunction with the mind did not appear at all in their workmanship. There was only one specimen free in style and which really showed evidence of enthusiasm. It was, however, an admirable idea that the manufacturers should be taking the art school into their confidence, and he hoped they would employ the art students of Birmingham not only to design but to execute for them. They would find in time that they would get very much more interesting work, and as time went on and taste improved there would be a far greater sale for good work than there was at present. Sir William passed on to commend some of the work in figure design, and to offer some suggestive criticisms on certain technical effects. As to the stained-glass, he was glad to see that they did not ignore the point that the leading was an essential part. Let them remember this as an axiom, that the worst stained-glass was most like a picture. If they wanted to see the most abominable stained-glass that ever was they must go to Germany, but they would see a good deal, he was sorry to say, in England, some in St. Paul's Cathedral, and he hoped very soon to have the latter all out. Adverting to the examples of wall-papers produced by the students, Sir William said he noticed a tendency to non-observation of the relative planes of a design. With reference to the jewellery section, he pointed out that silver, bronze and gold each demanded different treatment. Their silver design should be thinner than their gold design was, and their bronze design should be thicker than either. Some manufacturers who were not particularly intelligent might think it did not particularly matter in what material they executed a design, and so they would make one ring in bronze, another in gold, and another in silver from the same design, but they would all look entirely different, and therefore the relative proportions would be entirely changed. They could not avoid the feeling when they remarked a bit of fine Florentine, French, German or Norwegian jewellery that the man who made it delighted in doing it. He altered it, he was dissatisfied with the result, but he was not all the time thinking, "Dear me, how pleased the duchess will be to flaunt this on her head." Jewellery which looked as if it cost a great deal of money was invariably vulgar. Jewellery could be extremely beautiful and very modest—indeed, it always was—and if there were any jewellers present let them take it to heart, and not encourage the vulgarity of the superior sex. In conclusion, he congratulated the successful students on obtaining prizes, and urged the unsuccessful to strive to gain prizes next year.

The Right Hon. W. Kenrick said they were all sensible of the debt which they owed Sir W. Richmond for his presence that night. He (the speaker) had never listened to any address on an occasion like that which seemed so suggestive and instructive to the students. Sir William Richmond was not only a painter but an artist craftsman, and the School of Art committee desired that those who studied in their schools should follow his lead, and when they had acquired a mastery of their craft should seek thought and ideas which they could convey in their work. He acknowledged the services of the headmasters of the elementary schools for the care they had exercised in selecting students for the free admissions in the branch schools, and said that now, besides free admissions to the branch schools, there were admissions for day scholars to the central school on examination. Those scholars were some of the most promising they had had, and he urged the parents to sacrifice something in order that their children might pursue their studies, so as to enable them to obtain better and more lucrative appointments

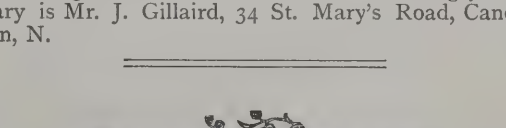
in the future. There was no doubt very good art teaching in the King Edward's Grammar Schools, but he hoped the headmasters would continue to make arrangements to send their promising students to the central school. The manufacturers did not at present take so much interest in the schools as they might do, and the number of students was not so large as the committee were prepared to receive, but as the knowledge acquired there was of such great importance in the workshops, he trusted that the manufacturers would take more advantage of the schools. If the sons of the manufacturers themselves obtained an artistic training it would be very beneficial to them, for they would be able to encourage and assist their designers and craftsmen in the factory. The branch school in Vittoria Street was doing a great deal of good work, but he hoped it would be made far more use of than it had been at present.

Mr. G. H. Kenrick seconded the motion on behalf of the School Board, and in doing so alluded to the fact that the whole of the art work in the Board schools, as well as the preliminary teaching leading up to it, is under the guidance of the School of Art committee and the headmaster of the School of Art. That was a happy augury, and he was glad to know that the teaching of drawing, which was obligatory in the boys' school, was now being voluntarily taken up by the teachers in many of the girls' schools. The motion was enthusiastically carried.

Sir William Richmond, in reply, commended the efforts being put forward in Birmingham to unite the arts with the crafts, and assured citizens that as long as they kept on that road art would permeate into all classes. It would get down to what was called the lowest section of society, and it would raise, because art could never be anything else but an elevating pursuit.

THE BRITISH ASSOCIATION OF DRAUGHTSMEN.

A SOCIETY is in course of formation under the above title, with the object of insuring more genial relations among capable draughtsmen, for the interchange of practical ideas, by means of papers read or contributed among themselves, and distributed for consideration and discussion in the various branches of the Association. It is the intention so far as possible to have none but competent draughtsmen as members, so that in the event of applications the secretary will be enabled to recommend men who suit the employers' requirements. The Association is to consist of members and associates. Members are to be draughtsmen who have served at least seven years in office and works or yard of architects, civil, consulting or mechanical engineers or shipbuilders. The subscription to be 10*s.* per annum. Associates are to be apprentices and improvers in any of the above departments from sixteen years of age, until qualified for the election of membership. Tracers may also be elected under certain conditions as associates from sixteen years of age. The subscription for associates will be 5*s.* per annum. A committee of management will be formed consisting of the five original or initial members, who can hold office temporarily until fifty have been elected. They are to be eligible for re-election for the ensuing year. The secretary is Mr. J. Gillaird, 34 St. Mary's Road, Canonbury, London, N.



Rights of Light and Air and the New Municipalities Bill for London.

Sir,—The present state of the law with regard to matters of light and air in building operations is one of great uncertainty, and productive of much waste of time and money, and frequently seriously impedes the building enterprises of those wishing to improve or rebuild their premises; and it is very often a question whether it is not worth while to pay a sum of money as blackmail rather than have the progress of the work stopped by an injunction, and risk the heavy expenses incurred in fighting an action often based on trivial, or even imaginary, rights.

How to deal with this question so as not to interfere with vested interests and rights, and yet at the same time facilitate building operations, may be a difficult problem, but it is not by any means an impossible one.

In Scotland these matters are dealt with by the Court of the Dean of Guild, and it ought to be possible to adopt some similar means here. It has been suggested that a Technical Court should be established, and every building owner, where any question of light, air or other easement arises, should be able to appeal to this Court, and cite before it all respondents who may be interested. Plans could be deposited, to which a interested parties could have access, and the Court would the proceed to hear the objectors and the building owner, an decide the limit to which the building could be carried witho interfering with the lights and easements of the objectors; b this means no injury would be done to the rights of eith party, and the decision obtained before the building owner pledged to his contract with the builder would most certain prove of invaluable service to those contemplating buildin and prevent blackmailing or useless actions.

The Technical Court would be composed of professiona men, who would not require expensive expert evidence to b brought before them to determine the issue, and who woul visit the premises and see for themselves. The nucleus such a Court is to be found in the Tribunal of Appeal unde the London Building Act of 1894; its numbers could be in creased, and additional powers given to it to charge th necessary fees for maintenance, and the whole cost of decid ing between the parties would be a mere fraction of th present unsatisfactory and wasteful course of fighting a ligh and air action. There could of course be an appeal t the Divisional Court, if thought necessary, and also th building owner, if he exceeded the limits laid down by th Court without first settling with his neighbours, would be pro ceeded against by the Court, who should have the power enforcing their own decisions.

To this end the Society of Architects in November las approached the Lord Chancellor with a petition, praying that parliamentary committee might be appointed to inquire int the present law with regard to ancient lights, with a view t saving the large amount of moneys being expended in deter mining the rights of owners with regard to same, when hi lordship intimated that he would give the matter his caref attention.

It is hoped that the hearty co-operation of the leaders o the professions, both architects, surveyors and lawyers, will b given to obtaining an Act of Parliament to deal with this sub ject, and thus enable us at least to be on an equal footing wit Scotland, and the present new Municipal Government Bill shoul give a good opportunity for forming the necessary Court unde the central authority, the London County Council.

C. McArthur Butler,
Secretary of the Society of Architects,
St. James's Hall, Piccadilly, W.

February 10, 1899.

GENERAL.

Mr. Thomas Brock, R.A., has received the commissio for the statue of Sir J. E. Millais, which is to be placed on th principal flight of steps in front of the entrance portico, or, as a alternative, in one of the open spaces in front of the Nationa Gallery of British Art at Millbank. If the subscription exceed the amount required for the statue the surplus is to b applied to the erection of such a memorial in St. Paul' Cathedral as the Dean and Chapter will approve.

Mr. E. Bramley-Moore has been elected an Associate o the Royal Society of Painter-Etchers.

A Portfolio, containing forty large photogravures o pictures by Rembrandt, with descriptions by Dr. Hofstede d Groote, will be published as a memorial of the late exhibition i Amsterdam of works by the artist.

The London County Council on Tuesday adopted resolution to the effect that it be referred to the genera purposes and improvements committees to consider th desirableness of erecting (in the space to be reserved fo refuges or ornamental enclosures) in that portion of th Strand which will be widened consequent upon the removal o the Holywell Street block of buildings, statues in honour of th memory of Geoffrey Chaucer and John Milton.

The Richmond Town Council are about to erect second block of seventy workmen's cottages in that Surre town. The lowest tender amounts to 17,624*l.*

Messrs. Dennett & Ingle ask us to announce that owing to the site of their late premises being required fo the erection of the new Government Offices, they have remove to 24 Queen Anne's Gate, S.W.

The Fourth Members' Meeting of the Liverpool Archi tectural Society, 1898-99, will be held at the Law Library, 4 Castle Street, on Monday next, the 20th inst., at 6 P.M., when a paper will be read by Professor F. M. Simpson on "Some Burgundian Churches," illustrated by limelight views.

During excavations in the Forum at Rome, on the 8th inst. eight large blocks of marble belonging to a cornice of the Temple of Julius Cæsar were discovered. The blocks are deeply embedded in the earth, in a position which they must have occupied since their fall from the edifice. It is expected that other discoveries throwing additional light upon the decoration of the temple will shortly be made.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer on the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s.. by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

ACTON.—Feb 25.—For erection of a school. Mr. Henry Stock, architect, 9 Denman Street, London Bridge, S.E.

BRADFORD.—For pulling-down and rebuilding the Prospect Inn, Bolton Road. Mr. John Jackson, architect, Barry Street, Bradford.

BRADFORD.—Feb. 20.—For erection of six through houses, opposite the National school, Tong Street, Dudley Hill. Mr. Benjamin Stephenson, 268 Tong Street.

BRADFORD.—Feb. 25.—For erection of a house and two shops at Nursery, Clayton, near Bradford. Mr. Sam Spencer, architect, 344 Great Horton Road, Great Horton, Bradford.

BRIDLINGTON QUAY.—Feb. 21.—For erection of two dwelling-houses on the south side of Lansdowne Road. Mr. Samuel Dyer, architect, Bridlington Quay.

BURTON-UPON-TRENT.—Feb. 25.—For extensions to the buildings at the electric light works. Mr. F. L. Ramsden, engineer, Gas and Electric Light Works, Burton-upon-Trent.

BURY.—Feb. 21.—For erection of a surgery, repairs and decorating at Springwells, 94 Manchester Road. Mr. H. Shelmerdine, architect, Hunt's Bank, Manchester.

BURY.—Feb. 22.—For construction of a footbridge over the canal feeder in Elton. Mr. J. Haslam, town clerk, Bank Street, Bury, Lancs.

BUXTON.—Feb. 28.—For rebuilding bridge, St. John's Road. Mr. Josiah Taylor, clerk, Town Hall, Buxton.

CANNOCK.—March 3.—For additions to the Norton girls' school, for the Trustees of Norton Schools. Plan and specifications may be seen at the Rectory, Norton Canes, near Cannock, Staffs.

CANTERBURY.—Feb. 20.—For erection of a cemetery chapel, with fences, gates, roads and paths at Chartham. Mr. Andrew Bromley, architect, the Cathedral Precincts, Canterbury.

CANTERBURY.—Feb. 23.—For repairing, painting and distempering the interior of the Kent and Canterbury Hospital. Mr. Arthur Bromley, architect, Cathedral Precincts, Canterbury.

CHERTSEY.—Feb. 25.—For rebuilding Durnford Bridge. Mr. W. Durrant, surveyor, Addlestone.

CLAYTON-LE-DALE.—March 6.—For taking-down Oakes Bridge and erection of a new stone bridge in lieu thereof. The County Bridge Master, County Offices, Preston.

CONGLETON.—March 1.—For erection of an infirmary at the workhouse, Arclid, near Sandbach. Mr. Alfred Price, architect, Elworth, Sandbach.

CORK.—Feb. 20.—For erection of offices and store, 1 South Mall, Cork. Mr. Samuel F. Hynes, architect, 41 South Mall, Cork.

CORNWALL.—Feb. 25.—For erection of a dwelling-house and shop at Ashton, Breage. Mrs. L. J. Eustice, Ashton.

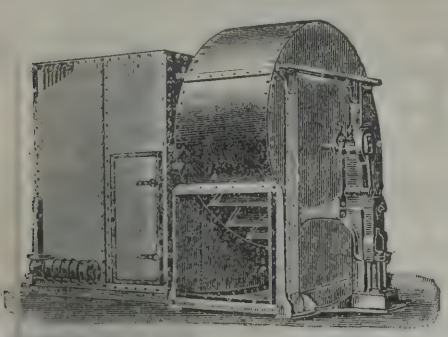
CORNWALL.—Feb. 28.—For erection of two cottages at St. Erth Station, Cornwall, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

CUMBERLAND.—Feb. 20.—For erection of a Wesleyan chapel and schools, Brampton. Mr. Thos. Pattinson, Townley Place, Brampton.

DEVON.—For repairs to ten cottages and outbuildings at Underhayes. Specifications may be seen at 48 Wolborough Street, Newton Abbot.

DOVER.—Feb. 21.—For construction of a public convenience and an addition to the museum at Gaol Lane. Mr. Henry E. Stilgoe, engineer, Town Hall, Dover.

DUNSTON.—For erection of classroom and other extensions at Dunston Church schools. For plans, &c., apply to the Vicar.



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DURHAM.—Feb. 21.—For erection of public conveniences in Front Street, Stanley. Mr. Joseph Routledge, surveyor, Council Offices, Stanley.

EARLSHEATON.—Feb. 24.—For alteration of High Close. Mr. Fredk. W. Ridgway, architect, Borough Chambers, Dewsbury.

EARLSHEATON.—Feb. 27.—For extension of weaving sheds. Mr. F. W. Ridgway, architect, Dewsbury.

EGREMONT.—Feb. 25.—For erection of four dwelling-houses, out-offices and boundary walls to be built in Main Street, Egremont. Mr. Clement Mossop, butcher, Main Street, Egremont, Cumberland.

FLETTON.—Feb. 24.—For erection of three new shops. with storeroom over, at Fletton, Peterborough. Messrs. Townsend & Fordham, architects, Cross Street, Peterborough.

GLASGOW.—March 15.—For construction of buildings in Kelvingrove Park, Glasgow, for the Glasgow International Exhibition, 1901. Mr. H. A. Hedley, general manager and secretary, 141 Buchanan Street, Glasgow.

GORTON.—Feb. 22.—For alterations and additions to buildings at the sewage outfall works in connection with the erection of sludge-pressing plant, &c. Mr. Charles J. Lomax, engineer, 37 Cross Street, Manchester.

HALIFAX.—Feb. 28.—For erection of a barn and appurtenances thereto, at Stone Farm, near Triangle. Messrs. Richard Horsfall & Son, architects, 22A Commercial Street, Halifax.

HALSTEAD.—For alterations and additions to the Halstead Industrial school. Messrs. Baker & May, architects and surveyors, Colchester.

HASTINGS.—Feb. 27.—For alterations to Silverhill Board school. Messrs. Elworthy & Son, architects, London Road, St. Leonards.

HASTINGS.—Feb. 27.—For fitting-up technical schools of Silverhill. Mr. Arthur Wells, architect, Queen's Chambers, Hastings.

HASTINGS.—Feb. 27.—For additions, alterations and repairs to 18 Wellington Square. Mr. Alfred Dray, architect, Town Hall Chambers, Hastings.

HAYFIELD.—Feb. 20.—For alterations at the Free Methodist school. Mr. Low, High Street, Hayfield.

HIGHAM FERRERS.—For erection of three dwelling-houses at Higham Ferrers. Mr. H. Adnitt, architect and surveyor, High Street, Rushden.

HOVINGHAM.—Feb. 25.—For rebuilding of new stone bridge at Hovingham, near Malton, Yorks. Mr. Walker Stead, county surveyor, Northallerton.

IPSWICH.—Feb. 20.—For erecting conveniences and making additions to upper lodge at cemetery. Mr. Henry J. Wright, architect, 4 Museum Street, Ipswich.

IRELAND.—Feb. 25.—For erection of a Crown post-office at Westport. Mr. H. Williams, secretary, Office of Public Works, Dublin.

IRELAND.—For erection of a vested school. Plans, &c, at the Rectory, Ballinamallard.

IRELAND.—For erection of a dwelling-house in Caramore, near Lisnaskea. Mr. John Armstrong, Canal House, Tullamore, King's County.

KENDAL.—For erection of 141 working men's dwellings. Messrs. Park & Johnston, Long Fields, Kendal.

KENT.—Feb. 20.—For erection of offices at Cliffe National school. Mr. A. E Loach, architect, Strood.

KESWICK.—Feb. 25.—For pulling-down and rebuilding a wall in Station Road and other works. Mr. William Hodgson, surveyor, Town Hall, Keswick.

KILKENNY.—Feb. 21.—For erection of forty houses. Mr. William K. Cleere, sanitary officer, Kilkenny.

KNARESBOROUGH.—Feb. 22.—For erection of school buildings and headmaster's house. Messrs. Barrowcliffe & Allcock, architects, Mill Street, Loughborough.

KNARESBOROUGH.—March 4.—For erection of school buildings and head-master's house, for King James's Grammar School. Messrs. Barrowcliffe & Allcock, architects, Mill Street, Loughborough.

LEEDS.—Feb. 27.—For erection of a police station and branch free library at Woodhouse. City Engineer, Municipal Office, Municipal Buildings, Leeds.

LEEDS.—March 3.—For alteration of premises, 38 to 46 Great George Street, Leeds. Messrs. Stephen Ernest Smith & John Tweedale, architects, 12 South Parade, Leeds.

LLANTWIT MAJOR.—Feb. 27.—For repairing Llantwit Major parish church, Glamorgan. Mr. G. E. Halliday, architect, Cardiff.

LONDON.—Feb. 21.—For foundations for new central savings bank, West Kensington, for the Commissioners of H.M. Works and Public Buildings. Bills of quantities, with

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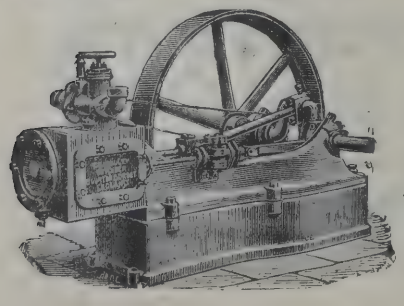
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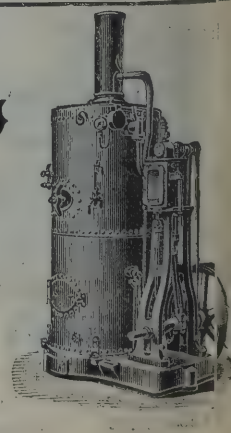
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LONDON, E.—Feb. 23.—For erection of one range of three glazed earthenware semicircular urinals in Morris Street. Mr. H. Thompson, vestry clerk, Vestry Hall, Cable Street, E.

LONDON, S.W.—Feb. 28.—For erection of two cottages at the Heathwall pumping station, Nine Elms Lane, Battersea, for the London County Council. Engineer's Department, County Hall, Spring Gardens, S.W.

LONDON.—March 2.—For ordinary works and repairs to public buildings, &c., in the Hampton Court, Kew and Richmond districts. H.M. Office of Works, &c., Storey's Gate, S.W.

MANCHESTER.—For erection of a sanatorium at Baguley Lodge, Cheshire, to contain 100 beds, with administration offices, laundries, &c. Mr. James B. Broadbent, architect, 5 Cooper Street, Manchester.

MANCHESTER.—Feb. 21.—For erection of platform roofing and station buildings at Rose Grove, for the Lancashire and Yorkshire Railway Company. Mr. C. W. Bayley, secretary, Hunt's Bank, Manchester.

MANNINGTREE.—For erection of shop and house in High Street. Mr. H. Spooner, South Street, Manningtree.

MANNINGTREE.—For erection of shop and house in High Street. Mr. R. W. Downing, Brook Street, Manningtree.

MASBOROUGH.—Feb. 27.—For erection of a residence, with professional department attached, stabling and other outbuildings. Mr. Geo. Handley Johnson, architect, 38 High Street, Rotherham.

MORECAMBE.—Feb. 21.—For erection of five houses in Lancaster Road. Messrs. Marshall Bros., architects, Back Crescent, Morecambe.

NEATH.—Feb. 21.—For erection of a block of buildings, comprising manual instruction-room, dining-rooms and gymnasium. Mr. D. M. Jenkins, architect, &c, Gwyn Hall, Neath.

NEW BROMPTON.—Feb. 23.—For alteration of stabling, Hile Road. Mr. E. J. Hammond, architect, 111 High Street, New Brompton, Kent.

PATTERDALE.—Feb. 27.—For erection of a bridge over Grisedale Beck, Patterdale. Mr. Joseph Bintley, county surveyor, 7 Lowther Street, Kendal.

POCKLINGTON.—For erection of a residence. Mr. W. Thorp, architect, 22A Commercial Street, Leeds.

PORTSMOUTH.—March 1.—For rebuilding a store and other works at the union workhouse. Mr. G. C. Vernon-Inkpen, architect, Whittington Chambers, Southsea.

PRESTON.—Feb. 27.—For erection of a classroom and cloakroom at Middleforth School, Penwortham. Mr. Swindells, 3 Cannon Street, Preston.

RAINHILL.—Feb. 23.—For erection of a nurses' dining-room at the main building of the County Asylum. Mr. Jas. Gornall, clerk and steward, Rainhill.

RICHMOND.—For erection of schoolhouse, Richmond Grammar School, Yorks. Messrs. Clark & Moscrop, architects, Feethams, Darlington.

SCILLY.—Feb. 25.—For erection of a wing and other additions to Tregarthen's Hotel, St. Mary's, Scilly. Mr. Oliver Caldwell, architect, Penzance.

SCOTLAND.—March 4.—For erection of a stone bridge at Buckie. Mr. James Barron, engineer, 1 Bon Accord Street, Aberdeen.

SHEFFIELD.—Feb. 21.—For erection of a dwelling-house and surgery at Wincokank. Mr. G. A. Wilson, architect, Hartshead Chambers, Sheffield.

SHEFFIELD.—Feb. 28.—For additions and alterations to the girls' and infants' departments and other works at the Park School. Mr. C. J. Innocent, architect, 22 High Street, Sheffield.

SHEFFIELD.—Feb. 28.—For erection of branch stores, &c., Alfred Road and Pelham Street, Brightside. Mr. Henry Webster, architect, St. Marie's Chambers, Norfolk Road, Sheffield.

SHOEBURYNESS.—March 6.—For excavations and building gasholder tank in brickwork and Portland cement; building retort-house, engine and exhauster house, tar and liquor tank, meter and governor house, foundations, &c., for the Gas Company, Limited. Mr. Henry J. Robus, consulting engineer, 20 Bucklersbury, London, E.C.

SKEGNESS.—For alterations and new shop windows, &c., to premises, Derby Road, and for erection of detached villa. Mr. C. Nelson Holloway, architect, Newcastle Chambers, Angel Row, Nottingham.

SOUTHAMPTON.—Feb. 20.—For erection of a block of artisans' dwellings on the area recently cleared, with frontages to Simnel Street and Pepper Alley.

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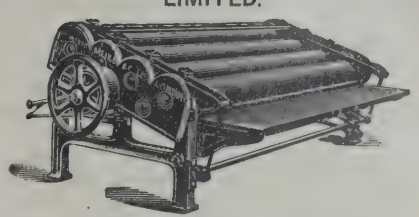
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SOUTHEND-ON-SEA.—Feb. 23.—For erection of a chapel and lodge at the cemetery, Sutton Road. Mr. Alfred Fidler, borough surveyor, Clarence Road, Southend.

SOUTHEND-ON-SEA.—Feb. 23.—For construction of underground public sanitary conveniences in Marine Parade. Mr. Alfred Fidler, borough surveyor, Clarence Road, Southend.

SOWERBY BRIDGE.—March 3.—For erection of public elementary schools in Sowerby New Road. Messrs. Chas. F. L. Horsfall & Son, architects, Lord Street Chambers, Halifax.

STARBECK.—For erection of stores and premises. Mr. Arthur A. Gibson, architect, Yorkshire Bank Chambers, Harrogate.

STOCKTON-ON-TEES.—Feb. 20.—For erection of cottage homes, as follows:—Two pairs in Windsor Road; one pair in Hartington Road, east side; one pair in Hartington Road, west side. Mr. John Rodham, 16 Finkle Street, Stockton-on-Tees.

STOCKTON-ON-TEES.—Feb. 21.—For erection of premises and alterations in Silverton Street. Mr. Eugene E. Clephan, architect, St. Nicholas's Chambers, Newcastle-on-Tyne.

TENBY.—Feb. 20.—For erection of staircases and balconies for workmen's dwellings. Mr. H. T. Morley, architect, Tenby.

THORNABY-ON-TEES.—March 6.—For erection of an infants' school at Thornaby-on-Tees. Mr. E. Goldie, architect, 31 Upper Phillimore Place, Kensington, W.

THWING.—March 1.—For restoration of Thwing Church, Yorks. Mr. Temple Moore, architect, 46 Well Walk, Hampstead, N.W.

ULVERSTON.—March 1.—For erection of a Wesleyan church, &c. Mr. John Wills, architect, St. Peter's Churchyard, Derby.

UXBRIDGE.—Feb. 23.—For erection of additional bathrooms at the workhouse, Hillingdon East. Mr. W. L. Eves, architect, 54 High Street, Uxbridge.

WALES.—Feb. 22.—For alterations of the Carmel Congregational chapel, Rachub, Bethesda. Mr. Llew. R. Evans, Rachub, Bethesda.

WALES.—Feb. 27.—For reparation of Llantwit Major parish church. Mr. G. E. Halliday, architect, Cardiff.

WALES.—March 7.—For alterations and additions to the schools at Abergwynfi to accommodate 264 children. Mr. O. Penton Lambert, architect, Bridgend.

WALTHAMSTOW.—For erection of twelve houses, of rental value 10*s.* 6*d.*, in Brookfield Avenue. People's Land, Building and Dwellings Company, Limited, 5 Adelaide Place, London Bridge, E.C.

WARMINSTER.—Feb. 25.—For erection of vagrant wards at the workhouse. Mr. William Merrick, clerk, The Lindens, Emwell Street, Warminster.

WOLVERHAMPTON.—Feb. 27.—For erection of an extension of the electric-lighting station, Commercial Road. Mr. J. W. Bradley, borough engineer, Town Hall, Wolverhampton.

WOOLWICH.—Feb. 28.—For erection of stabling and horsekeeper's residence in Callis Alley. Mr. J. O. Cook, architect, 1A Eleanor Road, Woolwich.

TENDERS.

ABERDEEN.

For additions to United Presbyterian manse at Aberchirder. Mr. ROBERT G. WILSON, architect, 181A Union Street, Aberdeen.

Accepted tenders.

L. Gregor, Aberchirder, mason.
A. Auld, Aberchirder, carpenter.
A. G. Ross, Macduff, slater.
C. Duthie, Turriff, plumber.
G. G. McKay, Keith, plasterer.
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BIRMINGHAM.

For erection of nurses' messroom and other accommodation at the Workhouse Infirmary. Mr. W. H. WARD, architect, Paradise Street, Birmingham.

C. Reeve & Son	£2,681 0 0
Smith & Pitts	2,330 0 0
R. Fenwick	2,279 0 0
C. Bryant	2,240 0 0
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Whitehouse & Son	1,997 0 0
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BRENTFORD.

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CARDIFF.

or extension of the Higher Grade Board School. Mr. E. SEWARD, architect, Queen's Chambers, Queen Street, Cardiff.

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F. ASTLEY, Cardiff (*accepted*)	1,561 0 0

CARLISLE.

or laying 9-inch sewer at Moorville, Stanwix. Mr. GEORGE ARMSTRONG, architect, 24 Bank Street, Carlisle.

J. & R. Bell	£399 2 4
Green	377 19 0
W. Leighton	330 0 0
T. Scott	315 0 0
J. & W. BATEY, West Walls, Carlisle (*accepted*)	295 0 0

COCKERMOUTH.

For erection of two bridges over Hope Beck in Brackenthwaite. Mr. J. B. WILSON, surveyor.

J. Bolton	£207 0 0
Wren & Lindsay	164 0 0
J. GREEN, Cockermouth (*accepted*)	153 0 0

CUMBERLAND.

For laying a 5-inch water-main at Brigham, Cockermouth. Mr. J. B. WILSON, surveyor.

J. Woodward	£125 0 0
H. FISHER & Co., Cockermouth (*accepted*)	101 0 0

DARTMOUTH.

For laying 1,050 lineal feet kerb and channel of limestone, and about 300 square yards of brick paving to sidewalk. Mr. T. O. VEALE, surveyor.

E. P. Veale	£201 16 8
R. T. WATTS, Dartmouth (*accepted*)	196 5 3

DORKING.

For erection of a labour shed. Messrs. BARGMAN & BENISON, architects, 76 South Street, Dorking.

Stephens, Bastow & Co.	£8,698 0 0
Prestige & Co.	7,977 0 0
Goddard & Sons	7,665 0 0
Potter & Co.	7,550 0 0
Gough & Co.	7,234 0 0
McC. E. Fitt	7,123 0 0
Merredew & Wort	7,120 0 0
Kerridge & Shaw	6,993 0 0
G. CUMMINS, Surrey (*provisionally accepted*)	6,768 0 0

DUBLIN.

For erection of the Graduates' Tercentenary Buildings, Trinity College. Mr. THOMAS DREW, architect.

A. Beckett	£8,000 0 0
Bolton & Sons	8,000 0 0
J. Meade	7,914 0 0
Campbell & Sons	7,556 0 0
J. Beckett	7,350 0 0
J. Pemberton & Son	7,200 0 0
A. P. SHARP (*accepted*)	7,004 8 9

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DUBLIN—*continued.*

For erection of six labourers' dwellings, as follows:—Two in the townland of Blanchardstown, and four upon a plot of ground at Ballycoolen.

J. REID, Dublin (*accepted*)	£900 0 0

DURHAM.

For construction of a sewer, manholes, &c, in Asylum Lane, Dunston. Mr. J. P. SPENCER, engineer, 13 Grainger Street West, Newcastle-upon-Tyne.

W. Craig	£437 11 3
G. E. Simpson	393 2 0
A. Noble	386 15 0
J. THOMPSON, Gosforth, Newcastle-on-Tyne (*accepted*)	341 7 0

ENFIELD.

For making-up St. Mark's Road, Bush Hill Park, and East Road, Enfield Highway. Mr. R. COLLINS, surveyor, Court House, Enfield.

East Road.

T. Adams	£429 0 0
G. J. Anderson	373 7 4
W. Griffiths	350 0 0
E. J. BETTS, Enfield Highway (*accepted*)	339 0 0

St. Mark's Road.

T. Adams	1,330 0 0
E. J. Betts	1,323 0 0
W. Griffiths	1,319 0 0
G. J. ANDERSON, Poplar (*accepted*)	1,299 19 6

FALKIRK.

For erection of stables, &c., Stenhousemuir. Mr. JAMES STRANG, architect, 102 High Street, Falkirk.

Accepted tenders.

J. Gardner, Falkirk, builder.
Simpson & Young, Stenhousemuir, joiner.
G. Brunton, Stenhousemuir, plumber.
D. McNair, Falkirk, plasterer.
J. D. Stuppart, Stenhousemuir, slater.
P. & W. McLellan, 129 Trongate, Glasgow, ironwork.

FULHAM.

For erection of destructor and boiler-house, engine-room, offices and workshops, disinfector-house and transformer-chambers Mr. CHARLES BOTTERILL, surveyor, Town Hall, Walham Green, S.W. Mr. F. HASTINGS, MEDHURST, consulting engineer, 13 Victoria Street, S.W.

T. Bendon	£26,805 0 0
C. Ford	24,690 0 0
C. G. Hill	24,515 0 0
B. E. Nightingale	24,355 0 0
Spencer, Santo & Co., Limited	24,254 0 0
F. G. Minter	22,970 0 0
Wilkinson Bros.	22,755 5 1

GLASS HOUGHTON.

For erection of dwelling-house in Church Field Lane, Glass Houghton. Mr. ARTHUR HARTLEY, architect, Carlton Chambers, Castleford.

Accepted tenders.

F. D. Gregory, Castleford, joiner.
J. Allison, Castleford, slater.
Smithies & Sons, Castleford, plasterer.
M. H. Pennington, Castleford, plumber.
J. Wood & Son, Castleford, builder.

HANLEY.

For work at Old Hall Pottery. Messrs. R. SCRIVENER & SONS, architects, Hanley.

Colley & Lindop	£2,399 10 0
T. GODWIN, Hanley (*accepted*)	2,145 0 0
J. Cope, jun.	2,125 0 0
Bennett Bros.	2,092 0 0
J. J. Longden	2,025 0 0
Cornes & Sons	2,000 0 0
H. Leonard	1,996 0 0

For engine, boiler, machinery, &c., for the Old Hall Works. Messrs R. SCRIVENER & SONS, architects, Hanley.

W. Boulton, Limited	£1,330 0 0
Shore & Son	1,263 0 0
WILLETT & CO, Burslem (*accepted*)	955 0 0

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For converting the old British School buildings at Harpenden into public hall and offices.

G. Smart	£810 0 0
Phillips & Blake	735 0 0
F. Hall	645 10 0
C. TOMLIN, Harpenden (*accepted*)	598 0 0

LONDON.

For electric-lighting works at the Northern Hospital.

Section 1.—Switchboards, booster and connections.

Fuller-Wenström Electrical Manufacturing Co.	£690 15 0
Verity's, Limited	634 10 6
General Electric Co., Limited	482 10 0
Cox-Walkers	463 10 0

Section 2.—Battery.

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Lithanode Electric Storage Co., Limited	£458 9 0	21 0 0
Electric Power Storage Co., Limited	457 0 0	39 10 0
T. Scott Anderson	450 0 0	55 0 0
Epstein Accumulator Co., Limited	420 18 0	37 10 0
Tudor Accumulator Co., Limited	414 0 0	28 0 0
Chloride Electric Storage Syndicate, Limited	410 0 0	25 0 0
Laing, Wharton & Down	380 0 0	16 10 0
D. P. Battery Co., Limited	370 10 0	55 10 0
Hart Accumulator Co., Limited	318 12 0	15 4 0

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Section 3.—Electrical mains.

Western Electric Co.	9,604 12 6
T. Scott Anderson	1,363 0 0
Laing, Wharton & Down	1,110 10 0
Johnson & Phillips	925 0 0
Brush Insulated Wire Co, Limited	903 13 8
Callender's Cable and Construction Co., Limited	773 1 6

Section 4.—Steam exhaust, feed and drain pipes.

G. Wailes & Co.	945 0 0
Babcock & Wilcox, Limited	927 0 0
R. Taylor & Sons	840 0 0
R. W. Blackwell & Co.	732 0 0

LONDON—*continued.*

Section 5.—Wiring and fittings.

H. G. Ellis & Co.	£4,800 0 0
Drake & Gorham	3,900 0 0
Laing, Wharton & Down	3,727 0 0
G. F. Ratcliff & Co.	3,373 0 0
Wells & Co.	3,081 0 0
T. Scott Anderson	2,935 0 0
Benham & Sons, Limited	2,902 11 8
G. Weston & Co.	2,875 0 0
R. Whipp & Co.	2,750 0 0

For alterations at the Duke of York public-house, Downham Road, Islington, for Mr. F. Coucher. Mr. EDWARD BROWN, architect, Commercial Street, Bishopsgate.

J. V. Kiddle & Son	£834 0 0
G. Newton	814 4 10
J. & W. T. Inkpen	770 0 0
W. Lawrence	475 0 0
R. Preston	465 0 0

Gasfitter's work.

Vaughan & Brown	135 0 0
Dupuy, Pottier & Adams	132 15 0
J. Steadman	105 0 0

NORMANTON-BY-DERBY.

For alterations and additions at the Board schools. Messrs. NAYLER & SALE, architects, Irongate, Derby.

King & Harrison	£1,801 9 0
A. Smith	1,790 0 0
J. Parker & Son	1,784 15 0
J. T. Tomlinson & Co.	1,770 0 0
A. B. Clarke	1,700 0 0
H. Jordan	1,670 14 11
H. J. Robinson	1,650 0 0
G. WAGG, Normanton, Derby (*accepted*)	1,675 15 6

NORTHALLERTON.

For erection of a shed and alterations to and drainage of buildings already erected.

S. Moody & Son	£59 5 0
J. Willoughby	57 15 0
J. FOGGIN, Northallerton (*accepted*)	51 10 0

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OMAGH.

For constructing two small sections of main sewer on Kelvin Road.

J. McCAUL, John Street (*accepted*)	£17 16 0

PORTSLADE.

For construction of an intercepting sewer and sea outfall. Mr. C. O. Blaber, engineer, Brighton.

B. COOKE & CO. (*accepted*)	£17,545 0 0

QUEENSBURY.

For laying of 147 yards of 12-inch pipe sewer at Scarlet Heights, and 78 yards of 9-inch pipe sewer at Priestley Hill.

Balmforth & Ingham	£172 9 0
A. Ramsden	171 9 0
E. Balmforth	165 0 0
Balmforth & Reece	154 0 0
M. Hall & Son	121 1 0
J. HAINSWORTH & SON, Queensbury (*accepted*)	120 0 0

SALISBURY.

For erection of a railway hotel and stables at Porton. Messrs. JOHN HARDING & SON, architects, 58 High Street, Salisbury.

Stephens, Bastow & Co.	£3,998 0 0
Annett & Son	3,500 0 0
Jenkins & Sons.	3,046 0 0
Long & Sons	2,875 0 0
Webb & Co.	2,800 0 0
E. Hale	2,750 0 0
Wort & Way	2,690 0 0
T. DAWKINS, Salisbury (*accepted*)	2,458 0 0

SOUTHAMPTON.

For construction of precipitating tanks, storm-water overflow, and other works. Mr. W. B. G. BENNETT, borough engineer.

B. Cooke & Co.	£6,715 0 0
G. Bell	6,491 0 0
H. W. Bull	6,106 0 0
Jenkins & Sons	6,099 0 0
Roe & Grace	5,995 0 0
PLAYFAIR & TOOLE, Southampton (*accepted*)	5,870 0 0
H. C. Dove (*informal*)	5,430 0 0

SCOTLAND.

For erection of street buildings at the Port, Burntisland. Messrs. SWANSTON & LEGGE, architects, Kirkcaldy and Burntisland.

Accepted tenders.

D. Pitkethly, Burntisland, builder.
W. Reid, Methil, joiner.
W. Anderson, Edinburgh, slater.
W. Crow, Burntisland, plumber.
W. Anderson, Burntisland, plasterer.
Barnet & Morton, Kirkcaldy, iron beams.
Wells, Leith, asphalte.
Huxton & Co., Kirkcaldy, glazier.
Dobbie & Co., Edinburgh, tile work.
J. Wishart, Kirkcaldy, electric bells and smiths' work.
A. Murdoch, Kirkcaldy, carving.
Total cost about 7,000*l.*

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For rearrangement of the Melton asylum drainage system.

Contract No. 1.—Builder.

C. Stearn & Co.	£796 4 0
F. Bennett	466 13 4
W. BAILEY & CO., 20 St. Mary's Parsonage, Manchester (*accepted*)	345 16 6
G. Barrell	320 10 9

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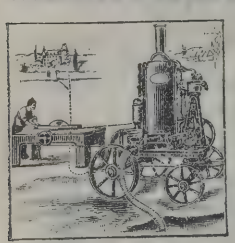
C. Stearn & Co.	584 10 6
F. Bennett	520 12 8
G. Barrell	385 0 0
W. BAILEY & CO. (*accepted*)	376 0 0

SUTTON.

For erection of a house, &c., at Belmont. Mr. W. CULLING GAZE, architect, 2 Walbrook, E.C. Quantities by the architect.

S. Page	£2,038 6 6
H. Clark	1,574 0 0
J. B. Potter	1,566 0 0
W. Potter	1,551 0 0
E. J. Burnand	1,485 0 0
F. S. Shopland	1,387 0 0

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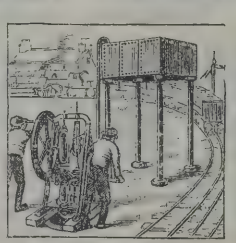

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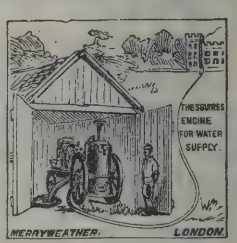


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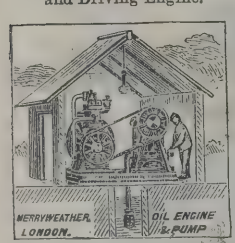

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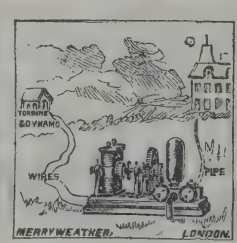
Windmill Pump.



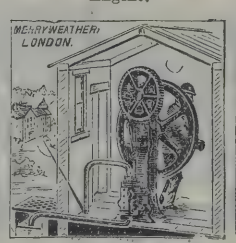
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WAKEFIELD.

For painting the outside of workhouse premises.
T. NAYLOR, Southgate, Wakefield (*accepted*).

WEYBRIDGE.

For erection of house and laundry. Mr. W. MANN, architect, Weybridge.

Horsell	£2,312 0 0
Greenfield	2,067 0 0
Lucas	2,050 0 0
Young	1,990 0 0

WHITBY.

For erection of two ashpits at Sandsend.

J. Brough	£19 15 6
M. Mennell	16 4 0
J. Brain	16 0 0
T. R. Fletcher	14 0 0
C. WINTERBURN, Whitby (*accepted*)	13 14 0

WILLASTON.

For laying 800 yards of 12-inch and 9-inch sewers, with manholes, flushing-tanks, lampholes, ventilators, &c. Mr. ALFRED HUGHES, surveyor, 5 Birch Road, Bebington.

P. Gavin	£606 0 0
R. Allen	585 0 0
J. Merritt	583 6 6
Roberts & Williams	580 0 0
C. J. Shaw & Co.	577 5 0
J. Price	528 0 0
A. HARRIS, Upton (*accepted*)	480 9 7

WILTON.

For alterations to the sick and children's wards at the workhouse. Messrs. JOHN HARDING & SON, architects, 58 High Street, Salisbury.

E. H. Pragnell	£381 0 0
W. H. Hodder	265 0 0
T. Dawkins	255 0 0
J. WHATLEY, Salisbury (*accepted*)	205 0 0

WORCESTER.

For erection of warehouses adjacent to the Hop Market Hotel. Messrs. H. ROWE & SON, architects, Worcester.

R. Thompson	£5,299 0 0
Collins & Godfrey	5,260 0 0
J. Rowbotham	5,237 0 0
Sapcote & Sons	5,185 0 0
Bowen & Son	5,120 0 0
Wood & Sons	4,987 0 0
Bromage & Evans	4,987 0 0
Barsley & Sons	4,966 0 0
STOKES BROS., Worcester (*accepted*)	4,827 0 0

ELECTRIC NOTES.

THE Glasgow Corporation electricity committee have agreed by a majority to recommend that the Corporation offer 30,000*l.* for the buildings, plant, and rights of the Kelvinside Electricity Company. The agents of that undertaking have stated 48,000*l.* as the price at which they are willing to sell

LIEUT.-COLONEL C. A. SMITH, one of the Local Government Board's inspectors, held an inquiry in Bradford last week into the application of the City Council for power to borrow 20,000*l.* for the purposes of electric lighting extensions. Details of the proposed expenditure were given, and afterwards the inspector visited the electrical works of the city.

THE electric-lighting committee of Edinburgh Town Council had last week under consideration estimates for the iron and steel work of the M'Donald Road electric-light station, and those of Messrs. Redpath, Brown & Co., Edinburgh, and Arrol's Bridge Company, amounting to over 10,000*l.*, were accepted.

THE electric light was inaugurated at Carlisle Railway Station on the 9th inst. There are sixty-four arc lamps of great power for lighting the station and its approaches, with nearly 600 incandescent lamps for the buildings, booking offices, &c. The whole of the work has been executed for the joint station committee by the London and North-Western Railway Electrical Department at Stockport.

THE Whitehaven Corporation are considering the question of increasing the voltage of their electric current from 240 to 480. The long private consumption lines are at present sub-

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ject to difficulties of distribution, owing to the heavy drain now made on the current in the centre of the borough. To overcome these difficulties it is necessary either to increase the voltage or to decrease the present resistance by adding to the capacity of the feeding cables. In one case all that is required is an alteration of the dynamos, which can be made without great cost. In the other the additional cables would represent a much greater expenditure.

THE Mayor of Coventry (Dr. Webb Fowler) presided on Monday last at a town's meeting in St. Mary's Hall with respect to a Bill to come before Parliament to give powers of a varied character to the Leicestershire and Warwickshire Electrical Supply Company. His Worship proposed a resolution authorising opposition to the measure, and said that its character was such that, if it passed, the representatives of the ratepayers on public bodies would be compelled to seriously hesitate before undertaking the municipalisation of gas, electric light, water supplies and tramways. Alderman C. J. Hill seconded the motion, and touched upon the uselessness of trying to persuade the promoters of the Bill that their scheme could not prove a profitable one. The Council, however, desired to be left alone in their undertaking. Alderman Andrews, Alderman Loudon, and several other members of the Council supported the proposal, which passed unanimously.

AT the meeting of the Rothesay Harbour Trust and Town Council on Monday last, Provost the Marquess of Bute presiding. At the Trust the minute of agreement with Mr. George Halliday, contractor for the pier extension, was read and authorised to be signed. On the motion of Bailie Fisher, it was remitted to the harbour committee to consider as to widening the drawbridge, and to report to a future meeting. The Town Council unanimously agreed to appoint Lord Bute commissioner, and Bailie M'Intosh assessor, to the forthcoming Convention of Royal Burghs. On the recommendation of the bills committee it was resolved to petition in favour of the Glasgow and South-Western Railway Bill so far as the extension to Largs was concerned, and to petition against the Telephone Bill. The electric-lighting committee reported that they had visited various places where electric-lighting had been adopted, and as a result they recommended that a scheme estimated to cost 1,800*l.* for the lighting of the Harbour Esplanade, &c., be adopted. Under this scheme it was not intended to give a supply for private purposes, but it was to be kept in view that under the Board of Trade Order they would be obliged to give a private supply if asked. It was stated that the cost of the proposed installation would not exceed 1*d.* per £ on the rates. The recommendation of the committee was agreed to, and it was also resolved that the installation should be proceeded with at once in order to be in operation in July or August at latest.

VARIETIES.

THE completion of the memorial of Archbishop Benson, in Canterbury Cathedral, has been promised by July 8, and the unveiling has been fixed for that date.

A NEW Baptist church has been erected at Lowestoft from the designs of Mr. George Baines, of 2 Clement's Inn, W.C., and was opened on the 9th inst.

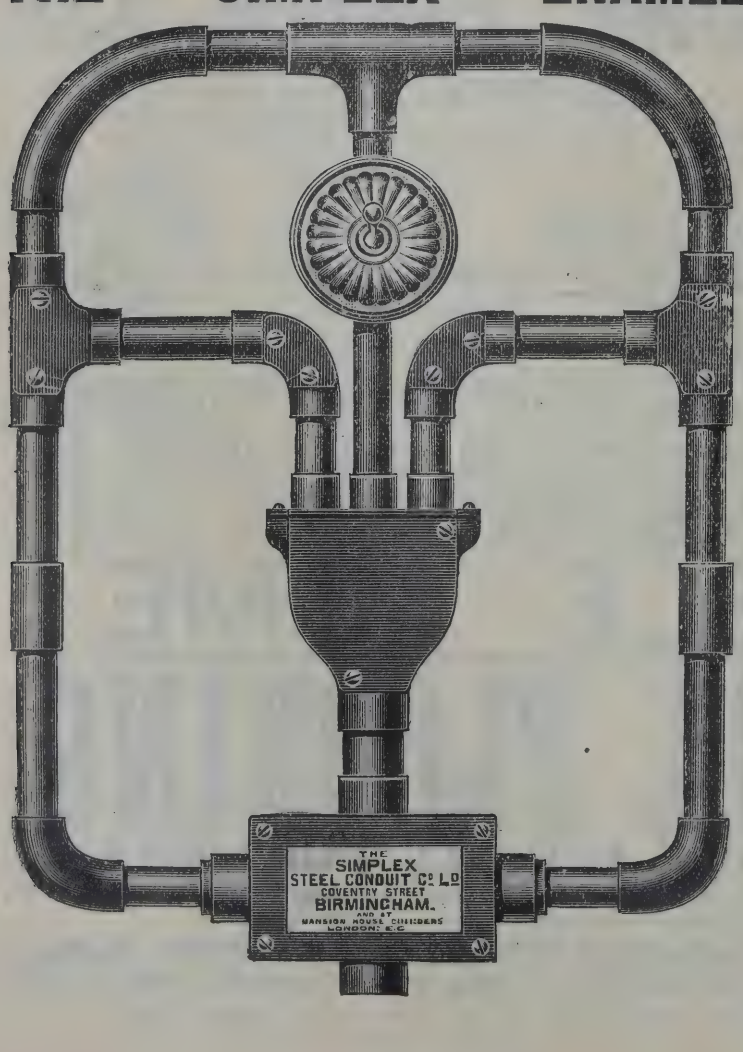
DURING the height of the gale on Sunday the minute hand of the western dial at the Antwerp Cathedral, weighing 150 lbs., fell with a terrible crash, breaking the windows of a small liquor shop in the neighbouring street.

THE first part of the scheme for the decoration of St. Michael's, Woolwich, has just been completed. Five angels, painted on canvas, after the style of Albert Dürer, have been placed above the large chancel arch, and the surrounding portion diapered in Indian red, and finished at bottom with a border upon the yellow brick.

WE regret to announce the death, which took place on the 1st inst. after a long illness, of Mr. Glenn, sole proprietor of the Seyssel and Metallic Lava Asphalte Company, 42 Poultry, E.C. The business will be continued as heretofore under the same management, with the addition thereto of Mr. George F. Glenn, the only son of Mr. Henry Glenn.

AN important structural improvement is just now being carried out in that part of the House of Lords which was formerly devoted to the chief librarian. Some time ago the House of Lords offices committee decided to discontinue the residence of that official, and as a consequence his salary was increased from 800*l.* to 1,000*l.* per annum. The various rooms of the House are now being reconstructed. The drawing-room has been converted into an additional committee-room, while the dining-room, it is stated, will henceforth be used as a smoking-room, in connection with the library, it being understood that in due course the rest of the building will be appropriated in like manner.

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ILLUSTRATIONS.

ATHEDRAL SERIES—DURHAM: NORTH TRANSEPT. DETAILS OF NORTH PORCH. WEST DOOR, FROM INSIDE.

BEAULIEU, WIMBLEDON PARK.—BILLIARD ROOM GALLERY. FIREPLACE. TO WINDOW. TO FIREPLACE.

THE BRITISH FIRE PREVENTION COMMITTEE.

HE first official test under the auspices of the British fire evention committee took place at its testing station, off egent's Park on Wednesday afternoon at 3 P.M. The subject nder investigation was a floor constructed by the Expanded Ietal Company, Limited.

Sir Arthur Blomfield, A.R.A., attended to represent the ouncil, and among the ten representatives of the committee ere :—Messrs. Arthur M. Watson, district surveyor, St. eorge's, Hanover Square ; Bernard Dixie, district surveyor, ast Newington ; Benjamin Tabrar, district surveyor, Green- ich ; Frederick Hammond, district surveyor, East Hamp- ead ; Edmund Woodthorpe, district surveyor, Northern ivision of the City of London.

The test was conducted by a special sub-committee of the ecutive, comprising Mr. Max Clarke (directing member), r. Ellis Marsland (district surveyor, Camberwell), and Mr. harles E. Goad, C.E., with Mr. Edwin O. Sachs (chairman of e executive), and Mr. F. Farrow (chairman of the Commercial ction), *ex officio*.

Among the special visitors was the technical attaché of the erman Embassy (Mr. H. Muthesius).

The official illustrated report will be issued in due course.

TRADE NOTES.

HE ventilation of St. Fittick's parish church, Torry, Aberdeen, r. A. L. H. Mackinnon, architect, is being carried out by eans of Mackay's patent invisible roof-ventilators, manu- ctured by the sole makers, Cousland & Mackay, 150 Hope reet, Glasgow.

MESSRS. E. H. SHORLAND & BROTHER, of Manchester, ve just supplied their patent Manchester grates to the New ottage Hospital, Ramsbottom.

A HANDSOME new chancel screen, presented to the amington parish church by Alderman S. Flavel (church- warden), was dedicated on Saturday afternoon, in the presence of a large congregation. The screen is of hammered wrought-iron, richly decorated and constructed from designs prepared by Sir Arthur Blomfield. It is about 26 feet high, and surmounted by a handsome Maltese cross 7 feet high and weighing 1½ cwt. The screen adds much to the beauty of the church, and is the finishing work in the task of restoring the chancel, which Mr. Flavel nearly completed ten years ago. The screen is the work of Messrs. Hart, Son, Peard & Co., Limited, of Drury Lane.

A FINE clock has just been erected at Vaynol Park, Bangor, North Wales, of the very best quality, with Lord Grimthorpe's double three-legged gravity escapement, compensation pendulum and all the latest improvements. The time is shown upon two skeleton cast-iron dials fitted in with white opal glass for illumination, there being an automatic gas apparatus attached for turning on and off the gas according to the season of the year. The clock strikes the hours upon a large bell for the convenience of the woodmen and farm servants, and can be heard at a great distance. The clock and bell has been supplied and fixed by Messrs. Wm. Potts & Sons, clock manufacturers, of Guildford Street, Leeds, from instructions received from Mr. J. P. Lort, steward to Mr. J. Grant Duff Assheton-Smith, J.P., the owner of Vaynol Park. The tower was erected by Mr. Williams, architect to the estate. Messrs. Potts & Sons, of Leeds, the makers, have also in hand a very large clock and bell for the new Barry Dock offices, Cardiff, South Wales.

THE Climax Ventilating and Heating Company, Limited, with a capital of 3,000*l.* in 3,000 shares of 1*l.* each, has been formed for the purpose of taking over and carrying on the business of the Climax Ventilating and Heating Company, with their patents, trade-marks, designs, &c., under an agreement with Mr. James Cousland, ventilating engineer, 93 Hope Street, Glasgow, and to provide capital for the further development of the business in its different branches of ventilating, heating and sanitary engineering. It is intended to add to the business that of lighting and electrical engineering in connection with ventilation. The company have secured the service of Mr. James Cousland, ventilating engineer, who has had a very long practical experience in connection with some of the largest ventilating firms in the country, having for ten years acted as manager for Messrs. Robt. Boyle and Robt. Boyle & Son, Limited, and in connection with the Climax Ventilating Company.

O ARCHITECTS, SURVEYORS, &c.

The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent"), having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

Beg to call the attention of the Profession to the following fact:—

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CHING'S New Patent Silent Chimney Breast Ventilator.

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BUILDING AND BUILDERS.

THE foundation-stone has been laid at Birtley, Durham, of a new Primitive Methodist chapel, which is to cost 2,800*l.*

A SITE for a new Methodist New Connexion chapel has been secured at Malin Bridge, near Sheffield.

IT has at last been resolved to carry out a scheme of restoration at Brierley Hill parish church at a cost of 5,000*l.*

THE bricklayers employed by the Battersea Vestry are on strike, and all the Vestry's building operations are suspended. The strike was occasioned by the surveyor or Vestry ordering a plasterer to do some tiling which the bricklayers regard as part of their own particular work. The Vestry has been placed on the "Unionist black list."

THE scaffolding of a new building in course of construction in the suburb of Holensee, Berlin, collapsed on Saturday afternoon, carrying with it five of the workmen engaged upon it. Four are reported to have been killed, and the fifth is so seriously injured that his recovery is doubtful.

AT the Ayr Town Council meeting on Monday the question of a site for the town hall was again under discussion, and it was agreed by 12 votes to 4 to acquire the site at the corner of Sandgate Street and Fullarton Street, which had been offered at the price of 4,200*l.* The ground extends to about three-quarters of an acre.

THE Portessie (N.B.) Harbour committee have decided to get a preliminary survey of the shore at Portessie as to the most suitable site for the construction of a harbour, along with an estimate of cost, from three engineers—one in Aberdeen, one in Inverness, and the other in Oban. The site which is received with most favour is at the east end of the village, a few hundred yards from Craigenroan.

THE sixth annual dinner of the Timber Trade Federation took place on Monday night at the Trocadéro, London, Alderman Low, Bristol, presiding. Sir H. Seymour King, M.P., and Mr. Batty Langley, M.P., expressed the hope that the present session would see a Bill passed compelling limited liability companies to give notice before issuing debentures, so as to protect honest traders. Mr. Langley also said that workmen's compensation should be a national system. Government could protect itself by placing a tax on the wages sheet. It was urged by other speakers that Parliament should pass a general law concerning the question of lights, and not leave the matter to interfering local authorities.

THE church of St. Peter, Bury, Lancashire, which was built as recently as 1872, at a cost of 5,000*l.*, has been declared unfit for public worship on account of the giving way of the walls. A scheme is now being started to pull down the old building and erect a new church on the same site. The material of the old church will be utilised as far as possible, but it is estimated that 3,000*l.* will be required in addition to complete the scheme.

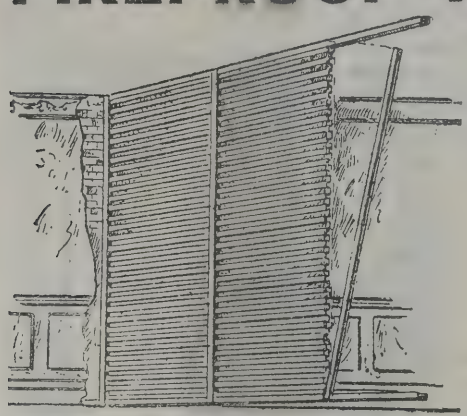
AT the new Lyceum Theatre, Eccles, a journeyman decorator named Frederic Mason was killed on the 10th inst. He was engaged in decorating the ceiling of the theatre when in consequence, as it is believed, of the slipping of a plank, he was precipitated to the floor of the pit, a depth of 60 feet. Mason was about thirty-four or thirty-five years of age, and belonged to Morecambe. This is the first serious accident that has happened during the building of the theatre, the opening of which is fixed to take place at the end of this month. The deceased was employed by a London firm, and only began work on Wednesday.

THE Corporation of London have decided to make improvements at the City of London Lunatic Asylum at Stone, near Dartford, at a cost of 85,850*l.* The original estimates—70,000*l.*—which the Common Council accepted in October 1897 included amounts for the warming, heating, lighting and engineering works in connection with the new building, but further inquiry has led to the condemnation of existing boilers, the replacing of which, together with the installation of the electric light in the asylum, has necessitated the increase in the expenses of 15,850*l.* A report sanctioning this enhancement has passed the Corporation.

IN addition to the large building now in progress close to the high-level station, Wolverhampton, the directors of Chubb & Son's Lock and Safe Company, Limited, have this week decided to also build over the rest of the freehold land which they acquired recently from the Wolverhampton Corporation. Messrs. Chubb's Company have large works in London for strong-room and patent safe making, but it is found that the accommodation provided at these works, together with the lock factory in course of erection at Wolverhampton, will not be sufficient for the present requirements of the business, to say nothing of further necessities. The further additions will be of a substantial nature, affording accommodation for 100 more men, and when the whole of the new buildings at Wolverhampton are fully equipped, they will have cost the company between 15,000*l.* and 20,000*l.*

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The gable of a house in course of erection in Ann Street, Aberdeen, fell on the 10th inst., with the result that three masons, named George Christie, John Massie and his brother James Massie, were seriously injured. The accident is attributed to the recent heavy rains, which had loosened the stone. In the course of investigations, a sad discovery was made among the ruins inside the building. John Ferguson (twenty-one), an apprentice mason, had been at work at the top floor when the gable fell, but in the confusion that followed he was not missed. His sister, however, called to inquire if anything was wrong, as he had not come home to dinner. A search was made among the fallen masonry, and the body of Ferguson was discovered lying under a pile of stones and rubber. He had been terribly injured about the head, and life was extinct. The other three men are seriously hurt, but are progressing favourably.

At last week's special meeting of the Oldham School Board the minutes of one of the committees, involving a contentious principle with regard to tendering, were passed without objection, the contending parties having settled their differences in order that the work might not be checked. Mr. F. W. Potter, in proposing the adoption of the minutes, referred to the new mixed school at Roundthorn. He said the cost would be more than the limit of 10*l.* per scholar fixed by the Board, but it would be impossible to provide a reasonably good school within that limit. When finished he would not fear to compare it with the school at Dukinfield, which had been described as the best elementary school in the United Kingdom, and which, they had been told, had been built at 10*l.* per head. He and other members had visited the latter school, and in no way, either as to general character of the building or quality of material, would it compare with the contemplated Roundthorn school. The Chairman observed that these remarks were more bold than prudent, but the minutes were adopted without further comment.

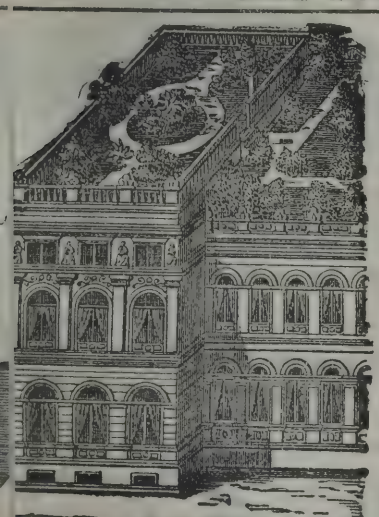
The Archbishop of Dublin recently laid the memorial-stone of the new National schools, under Church of Ireland auspices, now in course of erection in Lower Sherrard Street, Dublin. The plan of the new building has been determined in some measure by the outline of the ground, and will take the form of a Greek cross, its greatest length and breadth being internally 124 feet and 46 feet respectively. It will consist of a single storey. This arrangement is a convenient one for teaching purposes, and enables the entire floor space practically to be available for large meetings and for drill purposes when so required. When not so used rolling shutters will be let down to divide the space into schoolrooms of suitable size. There are two main entrances from Sherrard Street, leading through roomy porches to the boys, girls, and infants' schools respectively. The number of children to be provided for is 500, and the accommodation afforded fulfils all the requirements of the National Board of Education. The walls are constructed of breeze concrete; the dressings of the openings and the plinth, &c., courses, are of brick, red facing brick being used on the exposed portions. The intervening space will be covered with pebble dashing. Internally the roofs will be open to half their height, the timber principals being exposed and stained. The lower part of the walls will be lined with wainscot, the upper portion being plastered. Due provision has been made for efficient sanitary fittings, and for ventilation and heating. An ornamental turret will surmount the main roof over the centre of the building, which will also serve as an outlet ventilator for extracting the vitiated air from the various classrooms. The architect is Mr. W. M. Mitchell, of Leinster Street, under whose superintendence the building is being erected.

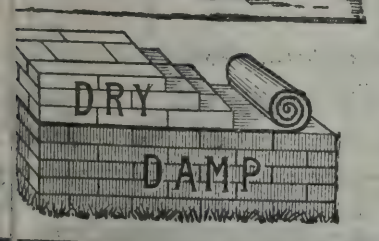
The members of the Barnsley Building Trades' Federation threaten to lock-out the whole of the trade union labourers in their employ. In September the plasterers employed by Mr. Lindley struck work because material was being obtained from a firm at Mirfield which employed a man who had failed to pay a fine imposed by the National Union of Plasterers. This was settled, but the Barnsley Labourers' Union imposed a fine on a labourer who had continued to work for Mr. Lindley when the strike occurred. The man would not pay the fine, the labourers struck, and Mr. Lindley's shop has been idle ever since, as the plasterers cannot work without labourers. The Federation, having failed to obtain a settlement, have given notice that if the objection against Mr. Lindley's shop is not removed by Saturday next, they will lock out all the trade union labourers in their employ. It is said that there are plenty of non-union labourers to be had, but a settlement is hoped for.

NOTTINGHAM MASTER BUILDERS' ASSOCIATION.

The annual dinner of the Nottingham Master Builders' Association took place on Friday evening under the chairmanship of Mr. Enoch Hind, in the absence through illness of Mr. James Wright, the president of the Association.

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Mr. Vickers, who proposed "The Architects," regretted that no gentlemen of the profession were present to respond.

On rising to propose "Success to the Master Builders' Association" the Chairman was heartily greeted. He said the Association had been formed for only two or three years, but he was pleased to inform them that during the past year their membership had increased by 31. They had had 140 meetings during the twelve months, and the members on the books to-day were 99. He hoped they would soon exceed 100. They were all aware that they had had some differences with the architects and with the men during the year. At its beginning there was a strike with the labourers, and of course the old song again—the bricklayers were in sympathy with them. There was only one thing—the Association had to give way to it because work was good; but he was sure that so long as they remained banded together they would go on progressing, and not only progressing, but they would be even more successful in the undertakings of the future than they had been in the past. The chairman concluded by sympathetically referring to the decease of two old friends of the Association, Mr. Fred Messom and Mr. Enoch Kent.

Mr. George Fish responded, and observed that although the Association had had several difficulties to contend with they had been amicably overcome. They had met the bricklayers on several occasions, and the latter had met the masters in a fair spirit, and it was sincerely hoped that the plasterers' matter would eventually be settled without any deleterious issue. In conclusion Mr. Fish expressed a hope that all the members of the organisations would do their utmost to promote its success.

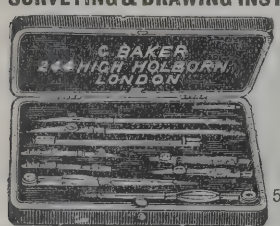
OLYMPIC THEATRE.

AMONG the properties scheduled by the London County Council for purchase in connection with the proposed new street from Holborn to the Strand is the Olympic Theatre in Wych Street. The lessee of the theatre has recently written to the improvement committee of the Council offering to dispose of the unexpired lease of the theatre for 12,000*l*. The lease has fifty-one years to run from December 31, 1898, at a rent of 2,250*l*. per annum. The agent acting for the lessee states in one of his letters to the committee that, whilst willing to meet he Council in the matter, he has instructions, unless the Council purchases the lease immediately, to sell the property to others who are prepared to purchase as a speculation. The committee think the amount a reasonable one, and considerably less than the cost would be if the Council waited until it obtained its special Act of Parliament, and declined to avail itself of the present opportunity for purchasing by agreement with the lessee. In their report upon the matter the committee deal with the question of whether the Council has power to purchase the property in anticipation of the passing of an Act of Parliament, and they say it appeared that the Council had power to purchase the theatre. If the Council's Bill for the new street should be rejected by Parliament—a contingency which the committee think it hardly necessary to contemplate—the Council would have a valuable asset in the lease of the Olympic Theatre, and would be able to dispose of it without loss. The valuer estimated the saving to be effected by immediate purchase at no less than 25,000*l*. The committee had no hesitation in advising the Council to save so large a sum, and accordingly recommended the Council to pass the necessary resolution for immediately acquiring the property at the sum stated.

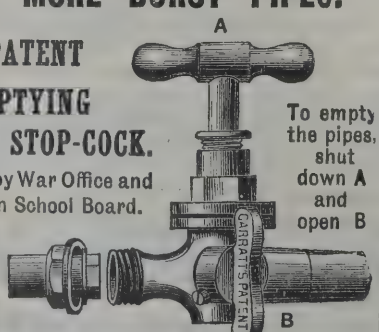
COTTAGE FLATS IN NORWICH.

NORWICH has set itself, says the *Mercury*, to solve a great problem. This is nothing more nor less than supplying the 17,000 inhabitants of the city courts and yards with good sanitary dwellings. It appears probable that in the majority of instances this will have to be accomplished by the owners making improvements in the houses already inhabited. But this opens up a further problem. Should the owners expend any considerable sum in improvements, as a natural consequence they will endeavour to raise the rents to recoup them for their outlay. Notwithstanding that the ethical side of this question will not bear close investigation—for in the majority of cases the profits have been sufficiently large for a number of years to have fully provided for the improvements which are now being made compulsory—yet this is a result which is almost bound to accrue. But in many cases the inhabitants are now paying the maximum rent which their income will allow. It is the general experience that habitations at a rent within the reach of the average labouring man are so scarce that hundreds of them are paying rents so proportionally high to their wages as effectually to cripple their

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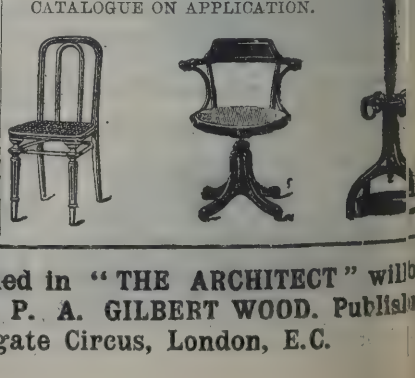
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nances, and throw them into a chronic state of impecuniosity. and in the heart of the city is so valuable as to make it a atter of extreme difficulty to procure the necessary air-space, uild cottages to satisfy the requirements of the by-laws and at e same time obtain a sufficient return for the money invested. ere the tramways will render efficient aid by carrying work- en to and from the suburbs in reasonable time. There land not so valuable, the air is pure and plentiful and good sanitary nditions can be secured in a locality newly-opened up, far sier than by endeavouring to improve the surroundings in hat may have been an inhabited area for centuries. Street ter street of houses ranging in rental from 8*l.* to 20*l.* has been ected on the outskirts of Norwich. In a very few instances, owever, have speculative builders erected cottages to let at . 10*s.* per annum, chiefly on account of the financial diffi- ulties in the way.

In Anchor Street—which runs from Barrack Street towards lousehold, and will eventually be continued to the borders of e Heath—a new departure has been made in Norwich by the rection of cottage flats by Mr. George Fitt, whose enterprise most commendable. The locality is in every way suitable. he distance from the city is not too great, there is an un- nited supply of fresh air, the situation is high above the river ith a sandy subsoil, and there are splendid views obtainable the city and especially of the cathedral. Mousehold Heath close at hand, and there is very little probability of that ever eing enclosed, so that the open country is practically at the oors of the inhabitants. Twelve cottages have already been ected, providing accommodation for twenty-four tenants, and e row when completed will contain nineteen cottages, with, course, double that number of tenants. Anchor Street is the gulation 36 feet in width, and is now in process of being made up" by the Council. Viewed from the exterior the ttages have a neat and substantial appearance, the front evation differing but little from that of the ordinary cottage, ve that there are to every house two doors side by side, ne giving access to the ground-floor and the other by a nort passage and a flight of stairs to the first-floor. These e in what is virtually a porch. The cottages are built of red ick with white facings, and are tiled. In front of each house a small patch of garden enclosed by palisading, with ntrance-gate. The ground-floor contains a fairly roomy ntrance-hall, bedroom, living-room (containing pantry) and tchen, all fulfilling the requirements of the city by-laws. All e rooms are 8 feet in height. The kitchen window looks on to a paved yard, and the kitchen itself contains a neat little fireplace and oven, a copper, the Waterworks Company's supply and an earthenware sink. The drains are all well trapped, and the rooms ventilated and better lighted than are the average. At the rear of the piece of garden is a ventilator by which the air obtains an inlet, and thus a free and constant passage and rush of air is obtained through the drain ventilating pipe. There is a water-closet for every two dwellings, joined to the coal-house by a covered passage. The coal-houses are separate. An ingenious arrangement has been made for the bins. A brick chamber was constructed, and the galvanised iron removable bin placed therein. An opening in the side of the brick chamber is provided with a flap similar to a letter box, for the use of the tenants on the ground floor, while a 9-inch pipe rises from the roof of the brick chamber to the flat above, and so enables the tenants there to utilise the same bin. According to the city by-laws each house must have 150 feet of open space in the rear. This was easily obtainable with regard to the ground floor, but it was some time before the plans committee of the Council would agree to the plans for these flats, because they thought that the space on the cement-concrete flat on the first floor—the most airy part of the whole building—ought not to be included in the 150 feet of "open space." Since their erection they have been inspected by the city engineer and the plans committee, and passed for habitation. So much impressed with them was one member of the Council that he intends erecting fourteen similar cottages (that is twenty-eight tenements) as soon as the plans are passed.

To all intents and purposes the first floor flat is an entirely distinct habitation from that on the ground floor. There is a separate entrance from the street into a small passage, and then by a flight of stairs into the living-room. Here there are two bedrooms, the space over the two passages being available—which is not the case with the ground floor. These are efficiently ventilated. The living-room and kitchen are fitted up like those on the ground floor, and the latter opens on a cement-concrete flat, from which access is gained to the coal-house and water-closet, constructed in a similar manner to those below. A splendid view can be obtained from this flat, which is probably the nearest approach in Norwich to the flat roofs of the houses of the Orient. Here a man may sit on a summer evening and enjoy the fresh air sweeping down from the rolling slopes of Mousehold Heath, certain he is breathing that which will recuperate him for the toil of the day, instead of, as in so many of the city courts and yards lowering his vitality, and so

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rendering him less able to battle against the encroachments of disease. If the occupants of the first floor have not the garden advantages of those on the ground floor, they have ample compensation in the beneficial altitude of their flat. Although unable here to fully enter into the financial aspect of the question, it is asserted on the best authority that an excellent return for money invested can be obtained by a rent for each flat of 2*s.* 6*d.* per week, or 5*s.* for the two floors. In this particular instance the bricks were made at a private brickyard; but putting that fact aside, it seems safe to assume that what private enterprise has done the municipality can do; that at least is the experience of other localities. And that, too, without throwing any burden upon the rates. Much, of course, depends upon the class of tenants, and in these cottage flats there is not sufficient accommodation for persons with large families. Mr. Fitt holds that a person should not pay more than an eighth of his income in rent, and it is therefore the class earning about 1*l.* or 1*l.* 5*s.* a week that these cottage flats more particularly benefit. Yet even for these, applications have been received from workmen earning 2*l.* and over per week—applications which by the way have in all cases been declined, as it is held that they can well afford 5*s.* per week for rent. These cottage flats are the first examples in the city, but it seems probable that in the near future the principle will be considerably extended. If so, and healthy habitations are provided at a reasonable rental within the reach of the ordinary working man, the slum problem will be considerably nearer a satisfactory solution.

COLLAPSE OF ROOF, CHRIST CHURCH, BIRMINGHAM.

THE coroner's inquiry into the circumstances surrounding the death of two men through the fall of roof-timbering at Christ Church, Birmingham, on Tuesday the 7th inst., took place at the Victoria Courts. The deceased men were George William Stokes (thirty-nine), of 230 Camden Street, and John Peaton, otherwise Patton, 7 Ladywood Terrace, Eriston Street. Their regular calling, says the *Birmingham Post*, was that of telephone-wire men, but recently they had been assisting in the demolition of Christ Church, and were described by their employer as two of the best workmen he had ever had. The inquest was attended by Major Roe, Her Majesty's inspector of factories; and Mr. Noble, barrister, represented the widows of the deceased, and also obtained the coroner's permission to ask several questions on behalf of Mr. Benton, the contractor, it being explained that the interests of these parties were not antagonistic. After evidence of identification had been given,

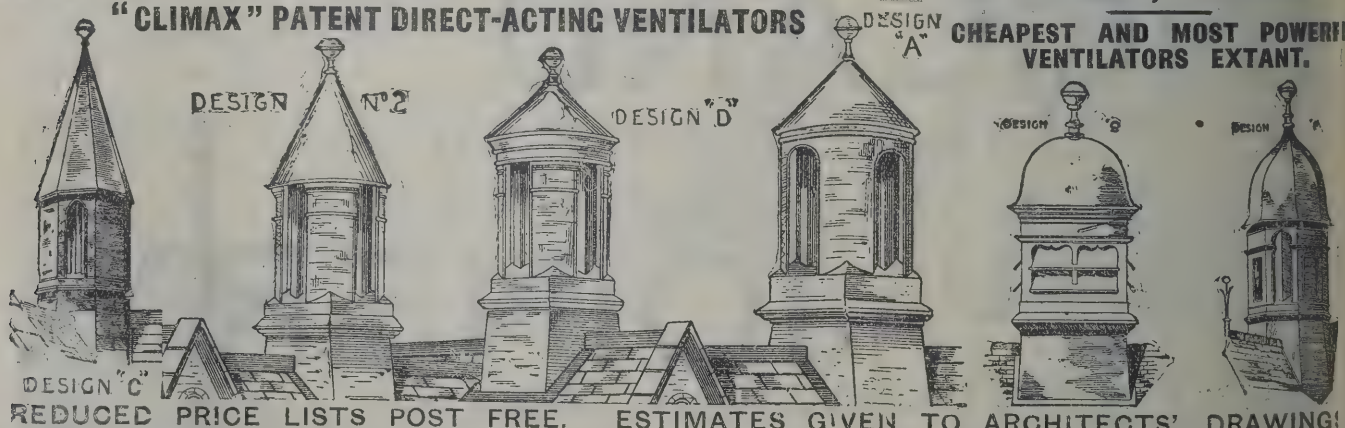
Mr. William Hale, architect, put in plans which he had made since the accident, illustrating salient features in the construction of the church. He said the beam which gave way was 65 feet long, and had a bearing of nearly a foot on the masonry on each side. The roof was constructed on the queen-post and king-post principle, the timbering being connected by a system of struts and iron ties. So far as design went it was exceedingly good and strong.

Mr. James Benton, the contractor to whom the removal of Christ Church was committed, stated that on the morning of the 7th inst. the weather was too bad for the men to work on the demolition of the roof of Christ Church. He would not allow the gangs of workmen to ascend to the rafters, but he and his brother went up, and by way of forwarding matters preparatory to the resumption of work, they sawed partly through the principal rafter close to where it was bolted to the beam which afterwards gave way. They proposed later on to lower the roof timbers, and meanwhile witness instructed his brother to secure the beam and other parts of the structure with ropes attached to the joists of the belfry. He then left the site, leaving his son in charge, with authority to recommence work as soon as the weather permitted. Some two hours later he heard an accident had happened, and hastening to the spot found the beam had broken at the queen-post in the mortise.

The portions of the beam at the point of fracture were produced in court. The timber was partially decayed, particularly in the mortising.

Witness went on to say that when he saw the workmen Stokes and Peaton in the General Hospital afterwards they both said that no blame attached to anyone.

In reply to Major Roe, witness explained that the process of removing the roof would have been to take the top timbers first, and as they progressed to put in temporary timbers to sustain the lower framework. They sawed the end of the principal rafter to within about 2 inches of its extreme thickness, and did so because it was impossible to release the pin which secured it to the beam. Between the rafter and the beam there was a strut. When they sawed the beam there was no indication of any disturbance of the strain, nor did a cursory inspection of the queen-posts disclose any indications of rottenness.

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Mr. Charles Benton, brother of the last witness, said that, accordance with the instructions he received, he got on to e roof-timbers shortly before two o'clock to tie a rope on to e upper timbers. At this time there were three workmen on e horizontal beam to assist in fastening the rope at that end, d suddenly witness heard a crash and saw his companions ecipitated to the ground. He was also thrown from his nding place, but managed to clutch at some wood and save nself. The men who fell were Stokes, Peaton and another med Green, and at the time of the accident they were stand- close together very near to the point where the fracture curred.

Thomas Green, who had a surgical bandage on his head, d appeared to be very weak, said that whilst waiting on the am with Stokes and Peaton to receive the rope from Charles nton, who had climbed higher up to secure it to the top nbers, he heard a crash, fell from the beam and remembered more.

John Thomas Paget, a carpenter, who had been engaged in tting up a hoarding round the church, Thomas Ireland, a bourer engaged on the roof at the time of the accident, and olice-constable Henry Fowke spoke to the positions in which e injured men were found lying after the fall.

Mr. F. Victor Milward, a resident surgical officer at the eneral Hospital, said that Stokes was suffering greatly from ock when admitted to the institution. There were symptoms fracture of the spine, and fractures of the collar-bone, ribs d pelvis were ascertained. The patient died the same ening. Peaton only bore evidence of abrasions, but since death on Thursday witness had made a post-mortem amination and found the pelvis and one rib fractured, and ere were other internal injuries.

Mr. Hale, recalled, said that, having heard the evidence of e witnesses and examined the question in other aspects, he d come to the conclusion that the cause of the fracture s the rottenness of the wood, coupled with the fact men walking on the beam and springing. Possibly weather might have had some effect on the sappy od. At the New Street end he found evidence of dry- t in the beam, and throughout portions he had examined arly three-fourths of the wood had perished. This was not ticeable from the outside, however. If the beam had been roughly sound it would have been more than sufficient for e weight it had to bear. It was Baltic timber of unusual antling and length, such as it would be impossible to obtain at the present day. It would have borne ten men had it been sound. He thought it was imprudent on the part of those in charge of the work not to take proper means to stay the tie beams all along the centre if they were intended to be taken down piecemeal. He scarcely thought the saw-cut contributed to the accident. The attachment of a rope to the beam, as was proposed to be done, would not have prevented the fall; a chain would have been necessary to resist such a strain.

The Foreman of the Jury (Mr. S. E. Short): Are there any by-laws that control the pulling-down of buildings? Witness: I do not know.

This was all the evidence, and the Coroner summed up, expressing sorrow that the demolition of the church had not been accomplished without loss of life. As to the question whether anyone was guilty of criminal negligence in connection with the work, to his mind the evidence did not go to the length of suggesting that, nor did it even tend in that direction.

The jury returned a verdict of "Accidental death," and added that they thought the city authorities should take cognisance of the demolition of buildings, seeing that it was attended with considerable danger to life and limb.

The Coroner promised to convey the representation to the proper quarter.

VULCANITE ROOFING FIREPROOF.

AN interesting and eminently satisfactory test of the fireproof qualities of the vulcanite roofing made by the Patent Vulcanite Roofing and Asphalte Company, of Bow, took place last week at Wolverhampton on a piece of ground in Lever Street, off Green Lane. Some small cottage-like buildings had been hastily erected, consisting of two apartments, the one roofed with an ordinary span slated roof, the other with a flat vulcanite roof. Both had plastered ceilings, a door, a window and a fireplace, and were filled with highly inflammable material.

The fires were lit at 2.20 P.M., and were kept strongly burning for an hour and a half. The ceiling under the vulcanite roof succumbed quite fifteen minutes in advance of the other, and it was wonderful to note how long the slates lasted. They began to slide off, however, one by one, the slate-laths burning completely away, and each slate remaining whole. The vulcanite roof, however, remained intact to the end. Quite thirty minutes of clear smokeless fire was playing upon the underside of the vulcanite after the slate roof was beginning to go. The build-

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ing was filled up three times with successive piles of firewood, in order to keep up a strong heat. After the firemen had extinguished the flames five men stood upon the flat roof, and jumped about to test its strength, thus proving that the joists and flooring upon which the vulcanite material was laid was fully intact and strong, although charred beneath. A fireman cut out a piece of the vulcanite material during the fire, and although it was somewhat plastic from the action of the strong heat passing over it, no sign of flowing was noticed, and it had not even soiled the boards upon which it lay, and which remained white and clean. The whole heat of the fire escaping by the door and window was carried directly over the vulcanic roof by the slight wind prevailing, thus showing that sparks and heat did not ignite it outside.

The whole success of the test, severe as it was, was entirely due to the fact that vulcanite roofs are laid on boards 1 inch thick, tongued and grooved tightly together, thus forming an air-tight covering and affording no encouragement to a fire. The timbers for vulcanite roofs are always of the same strength as those used in the room floors beneath, and are laid in the same way.

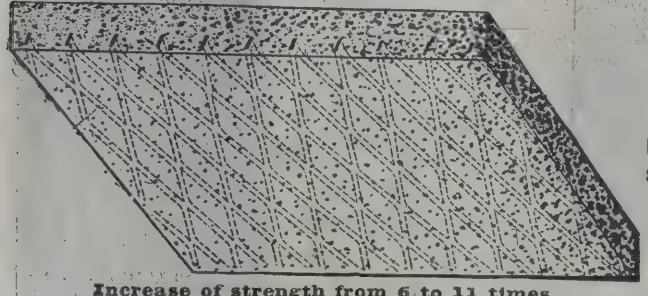
At the conclusion of the experiment, which was witnessed by some hundreds of spectators, Captain Burnett, Mr. Elliot (superintendent of the fire brigade) and the borough surveyor expressed themselves amply satisfied of the superior fire-resisting qualities of vulcanite for roofing purposes.

GREAT CENTRAL RAILWAY.

The Great Central Railway to London will be opened, says the *Standard*, for general traffic on March 1, the terminus of the line—which is a development of the Manchester, Sheffield & Lincolnshire Railway—being in Marylebone Road. For some months the rails have been in use to convey coals and other merchandise to the Metropolis, but they will not be utilised for the conveyance of passengers till the end of this month. Coal and other heavy traffic will provide no small portion of the income of the company; indeed, they furnish the chief reason for its existence. The old Manchester, Sheffield & Lincolnshire Railway was being steadily fenced in by other companies, just as the prosperous Lancashire and Yorkshire Railway has been, and the directors foresaw that unless they broke fresh ground and made a way to the Metropolis their organisation would be no more than a mere system for th collection of goods for other lines, especially the Grea Northern and the Midland Railways. The result i the creation of a new main artery to the north, wit feeders to towns where competition in railway enter prise will be heartily welcomed. The original pla was to have utilised the existing lines of the Metropolita Railway from Quainton Road, forty-four miles from Marylebon But the two companies have since disagreed, and an arrange ment has been come to between the Great Central and th Great Western under which, as stated last week by the Earl c Cawdor, chairman of the latter company, the new line will b made practically independent of the Metropolitan. Under th old arrangement the Great Central used the Metropolitan rail from Quainton Road to Harrow, but from that point additiona rails were laid down to West Hampstead by the Metropolita Company. From West Hampstead the Great Central owne the two miles of metals into the terminus. But it obtaine further powers to make branches at Banbury, and fro Neasden, where the company have their engine sheds, to th Great Western Company's main line, and the Bill which th two companies are promoting this session will enable them t build jointly a line connecting the Wycombe and Oxford Rail way with the Great Central line near Grendon Underwood, fo which Princes Risborough will be the junction, some thre miles from Quainton Road. The journey will be a somewha longer one, but it means that only about three miles of Metro politan metals will require to be used by the new company instead of forty as before.

The southern section has been laid out by Sir Douglas Fo and Mr. Francis Fox. Its most important part has, of course been the terminus. The last two miles are half tunnel o covered way, but only two tracks have been made, though th railway owns the adjoining freeholds and is quite ready to pu down more lines when they are required. To find ground fo the terminus the company had to buy up two squares and mor than twenty streets, but an easy access has thus been provide to its station. Three tunnels with seven pairs of rails pas under Lord's Cricket Ground, and after emerging at St. John' Wood Road they are increased, till on the bridge over th Regent's Canal there are eleven lines of metals. The coa depôt at Carlisle Street has special provision made fo it, and it is a remarkable fact that, though this hold 300 trucks, it has already proved too small, and is t be doubled in size. The goods yard is completed an

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tains one of the largest sheds in existence, with a floor ce of over eleven acres. The company made a new street ning east and west from Park Road to Lisson Grove, and it etween this new street and the Marylebone Road that the senger station has been built. The terminus is on the et level, and is masked by the buildings of the Great ıtral Hotel, though with a road 90 feet wide separating m. The station buildings have a frontage of 325 feet, upied with the usual offices, and behind these will be what y be called a circulating space 253 feet long by 100 feet e. At present the terminus is only half the size originally nded, containing only five pairs of rails instead of fourteen, no doubt the extension will come about, and the company ıs the property in Blandford Square to make it possible at time.

The route of the new line as far as Quainton Road is well wn to most Londoners. The company had to break fresh und from that point till the line reached Rugby, forty miles ıty. No great engineering difficulties had to be encountered, the work was by no means light. The ground is of a ing character, and comprises an important watershed—in , the sources of the Leam, the Nene and some of the head ings of the Thames are included in this portion of the route. e first station after leaving Quainton Road is Calvert, named r the Verney family, and then the line reaches Finmore tion, in Oxfordshire. Brackley, the next station, is an old ough, enfranchised as far back as the reign of Henry II. ised to return two members to Parliament, but its glory has departed. Then come Culworth, Helmdon and Woodford, ere there is a junction, sorting sidings and locomotive sheds. m Charwelton to Willoughby, some seven miles, the work heavy; the gradient all the way is about 1 in 176, and e viaducts—one at Willoughby with twelve arches, verton with eleven and Catesby with eight—were necessary. r Catesby is the only tunnel before Rugby is reached; passes through the hill for 3,000 yards, and is 500 feet ve sea level. The Rugby station of the company is in lmorton Road, and is reached from Willoughby partly ough a huge cutting two miles long, from which 1,250,000 ic yards of earth were taken. Beyond the station the line ses over a viaduct 300 yards in length, built on a curve, with entle gradient, and consisting partly of girder spans of great and partly of brick arches. This was necessary in order to y the line over the London and North-Western Railway and Oxford Canal, and it may be mentioned that all the work had to be completed without interrupting the constant traffic going on below for a single moment. The company were under heavy penalties not to damage or stop the traffic on the canal, which is on an embankment, and the engineers, as a measure of precaution, laid down in the canal bed a long steel trough of the width of the canal, so that even if the banks gave way under the operation of sinking the viaduct piers the water of the canal would not escape. The precaution in the end was not required. There are in all nine stations on this section.

From the crossing of the Oxford Canal the northern section is entered upon, Mr. Edward Parry, of Nottingham, being the engineer for this portion of the works. The line proceeds by way of Lutterworth, Ashby Magna and Whetstone, and has one gradient of 1 in 176 in its course. In Leicester the company had to build a new street and carry the railway at a high level, the northern approach being over a viaduct more than a mile long. From Leicester to Swithland the line is normal, and large sidings have been constructed there, but on leaving Swithland another viaduct through the new water reservoirs of the Leicester Corporation was necessary. The next station of importance is Loughborough, where the Midland main line is crossed, and so by way of East Leake and Ruddington to the Trent, which is bridged on three girder spans of 110 feet each, carrying four lines of rails. The line is now practically at Nottingham, and that town, valuable as its traffic may be, has given the company's engineers sufficient cause for the exercise of all their ingenuity. Arkwright Street station is temporarily one of the chief stations of the line, and great space is at this point devoted to goods sidings, locomotive and carriage sheds, and the like. From Arkwright Street the line is a tangle of tunnels and viaducts. The west end of the Midland station is crossed on a girder span of 170 feet long, and there are in all 1,000 yards of viaduct till the first junction with the Great Northern Railway is made. The two companies are building the Central Station jointly, and it will cover 12 acres of ground. The cost will not be far short of a million. To reach the site from the south some of the busiest parts of Nottingham were tunnelled, and it is in the heart of the town. A tunnel three-quarters of a mile long leads to it on the northern side. Carrington is the first station on the north, and then Sherwood Rise is burrowed under for 600 yards, while a little further on is the second junction with the Great Northern Railway. Ten miles from Nottingham is Annesley, where the old system of the Manchester, Sheffield and Lincolnshire terminated.

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THE INSTITUTION OF JUNIOR ENGINEERS.

On Friday, February 10, the chairman (Mr. Basil H. Joy) presiding, the Institution held at the Westminster Palace Hotel a joint meeting with the discussion section of the Architectural Association, when a paper on "Factory Design" was read by Mr. J. H. Pearson, a member of both societies. It dealt chiefly with the requirements in the design of factories for London and its vicinity.

In introducing the subject the author insisted upon the importance of a close relationship between the architect and engineer, as it was only by consultation together and united action, especially with regard to buildings of the factory class, involving the employment of machinery, that a satisfactory result could be arrived at. The sections of the London Building Act, 1894, which had special reference to buildings of the factory type, were touched upon, and the different kinds of buildings were classified. It was shown how the design and construction were affected, not only by the character of the machinery to be installed, but also by the form of power adopted for driving it. Systems in use at the present time were briefly reviewed, preference being given to electricity.

In considering the question of elevation, the good architectural effect obtained from the use of parti-coloured bricks was indicated, and the opinion expressed that stonework should be sparingly introduced, on account of its inability to withstand an excessive heat should a fire occur; its employment should be confined to copings, window-sills, strings and steps. Materials of construction were then considered, a number of specimens being exhibited to the meeting. Referring to foundations, wherever the nature of site-subsoil was at all doubtful a continuous bed of concrete over the whole surface was advised, as by that means a uniform pressure of the loads upon the foundations was secured. Fire-resisting floors and staircases having been discussed, the author proceeded to consider details for the construction of roofs, partitions, windows and skylights.

Furnace chimney-shafts received attention at some length, as did also the questions of ventilation, sanitation and fire-protection, with special reference to the Factory Act of 1895. The construction of a factory with which the author had been associated was described and illustrated, and an interesting account given of the method of putting on an additional top-floor, without meanwhile interrupting in any way the business ordinarily carried on, and without taking to pieces the existing roofs, which were raised by screw-jacks.

An animated discussion ensued, in which Messrs. H. Ga butt, P. J. Waldram, J. Pearson, T. C. Morewood, H. Stathar W. Worby Beaumont, H. C. Reid, H. J. Leaning, H. J. Youn E. A. Berry, Max Clarke and W. R. Beckton took part, ar the proceedings terminated with a vote of thanks to the autho

It was announced that the Institution would hold a co versazione on Saturday, March 11, and that at the ensuir meeting a paper on "The Direct Production of Electricity fro Carbon" would be read by Mr. W. R. Cooper, M.A M.Inst.J.E.

PATENTS.

[*This List of Patents is compiled specially for this Journal b Mr. G. H. Rayner, of the firm of Rayner & Co., Co sulting Patent Agents, 37 Chancery Lane, London, W.C from whom all particulars and information relating Patents may be had gratuitously.*]

Applications for Patents.

2056. William Brown, for "Improvements in and connecte with the ventilation of chimneys and other places."

2128. Benjamin Robinson, for "Improvements in machine for making bricks, tiles and the like."

2138. John Doody, for "Twin-screw bar as applied window."

2139. Henry Alexander Squire and James Edmund Al dritt Squire, for "An improved swing joint or movement fo mirrors, windows, ventilators, book-rests and other swingin articles."

2213. Walter Charles Harris, for "Improvements in mear for opening and closing ventilators."

2215. Richard Durrant Langley, for "Improvements i chimney cowls."

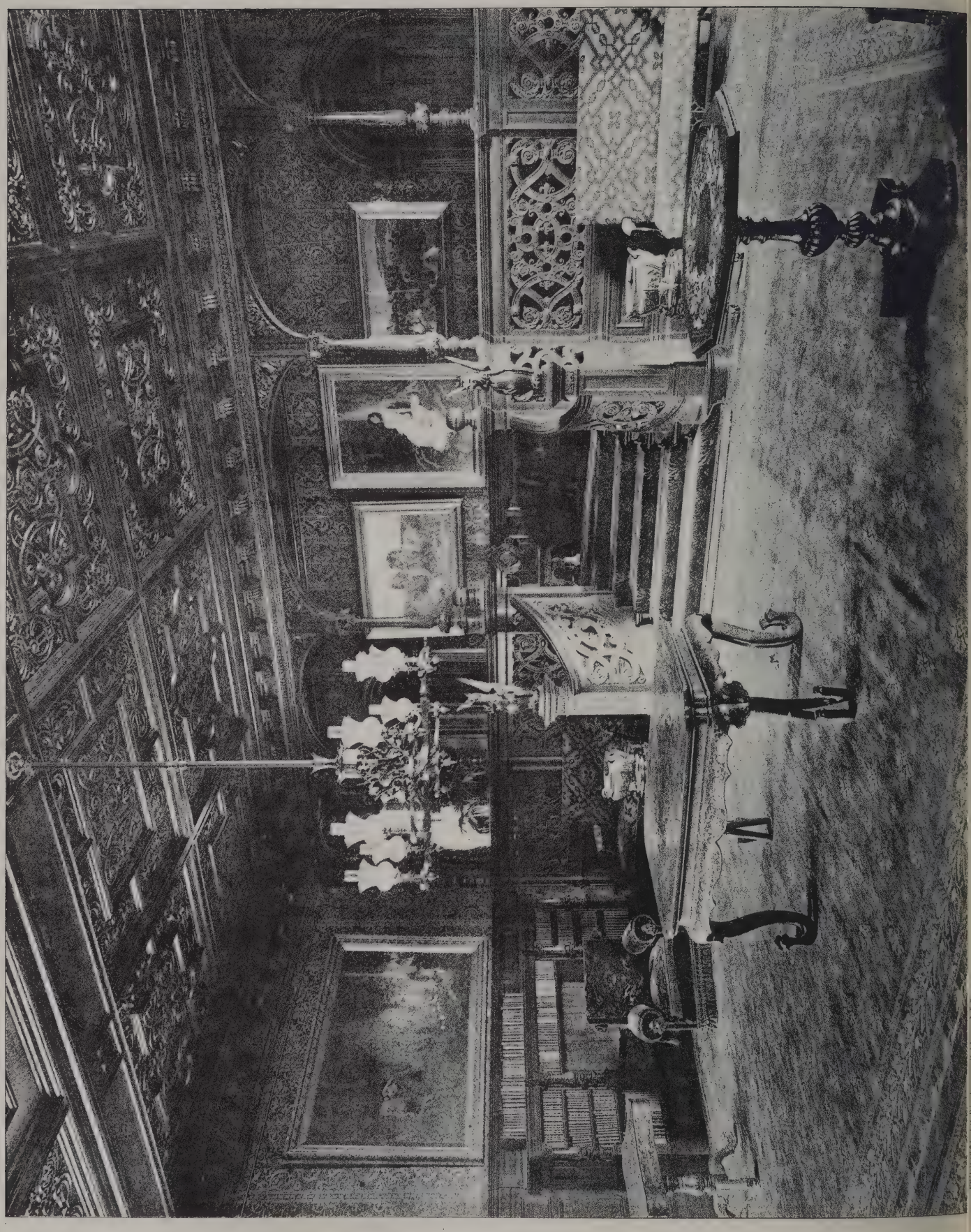
2238. Herman Harkewitz, William Ure and George Hem Bragg, for "Improvements in the manufacture of vitrifie bricks, vitrified pipes and vitrified sanitary goods."

2245. Charles Crowther, for "Improvements in the preve tion of dust or draught from doors, windows and the like."

To Inventors.—Patents for Inventions, Trade-marks and Design secured; every assistance given to inventors. Specialists in Buildir matters. Information free.—Messrs. Rayner & Co., Patent Agent 37 Chancery Lane, London, W.C



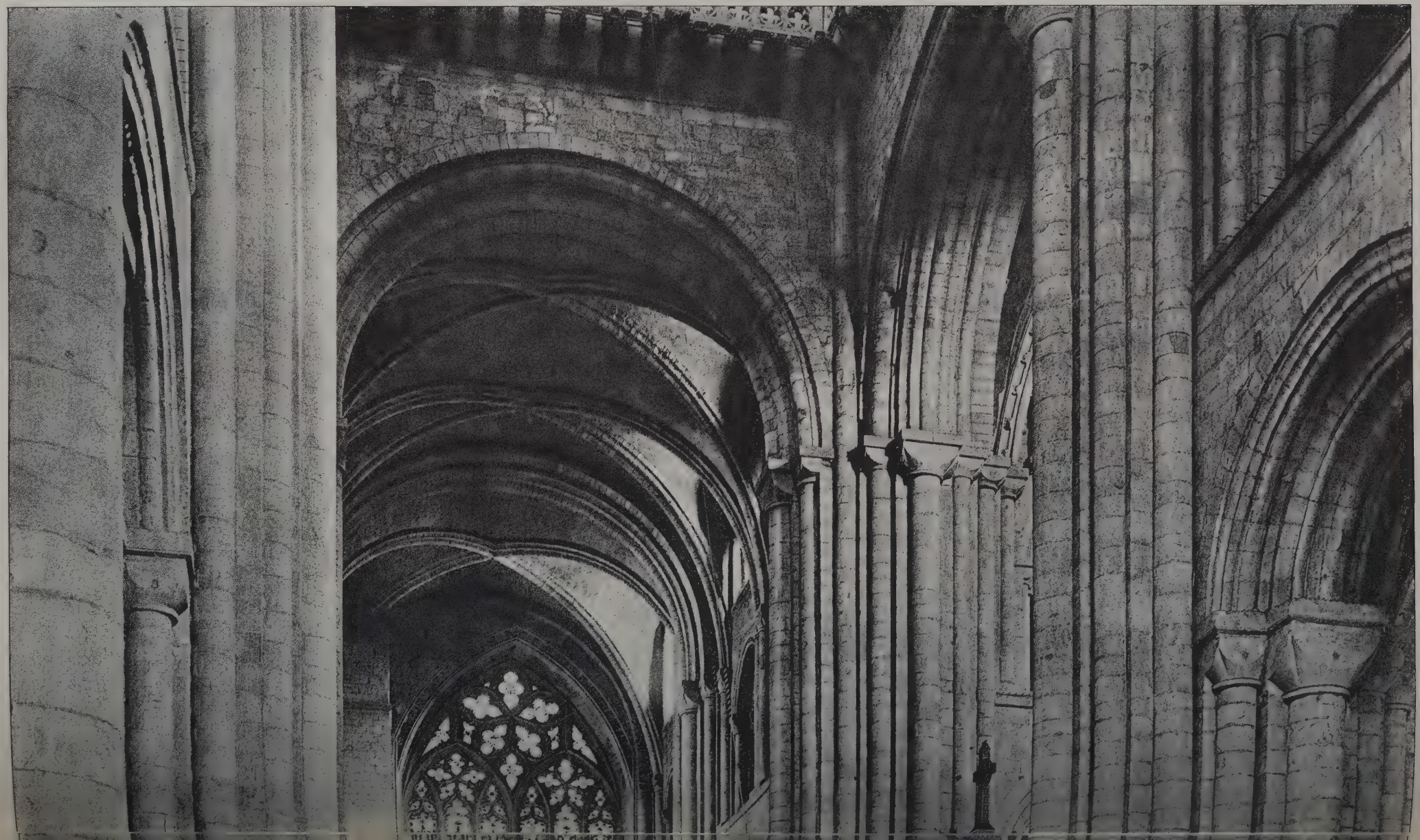






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CATHEDRAL SERIES, No. 202.—DURHAM: DETAILS OF NORTH PORCH.





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CATHEDRAL SERIES, No. 201.—DURHAM: NORTH TRANSEPT.



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CATHEDRAL SERIES, No. 203.—DURHAM: WEST DOOR, FROM INSIDE.



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BILLIARD ROOM, FIRE-PLACE: "BEAULIEU," WIMBLEDON PARK.

PERCY B. TUBBS, Architect.



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BILLIARD ROOM, TO FIRE-PLACE: "BEAULIEU," WIMBLEDON PARK.

PERCY B. TUBBS, Architect.

The Architect.

THE WEEK.

DURING the past week the thoughts of men throughout those parts of the world which the telegraph can reach have been turned to the Elysée, where the latest tenant was lying inanimate. M. FAURE was preceded by a strange variety of occupants, although the palace is not two centuries old. The Comte D'EVREUX ordered its construction, and it was at first called after him. MOLLET was the architect. Madame DE POMPADOUR afterwards purchased the house, which was considered to be one of the most charming in Paris. After her death her brother, the Marquis DE MARIGNY, the director-general of buildings, obtained possession of it, and he had it enlarged. In the middle of the last century there was a need of a building in which ambassadors who came on temporary missions could be accommodated. LOUIS XV. considered the Hôtel d'Evreux was suitable for that purpose and purchased it. Next it was utilised as a storehouse for the royal furniture until the Garde-meuble was completed. DE BEAUJON, the court banker, bought it in 1773, and it was altered and decorated under the direction of BOULLÉE, who was one of the fashionable architects of the time. LOUIS XVI. secured the proprietorship in 1786. In 1790 it became the property of the Duchesse DE BOURBON, when it was called the Elysée-Bourbon. A couple of years afterwards the Republic utilised it for a printing office, and in 1800 it served for public fêtes. The dashing cavalryman, JOACHIM MURAT, contrived to secure it in 1803, but in 1808 he was appointed King of NAPLES by his brother-in-law, to whom it was assigned. It was a convenient palace for NAPOLEON, and it was altered to suit his special requirements. There was a salon de travail which pleased him, and in it he signed his abdication after Waterloo. NAPOLEON made way for WELLINGTON, who inhabited the palace during his residence in Paris. ALEXANDER of Russia was also a tenant. At the Restoration it was presented to the unfortunate Duc DE BERRI, who was assassinated in 1820. The Duchesse and her son, the Duc DE BORDEAUX, resided there until the revolution of 1830, when the palace became national property. It was used as a public office after the fall of LOUIS PHILIPPE. LOUIS NAPOLEON selected it as his residence prior to the Coup d'Etat, which was there concocted. It was enlarged more than once during his reign. The destruction of the Tuileries caused it to be adopted as the residence of the President, and in twenty-eight years the Elysée has had no less than six of that class of tenants.

THE French have lost an excellent deputy by the death of M. MONTAUT, who represented Seine-et-Marne. He was an old polytechnic student, and as a civil engineer had risen to the highest grades of the Ponts et Chaussées. In the Chamber he generally confined his attention to measures on which he was possessed of knowledge, and, as professional politicians do not care to trouble themselves with prosy subjects, M. MONTAUT could be said to have a monopoly of all proposals connected with public works. Long ago he was one of RACHEL'S most devoted friends, but he once incurred the ire of the tragédienne in the simplest way. She lived in the Place Royale, but as a speculation was eager to erect a house in the more modern Faubourg Saint-Honoré, and asked M. MONTAUT for a plan and estimate. He excused himself on the ground of being an engineer and not an architect. His refusal brought him the following reply, which is characteristic of the capricious tyrant:—"You will never make me believe that a man who is competent to construct bridges, canals and what not, is unable to build a house. Engineer and architect are one, at least for those who have good-will. You have it not, or at least will not show it in my case." M. MONTAUT accepted the rebuke, but he was not to be persuaded to try his hand in architecture. There are few engineers who would have the courage to be so modest under similar circumstances.

IT is intended to hold a meeting at the Mansion House on Monday, March 6, to further proposals for the National Commemoration of the Millenary of ALFRED THE GREAT. The king is believed to have died in October 901. Some time ago it was resolved to celebrate the thousandth anniversary of his death by a national commemoration, which should include the erection of a memorial in Winchester, where so large a part of the king's life of fifty-three years was passed, and where some of his dust may still remain. Subsequently it was decided that the memorial was to be a statue of ALFRED, and a museum devoted to early English history. Another suggestion related to the publication of a book about the king, and an exhibition of objects which would recall the period when he lived. It was estimated that at least 30,000*l.* would be required for the memorial. The meeting which is to be held in the City on March 6 it is hoped will advance the project. Although ALFRED'S name is one of the most familiar, and stands out from the darkness of English history like a star, yet it is an advantage for the living to have before their eyes some material acknowledgment of the great chief who was an embodiment of all that was best in the character of the Saxon race. ALFRED was compelled to live in a house which, like many others in that age, did not possess closely-fitting windows and doors. The wind therefore was able to make his candles burn more quickly and irregularly than His Majesty had anticipated when he adopted them to measure the hours of the long evenings, and he was compelled to devise horn lanthorns. The Saxon builders were no doubt at fault, but is that a reason why architects should be excluded from the committee, although representatives of many other arts have a place on it?

A FEW weeks back we referred to the discovery that sections of the new sewers in the Rue de Rivoli, Paris, were not constructed in the manner prescribed in the specifications. The contractor, as became an honest man, endorsed the charges, and admitted that the workmen had deceived him. In defence he explained that the works had to be carried out with expedition, for thoroughfares like the Rue de Rivoli cannot be closed against traffic as easily as a London street. Under such conditions it was difficult to exercise the strict superintendence which was necessary. The men availed themselves of the opportunity to gratify their dislike of a contractor. It has been arranged that every part which has been found defective by the municipal engineers will be reconstructed. The men have the satisfaction of knowing that money will be wasted through their misconduct.

THE people of the Philippine Islands have devised a kind of building which is well adapted for a place which is subjected to earthquakes and typhoons. If the houses should succumb to either of those forces the inmates are not injured, because the materials are too light to cause fractures of bones. The houses rest on four or more heavy timbers which are firmly set in the ground. The floor is raised some 5 or 10 feet. The framing is of bamboo tied together with rattan. Nails are not used. The sides and roof are usually of palm, and, Professor WORCESTER says, the former may be made by splitting green bamboo, binding the halves flat, and then sewing them together. If palms are scarce, the roof can be thatched with long grass. The floor is usually made of bamboo strips with the convex side up. They are tied firmly, in such a way that wide cracks are left between them. The houses are entered by ladders; in some cases there is only one room, and the cooking is done over an open fire built on a heap of earth in one corner, and as the opening for the exit of the smoke is inadequate, the room is sometimes rendered almost uninhabitable. In the better classes of dwellings the house is divided into several rooms, and there is a place partitioned off for cooking. There are windows which are provided with swinging shades. The ventilation is perfect, and the air is kept much cooler than in a tightly closed building. Rich natives sometimes build houses of boards with galvanised iron roofs and limestone foundations, which are more expensive but less comfortable than the ordinary dwellings.

THE SPIRAL IN ORNAMENT.*

THE spiral tendency of vegetation is often referred to by EMERSON as exemplifying one of the principles of life. Nature does not always adopt the shortest course between two points, but attains its end occasionally by following a roundabout route. The straight line is not of much avail in producing the effects we see around us; minerals may be said to have the monopoly of it. Mr. BLOUNT'S book is inspired by spiralism. According to him, "The spiral is the simplest representation of the force that not only governs the huge ordering of the elements, but weaves itself inextricably into the actual shape of the humblest and noblest possessors of life; it is, in consequence, the first and most common symbol of energy and life, and therefore the clue to all true design." The book not only explains the advantages of the clue, but may be said to do so in a spiral manner. About 250 quarto pages are occupied with such elementary subjects as leaves, buds, ends and corners, diapering, frames and bordering. Evidently the author found pleasure in working out the relation of the spiral to various decorative elements and arrangements; it is his governing idea, and, like all zealots for ideas, he cannot, to use a common expression, make enough of it. We imagine Mr. BLOUNT to be an amateur who is able to enjoy himself as long as he likes, and it is a delightful occupation for one's leisure to add fancy unto fancy as a tribute to a favourite subject. An amateur craftsman would in the same way devote a long period of his existence to the production of a simple object, and be happy throughout. Indeed, it appears to us that the reformers who believe the new race of craftsmen are destined to set up a world that is out of joint on a firm basis entirely ignore all that can be represented by the words time and money. That would be a desirable Utopia where neither represented hard work, but as unattainable as the Neapolitan GONZALO'S :—

> Riches, poverty,
> And use of service, none; contract, succession,
> Bourn, bound of land, tilth, vineyard, none;
> No use of metal, corn, or wine, or oil;
> No occupation; all men idle, all.
> And women too, but innocent and pure;
> No sovereignty.

An ordinary designer would expect an ordinary author to impart all the information which is enveloped in Mr. BLOUNT'S book in a tract of one-tenth the size and at a tenth of the cost. But those for whom he writes, and who cannot resemble the ancient craftsmen who preferred acts to words, will probably regret that the convolutions of the spiral are not exhibited at still greater length. Readers of "Arbor Vitæ" should, in fact, be independent of all the sordid interests which are supposed to belong to modern business, and be able to meditate upon each page as if they formed

> A little Academe,
> Still and contemplative in living art,

and alone were destined to be heirs of all eternity. We are afraid we cannot, with the aid of all our imagination, soar so far above a commonplace world, and therefore it is possible we may be unable to do justice to Mr. BLOUNT'S work.

The spiral, as we have said, dominates all the author's speculations. Apparently this arises not merely from observing the prevalence of curves in natural objects, but from an aversion to precision. "Great art," says Mr. BLOUNT, "is not necessarily accurate." But if that were true why should all great artists be distinguished by that infinite capacity for taking pains which is supposed to be a characteristic of genius? Mr. BLOUNT'S theory is an amateur's theory, and will be taken as an axiom no less than an excuse by pretentious GOWANS, who have "sauntered into the arts at a leisurely Pall Mall pace." Esteeming accuracy so little, it follows that he should underrate right lines and planes. According to him, "All really straight line work has to be done with rulers, and is therefore geometrical, unnatural and inartistic. The zigzag moulding of a Norman arch owes its charm to a naïve rejection of all mathematical assistance, and becomes hopefully curved at the angles. It is consequently more an example of an extreme form of spiral than a demonstration of the æsthetic value of straight line." The Norman masons knew better. The intrados and extrados of the semicircular arch became more emphatic through the contrast with the zigzags. A glance at the plate of the north porch of Durham Cathedral which we published last week will reveal the variety of straight lines in other forms which were employed for the sake of effect. If Mr. BLOUNT could rise beyond diapering and bordering, he would find that the greatest modern decorators in France in their monumental paintings have faithfully held to the Norman tradition, and introduce right lines in order to display the force of contrast with the curves of figures and draperies. Let tyros in decoration become the law-givers, but at least make it apparent how far they have departed from precedents. The straight line was used by Greeks and Goths. It may seem an easy matter to make the angles of zigzags as sharp as if two pieces of tin were placed together, but when we remember the rudeness of Norman tools the wonder is how they attained so much sharpness of line. "A mathematical pattern is always a bad pattern," says Mr. BLOUNT, "bad because uninteresting." If his dictum be accepted, Egyptians, Greeks, Moors, Byzantines, and Italian artists must be condemned. They did not derive their inspiration from geometry alone, but they employed rigid lines, especially in architectural decoration, as a foil to those which were more flowing.

We have no partiality for triangles, squares, stars, polygons or similar figures as elements of decoration, but as in the old days they were employed by able masters, we see no reason why they should now become obsolete because amateur craftsmen are put out by them, especially when they attempt the decoration of pottery. It is only a narrow conception of ornament which would confine its varieties to curved lines. In the arts straight lines are generally unavoidable, for even in pottery the mouldings appear to be bounded by them, and they prevail in metal-work, furniture, &c. We grant the curve is more beautiful and more in keeping with natural objects, but utility is not always to be obtained by man unless he is satisfied with planes which may be described as made up of straight lines.

Although Mr. BLOUNT appears as an enemy of anything approaching a rectilinear figure, it must not be concluded that he is an advocate for the mere imitation of natural forms as ornament. He will not allow nature to be subjected to geometrical conventionalising, but a process of presenting nature in an inaccurate manner is to him essentially decorative. Thus in one place he writes :—

> I do not know whether it is the belief that they are painting real things, or merely the fascination of recording an ephemeral impression, that induces modern artists of the realistic school to desert the traditions of the past and aim more and more at the exclusive imitation of nature; but whatever the cause may be, signs are not wanting to-day to show that art, and the happiness and peace that art brings, can no more be found in the exclusive investigation and record of natural facts than the secret of life can be discovered by sacrificing the lives of innocent animals that we have made dependent on our kindness. Art that is based solely on the imitation of nature is unprincipled art, because principles do not exist in nature but only in the human imagination. Traditional art is delightful and permanent, because it is an imaginative statement of the laws of nature. To copy nature is at best only to give an instance of the working of those laws, never to state them. A picture is valuable as a work of art precisely for the amount of imagination it embodies, for the amount of untruth it contains for the nonsense of it, not the sense. All systems of tradition regard the imaginative expression as of the primary importance and only admit natural facts so long as they do not interfere with that expression. The study of nature is indeed a valuable one, but not as a final form of art; its object is only to increase our experience and feed our imagination.

In the same spirit Mr. BLOUNT would treat artificial forms. He sees a resemblance between an architect's arcade and a row of "pot-hooks and hangers" in a child's copybook, and for decorative purposes he considers the latter the more suggestive. He says that "if we want to paint arcades on our parlour walls, it won't hurt anybody if a column here and there leans a little to one side." I

* *Arbor Vitæ*: a Book on the Nature and Development of Imaginative Design for the Use of Teachers, Handicraftsmen and Others. By Godfrey Blount. London: J. M. Dent & Co.

early days a weakness of that kind might be tolerated, but at a time when the majority of folks are more capable of judging perpendicularity than subtle curves, we do not agree that they would be unhurt before one of Mr. BLOUNT's paintings of a row of columns. The aim of art is to please, and men or women not suffering from defects of vision and possessed of reason, who can find more enjoyment in gazing on a lop-sided form than on one that is upright, must be ruled by an odd system of æsthetics. Moral obliquity, we suppose, does produce a hankering after such things; but is it wise for artists or craftsmen to gratify the weakness? To anyone who is following out relations between things the arcade suggests the grove, and then a crowd of associations arise. Mr. BLOUNT's are those of a poet. He says :—

This bit of witchcraft is especially characteristic of the arcade and the class of ornament to which it gives its name. It is not such a noticeable feature in the spiral, because it is difficult to say what the repeating part of the spiral exactly is; nor in the frieze, where the conditions are quite different. No wonder, then, that mystery envelops the places where this occurs in a marked manner in nature, and enhances the eerie charm that wraps our entry into the deepening gloom of a wood. The eclipse of noisy day by silent shade, the change from the vulgar heat and dust of the high road to cool carpets of elastic moss, and the impression of awful, half-seen companionship, amply explain the time-honoured sanctity of groves and the lovely paganism that always clings to them. What harm attends one innocent of superstitious reverence in such temples as these, not made with hands, for those "groves and streams and mountain summits which bring the unseen close to man by waving mystery, or by rushing murmur, or by nearness to the height of heaven"? To reject sentiments of this sort, however pantheistic, is to despise the subtlest sources of our inspiration. What may once have been superstition is none the less wonderful and valuable for us when it has consciously become a prolific source of poetry. Art can never be based on enlightened scepticism; nor any science, I trust, expel the lurking ghosts which haunt our fields and teach us to be grateful for their beauty, and kind to the animals and flowers that grow there.

There are people who in certain moods can, it is said, see "HELEN's beauty in a brow of Egypt," and to emotional craftsmen a series of pothooks and hangers scrawled by a child may become as worthy of reverence as the Grove of ACADEMUS. It happens, however, that few architects possess clients so easily disposed to accept things by their unlikeness to the objects represented, and as long as they are so restricted they cannot favour arcades that are more suggestive of the action of an earthquake than of ordinary stability. It must not be supposed from Mr. BLOUNT's remarks about painted arcading that he is indifferent to the claims of architecture. The excellence of the sculpture of the Parthenon he ascribes to the recognition by the artists of the duty of subservience to structural necessities. He also objects to the practice of the new school of wood-carvers who have no respect for the constructive value of the material, and whose carving robs the timber of its strength. But he is not always consistent in observing the difference between construction and the means for adorning it. We consider Mr. BLOUNT is sincere, although his teaching does not satisfy us. He has assumed the manner of missionaries, and is not economical of time in his harangues. What he says may help to pass the hours, for it would not de difficult to find less interesting books; but when all is over the gain does not appear to be immense. If the few subjects which are treated require such an expenditure of words, what would a complete treatise on decoration in the same style amount to? A student would have to be as long-lived as the Patriarchs to get through it. But, however colossal might be the treatise, Mr. BLOUNT believes it would not be of much avail, because we are all among those who have eyes and see not. He tells us how

a reformation in manners must precede a reformation in art, and, till we clear our lives from the thousand trivial things that baulk our truer culture, our ideas on art will remain anarchic. That group of traditions, for instance, which clusters round the "Table," and of which the Last Supper is the central type, can have no significance for us till our meals become the punctual refreshment of a household in its daily labour, hallowed by hunger, hospitality, spotlessness of plate and linen, good food, good cooking, and a suitable acknowledgment of the sacredness and mystery of food. The pursuit of game is a noble theme so long as the sportsman's dinner depends on his success, and while the advantages of healthy outdoor exercise and the beauties and science of wood and water-craft surmount the butcher's trade. But all the beautiful accessories of the chase and the strange acquaintance with and appreciation of the wild animal life it dealt with, which takes such a prominent position among artistic traditions, has vanished before the gun, and its cruel sacrifice of life to the size of the bag. And so it is with other traditions that were once real and true because they were founded on the necessities of life, and illustrated as far as they could its unity. To hint that decoration could have any such meanings now is perhaps hopelessly out of date. Nothing, apparently, is further from the thought of modern decorators than that their efforts should, however indirectly, lead anybody to feel and *think*. To the artist art has no higher mission than to earn the praise of the public, as a mountebank does, by tickling it with clever and unexpected surprises, legerdemain and optical delusions. Art as a social force is dead, because it has no faith to preach, no gospel to proclaim.

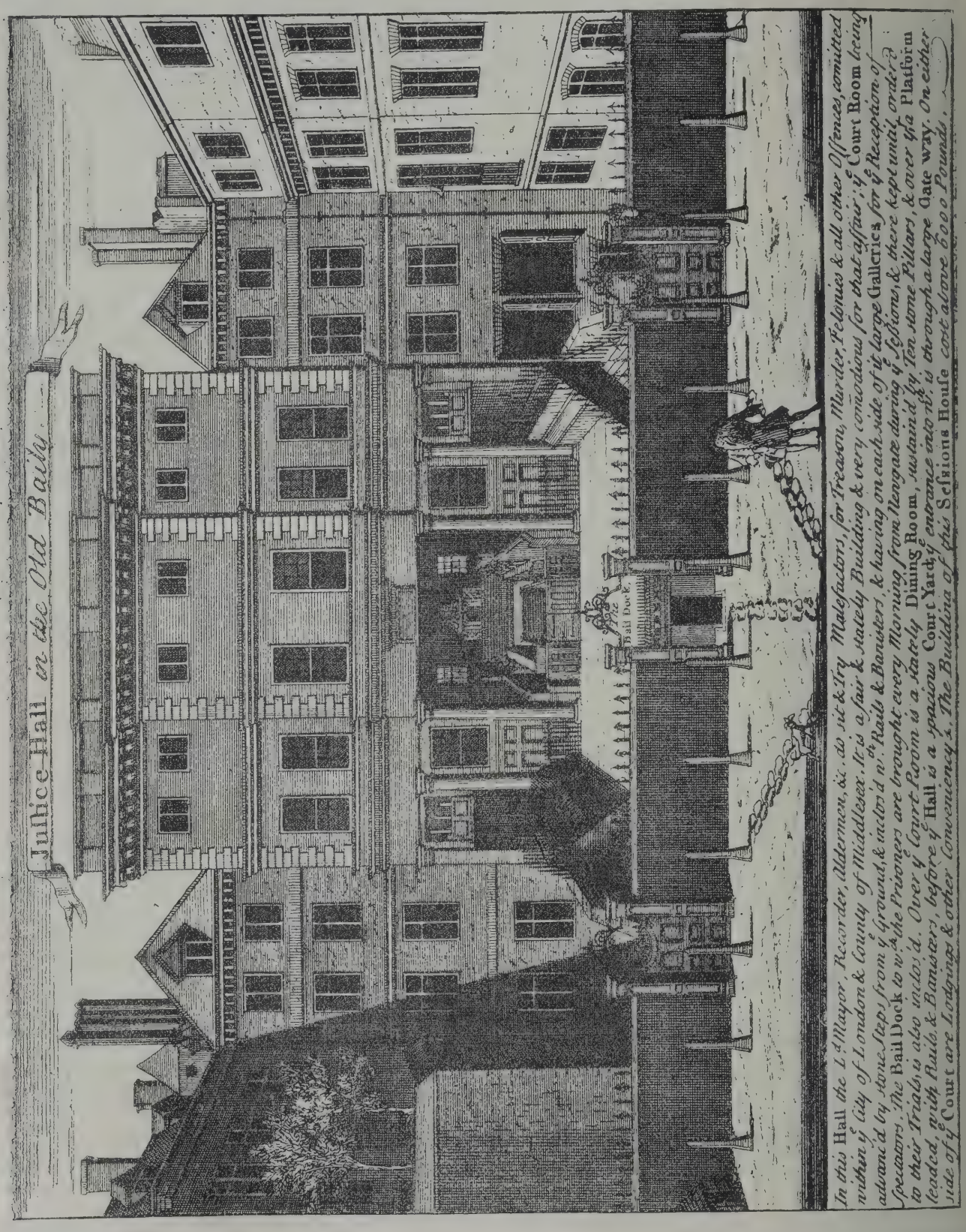
In other words, art is dead because it will not accept the creed of lop-sidedness and inaccuracy. Usually reformers content themselves with laying all the blame on artists, but Mr. BLOUNT has the courage to include patrons in his indictment. That sort of charging is somewhat pharisaical. What we should like to see are examples of the art which proclaims, however faintly, the new gospel. We must do Mr. BLOUNT the justice to say that he does not in clear words assert that his own designs exemplify the pure, the revivifying, the beautiful in art, while at the same time they hardly tickle by any surprising cleverness. He admits he once endeavoured to indoctrinate a boy with his principles, but was not successful. The young artist instinctively turned to patterns of a different sort. Was the weakness due to the age, to the modern system of art, to the weakness of human nature, or to the master? Although the "Arbor Vitæ" has required much labour to rear, we fear it will not yield many thriving saplings. But there need be no apprehension the species will die out. Rods will always be forthcoming for the correction of artists, and they have reason to rejoice that their calling, with all its defects, can offer some alternating consolation.

THE JUSTICE HALL OF LONDON.

AT the present time the future Sessions House for the City of London and the surrounding area is engaging the attention of architects who probably never gave the subject a thought in an earlier time. The existing building is not only mean within and without, but it is badly arranged according to modern notions. But its predecessor appeared to be still less adapted for a court of justice. The annexed illustration is taken from an old print belonging to Mr. THOMAS DREW, R.H.A., and reveals many peculiarities. Although the court was too open, yet it was not safe against infection, and, as CHARLES DICKENS says, "It had more than once happened, that the judge in the black cap pronounced his own doom as certainly as the prisoner's, and died before him." But to the novelist the open court had another signification, for in a bitter spirit he adds, "People then paid to see the play at the Old Bailey, just as they paid to see the play in Bedlam—only the former entertainment was much the dearer. Therefore all the Old Bailey doors were well guarded—except, indeed, the social doors by which the criminals got there, and those were always left wide open." Any gentleman of position was allowed to wear his hat in the court. When the engraving was made the chief attraction to respectable citizens was not the court itself, but the stately dining-room sustained by ten stone pillars. It recalls the poet's line, "And wretches hang that jurymen may dine." PEPYS testifies to the goodness of the dinners and the discourse in that room.

The view shows the building which existed from the rebuilding of London after the Great Fire until the GORDON Riots. If the bail dock does not seem to be a secure place for prisoners, we must remember there was much laxity co-existing with the severity which was a characteristic of the Old Bailey. It was not uncommon for prisoners to escape, and according to PEPYS, the keeper's house was "the only nursery of rogues, prostitutes, pickpockets and

thieves in the world, where they were bred and entertained and the whole society met, but for the sake of the sheriffs they durst not commit him, for fear of making him let out the prisoners." In prison administration there has been some progress since those days, and the new Old Bailey, whatever defects it may possess, will at least be secure.



SYSTEMS OF DISTRIBUTING AND GENERATING ELECTRICITY.

By F. J. Warden-Stevens.

(*Continued from page* 93.)

THE auxiliary plant and apparatus connected with boilers may be classed as follows:—(1) Feed-pumps, (2) feed-heaters, (3) water-supply arrangements, (4) steam-pipes, valves, &c. Condensing plant, although it is really more directly connected with the engines than boilers, should perhaps be included also.

Feed-pumps.—There are many designs of feed-pumps, and it is impossible to go very fully into the subject here. However, the class most used is the duplex direct acting type. In these pumps there is no rotating part, but the steam piston acts directly on the pump-plunger. There is usually a very ingenious valve gear which admits the steam to No. 2 cylinder when No. 1 piston is at a certain position of the stroke. The speed of this pump is arranged to increase with the amount of water delivered. The fault of this type is that the steam cannot be used expansively, and it is therefore uneconomical. There are, however, pumps which, although direct-acting, have a flywheel; these allow

of expansive working, and the reliability of the arrangement s nearly as great as with a duplex pump. There are many forms of flywheel pumps and donkey pumps in general, but there is no doubt that, taken as a class, they are uneconomical. If pumps can be driven directly from the engine-shaft it is undoubtedly to be preferred. It is unusual to obtain a duplex or donkey pump which uses less than 80 lbs. of steam per actual horse-power hour, whereas by driving from the engine-shaft 25 lbs. of steam is about the outside consumption. The water is hot when it passes through the feed pumps, and may cause strokes to be missed, but several types of pumps work well with hot water, and in any case by allowing a slight head of water on the suction there is little, if any, trouble through missed strokes.

The use of electric pumps is being introduced rapidly into electricity works on account of their greater efficiency. The following figures show a comparison actually made between two pumps, one an electric three throw pump, and the other a duplex steam-pump of the highest class:—

Per Cent. of Full Load.	Pounds of Steam per Actual Horse-power Hour.	
	Electric.	Steam.
20	73	250
50	50	205
75	40	170
100	43	130
130	50 (about)	100

It is to be seen from these figures that the electric pump is much more economical at all loads than the steam pump. Electric pumps are hardly as reliable as steam, and for this reason, when they are adopted, it is not unusual to have injectors as a stand-by.

Electric pumps cost considerably more than steam-driven ones, but there are many advantages obtained by using them, for example, in the case of electricity works where the continuous current system has been adopted, and also in other cases when there are accumulators, in being able to pump when there may be no steam available. This advantage may fairly be said to compensate for extra expense.

Injectors are now very well known, and with care are fairly trustworthy. As there are no moving parts they are not likely to get out of order when left unused, and for this reason they are suited for stand-by use. The injector will not work with very hot water, and therefore they are not in general use in electricity works, where much importance is attached to hot feed water.

Feed-heaters.—There are two chief classes of feed-heaters using exhaust steam for non-condensing plant—those in which the steam actually mixes with the feed water, and those in which metal tubes are interposed between the steam and the water to be heated. In the first class, if properly arranged, the carbonates are deposited in the heater, and nearly the whole of the heat returns to the boiler, therefore only a little cold feed water is required. There is the disadvantage that the oil used for cylinder lubrication comes through with the exhaust steam, and may thus enter the boiler and cause trouble. Arrangements for separating the oil from the steam minimise this trouble considerably. One of the chief advantages of this type of heater is to be found in the fact that the deposits formed do not decrease the efficiency, but actually increase it by acting as lagging.

The second class of heater is less efficient, more costly and less certain. A large number of tubes are used which in some cases are surrounded by the water, the steam passing through the tubes. In this type the whole of the condensed exhaust steam is wasted, and the specific heat in it is not used. These heaters are generally placed between the pump and the boiler, and thus work under pressure, therefore there is always a danger of the tubes bursting. Any deposits in the heater decrease its efficiency, which is fairly low in any case.

The benefits of hot-feed water are so marked that it is often found economical to actually use live steam for heating the water outside the boiler rather than pump in the cold water. The directions in which economy is to be obtained are :—Longer life of the boilers owing to absence of strains caused by differences in temperature in different parts, a larger output from a given sized boiler ; a considerable reduction in the quantity of deposit formed in the boiler, and therefore less frequent cleaning and greater efficiency, and, where exhaust steam is used, a clear gain of heat which might otherwise be wasted.

Water-supply Arrangements.—It is always preferable, even at the expenditure of some considerable capital, to obtain water independent of any public supply; but the public supply should be laid on where possible in addition. Very often subsoil water can be obtained more suited for boiler feed purposes than that of the public supply, which latter has to be free from sewage contamination, and may in consequence be hard if obtained from deep wells.

It is necessary in either case that some large tanks be provided in which to store sufficient for at least one evening's demand, and where water is obtained from a public supply special arrangements should be made to have the pipes connected to two different sets of mains—the ordinary service and the fire service—and also to make arrangements to have long notice of any stoppage of supply, so that tanks may be filled up and everything kept ready.

It must be remembered that, if possible, electricity works should be alongside a canal or river, and a wharf is of advantage. In any case the water can be used for condensing purposes. This is very important where the works are kept running throughout the twenty-four hours.

The importance of the quality of the water to be used cannot be over-estimated, and if it contains any considerable amount of solid matter in suspension or solution it is very necessary to remove this before using it. Solid matter in suspension may be removed by means of filters, and where the public water supply is used this filtration is generally carried out to a sufficient extent at the waterworks. The matter in solution is, however, left, and this must be removed before the water enters the boilers. The various boiler fluids and compositions are not useful to any degree, and it is far better to precipitate the matter before entering the boiler than to precipitate it in the boiler even in a loose mass, as priming results and the heating surface of the boiler is reduced.

Chemical treatments are often used, the object being to introduce chemicals which will combine with the substances in solution and make a compound which is insoluble and will therefore be precipitated. The chemicals to be introduced will depend very greatly upon the result of analysis of the water, and it is impossible to give many details. Lime will, if added in proper quantity and mixed, throw down the bicarbonate of lime which usually forms a great portion of the soluble minerals found in water. Other substances in solution are magnesia, and very often acids from the atmosphere, and the other chemicals usually used are caustic soda and carbonate of soda. It is necessary that these materials, according to the impurities in the water, should be mixed in proper proportions, and that space be allowed for the precipitate to settle before the water is drawn off into the boiler.

The effect of heating water suddenly is frequently to cause the greater part of the substances in solution to deposit at once. In consequence there are in use heaters and purifiers combined in which the feed-water is sprayed into exhaust steam, the result being that the water is at once softened and heated. This method is not suitable where condensing plant is in use, as there is then no exhaust steam available for such purpose. It is important where exhaust steam is mixed with the water direct that a suitable oil-filter be provided to prevent any of the oil used in the steam cylinders from going through with the feed water into the boilers. There are many of these oil-filters on the market, one of the most successful arrangements being merely a vessel filled with coke through which the steam passes. The coke collects the oil, and is replaced periodically.

Water-pipes require careful arrangement and duplication, and they should either be buried at least 2 feet in the ground or be lagged, to prevent any possibility of freezing. A water meter or meters should always be used on the supply; by this means a good check can be kept on the coal which should have been used in a given time. It is advisable to duplicate both the suction and delivery pipes of the pumps, as also the boiler feed valves. These points are of great importance, as of course if water cannot be pumped into the boilers they must be shut down.

Steam-pipes, Valves, &c.—Great care must be exercised

in the arrangement of the steam-pipes, the chief points being reliability, provision for expansion and drainage. It is the usual practice in electricity works to have everything duplicated—that is, to allow two distinct paths for the steam to pass from the boilers to any engine. Valves are also arranged in the steam-pipes between each engine, so that in the event of any burst in a pipe only one engine need be shut down while the damage is repaired. There should be preferably two stop valves admitting steam to the pipes from each boiler. In a great many instances separate pipes are run for the feed pumps and auxiliary plant. In any case it is desirable that this should be done because of the extra security which results. The steam-pipes should not be rigidly fixed to the buildings; it is always preferable to sling them from brackets by means of chains or support them on roller brackets, and where the pipes are in the form of a ring, as is usually the case with electricity works, no further provision need be made for expansion. In ordinary cases of lengths of steam-piping it is the practice to make all bends and tees of copper, as the flexibility of this material allows for expansion. The valves should be carefully designed and all turn the same way to open or close. Much trouble is caused by the stop valves on boilers leaking, and considerable waste of steam results. Valves used for steam-pipes should be of the slide or full bore type, that is, the area should be at least as large in the valve when full open as the area of the steam-pipes. In operating large valves of this kind it is necessary that the steam pressure should be equal on both sides when opening; to secure this and to allow of pipes being heated slowly, by-passes are provided. All steam-pipes, valves, flanges, &c., should be lagged, a removable covering being provided. The losses in steam-pipes are exceptionally heavy in electricity works, as the pipes have to be very large to meet the maximum demand, while the amount of steam used in the engines is on the average small. Lagging is therefore of the greatest importance.

Condensing.—The advisability of adopting condensing plant is now generally considered, and it will be well to go into this question. There are several different types of condensers :—(1) Surface, (2) evaporative, (3) jet, (4) ejector.

A surface condenser consists of rows of tubes into which the steam passes, and around which cold water circulates. The steam is condensed by the heat being abstracted from it and heating the cold water.

The evaporative condenser consists of a set of corrugated tubes, fixed usually in the open air, over which water trickles. The heat of the steam evaporates the water running over the tubes.

A jet condenser is a closed vessel into which water is sprayed, the steam being condensed, and by the direct admixture of water and steam a vacuum is formed.

These three classes of condensers, it will be seen, all require an air-pump, *i.e.* a pump to extract from the closed vessel any air which might leak into it through the engine glands, exhaust or air contained in the feed water, and also to pump out the condensed water.

The ejector condenser does not require any pump, and consists merely of a water jet, which must be under a head of about 20 feet. This jet passes through a special nozzle, and the steam is drawn into it and is condensed. At the same time the energy of the water jet is sufficient to eject any air and the condensed water from the vacuum. There is thus no other apparatus needed than the ejector, which is inexpensive if there is sufficient water available at a head of 20 feet. The advantages of this arrangement are obvious, and in many cases these condensers are the cheapest both in first cost and cost of working.

It may be of interest to give some particulars of the conditions under which the various condensers are used.

The surface condenser is adopted where it is desired to use the condensed steam for boiler feed purposes. This water does not mix with the cooling water, and the latter need not therefore be pure so long as there is a sufficient quantity available and it is cold. For this reason marine engines are usually supplied with surface condensers.

Evaporative condensers are used under the same circumstances as surface condensers, except that they will work with warm water for the cooling purposes and with very little water.

Jet condensers are often used where hot condensed feed-water is not a necessity, and where expense is of importance. This type is, however, rapidly being replaced by the ejector condenser, as the latter is useful for all purposes where the jet condenser may be employed, and the expense of the air-pump is saved and the cost of working less. In first cost the different classes of condensers would be arranged in the following order :—Evaporative, surface, jet and ejector, taking into account the cost of pumps. The order as regards quantity of water used would be as follows :—Surface, jet, ejector and evaporative ; and probably that of total efficiency, taking into account water and cost of working :—Evaporative or ejector, surface and jet.

With regard to the advisability or otherwise of adopting condensing plant in electricity works, it must be remembered that local circumstances will come in, and it is essential to consider them fully. First of all, the use of condensing plant increases the capital outlay and to some extent the cost of attendance. The advantages are a higher economy, which is due to the increased efficiency in the engine cylinders and to the use of the condensed steam for boiler feed purposes where good water is scarce or expensive. Surface condensers are or should certainly be adopted if impure water is plentiful, and the evaporative where there is little water of any kind. As an alternative to the latter jet or ejector condensers may be adopted, using large cooling tanks for the water.

In any case where steam plant is in use for many hours it is economy to adopt condensing plant ; for instance, in electricity works where the alternating current system is decided on, and where plant must be kept running day and night, it is always advisable to have condensing plant at least for that portion running continuously, when perhaps it would not pay to put in sufficient condensing plant for all the engines.

Where condensing water is available in fair quantity and at low cost, or where there are facilities for cooling, it will pay to adopt ejector condensers, one for each engine. As before mentioned, the point which really decides whether condensers should be used, and if so, of what type, is the quantity and quality and cost of the water supply.

(*To be continued.*)

TESSERÆ.

Selection in Painting.

It is not every form in nature which is suited for translation into art. Providence has many other, and perhaps more important ends in view than the making of pictures, and the worthy individuals, men and women, who pass most respectably through the duties of ordinary life, are not one and all necessarily suited to the dimensions of the historic canvas. The great masters knew this full well, and their study of nature took a corresponding direction. They seem to have been guided by certain innate ideas of beauty, dignity and fitness ; to have selected those forms which stood as the exponents of noble thoughts, and at times to have made individual shapes bend to their will. All this, indeed, was the purpose of their repeated and tentative studies. They compiled from various models the collective results for which they strove, they threw out those blemishes or lower elements which marred each individual example, they combined the perfections which were scattered abroad but never concentrated into one focus, and they thus caught at last the perfect idea, the type of beauty, at which nature aims with inconstant step. This, in short, constituted their study of nature ; herein lay their philosophy, and in great measure, in this consists the glory of their art. We know, indeed, of no other basis upon which a noble, historic or sacred style can be formed. Unfortunately, or perhaps for the sake of creative genius, most fortunately, the portraits of illustrious men have been often lost, and the individual characters, in the sacred narrative at least, have in no way been handed down in bodily aspect. It therefore becomes essential that the artist should so study nature that he may reclothe in fitting guise those great men who have been lost to our view. The painters of the Middle Ages did this, and the Grecian sculptors likewise. The portrait of Homer, so oft repeated, is probably ideal. The heads of the Apostles and of Christ, the figures of prophets, and often even of the Christian saints, as painted by Leonardo, Raphael and the other Italian masters are, in fact, little more than the embodiment of the painter's ideas—his mental conceptions thrown into bodily form ; the artist, instructed by his studies, working after the discovered methods of nature, and becoming in turn himself a creator

That alone, in fine, is the true study of nature which enables the painter or the sculptor, in the sphere of his art, to work after the spirit of nature. But it requires a gifted eye to see the poetry which dwells in nature. The remark has been so oft repeated as to become commonplace, yet it remains for ever true that the most ordinary incidents may be turned to deep instruction, and that the forms which are scattered along our daily paths are replete with beauty. Yet it requires, as we say, the intuition of a gifted mind, the cunning of a practised hand, to transmute into the poetry of art the ruder and more hackneyed ways of the outer world.

Augustus Pugin the Elder.

Augustus Pugin was an émigré—one of those virtuous, blameless, painstaking Frenchmen whom the Revolution drove into England, and who, taking kindly to the sober land of his adoption, like so many of his countrymen, pursued thereafter a life of diligent and worthy industry, in utter contrast to the hideous tumult which had cast him forth. It would be an interesting inquiry to discovery how many such, so utterly unpolitical that the fact of their having been driven to these shores by such a whirlwind of social agitation is almost unbelievable, have stimulated and afforded new developments to English industry and laboriousness. Pugin, by dint of a faculty of drawing not much cultivated or remarkable, fell in his penniless and friendless estate into the employment of Nash, the architect, and by degrees became himself a theoretical architect of much eminence and influence, laying the foundation in his careful practical works and in the thorough training of his pupils for all that has been since accomplished in Gothic architecture. It was the age of the Brighton Pavilion and other such monstrous follies in which with souvenirs of Normandy in his heart the quick-eyed Frenchman, with his lively pencil and perception of awakening public interest, took up the vanguard in the new movement. He made the noble remains of former ages familiar to the eye and clear to the mind of the nation, which stirred by many influences, and in the flush of a new outburst of national genius and splendour, began to be doubtful of its own tame mediocrity in point of art. When public taste has come to the length of bursting out into insane bulbs and pinnacles by way of relief from the dead flat of former dulness, such an oracle close at hand is invaluable. The French draughtsman who loved his work, and had no other object in life than its accomplishment, filled his office with pupils to whom he opened a new and fascinating world. Cathedrals and castles, not of stucco, all noble, real, solemn, rose out of the darkness around the fortunate lads who were to reproduce and emulate what they saw. Their master himself reproduced only upon paper, in books that stimulated the general curiosity and helped to mend the vitiated taste which had exhausted itself upon pediments and cornices. They went into France and over England, sketching everywhere, making "examples" of the half-mouldering fragments which otherwise would have been lost to the world, and learning by what simple, splendid constructive art edifices which look like creations grew into being. Within the household where the Frenchman trained his pupils into all the individualities of Christian architecture a kind of Protestant conventual rule existed under his strong-minded English wife.

Edinburgh.

Edinburgh is complete in its stony beauty, whether beneath the autumn sun or white and silent with winter snow. What a poem is that Princes Street. The puppets of the busy and many-coloured hour move about on its pavement; their interest how slight, their pursuits how trivial; while there across the ravine Time has piled up the Old Town ridge on ridge, grey as a rocky coast washed and worn with the foam of centuries; peaked and jagged by picturesque gable and roof; windowed from basement to cope, the whole surmounted by St. Giles's airy crown. The new is there looking at the old. Two times are brought face to face, yet separated by a thousand years. Wonderful on winter nights, when the gully is filled with darkness, and out of it rises against the sombre blue and the frosty stars that undistinguishable mass or bulwark of gloom, pierced and quivering with innumerable lights. There is nothing in Europe to match it. Could we but roll a river down the valley it would be sublime; finer still, to place oneself a little beyond the Burns monument and look toward the castle. It is more astonishing than an Eastern dream. A city rises up before you painted by fire on night. High in air a bridge of lights leaps the chasm; a few emerald lamps, like glow-worms, are moving silently about in the railway station beneath; a solitary crimson one is at rest. That ridged and chimneyed mass of blackness with splendour bursting out at every pore is the wonderful Old Town, where Scottish history mainly transacted itself, while on the other side the modern Princes Street is blazing through all its length. During the day the castle looks down upon the street as if out of another world, stern, with all its peacefulness, its garniture of trees, its slope of grass. The rock is dingy enough in colour, but after a shower its lichens laugh out green in the returning sun, while the rainbow is brightening on the lowering sky beyond. How deep the shadow of the castle at noon over the gardens at its feet, where the children play. How grand when giant bulk and towery crown blacken against the sunset. Fair, too, the New Town sloping to the sea. From George Street, which crowns the ridge, the eye is led down sweeping streets of cold stately architecture to the white gleaming villas and woods that fill the lower ground and fringe the shore; to the bright azure belt of the Forth, with its smoking steamer or its creeping sail; beyond, to the Lomonds of Fife, soft, blue and flecked with fleeting shadows in the keen clear light of spring, dark purple in the summer heat, tarnished gold in the autumn haze, and higher still, just distinguishable on the paler sky, the crest of some distant peak, carrying the imagination away into the illimitable world. Residence in Edinburgh is an education in itself. Its beauty refines one like being in love. It is perennial like a play of Shakespeare. Nothing can stale its infinite variety.

Numismatic Forgeries.

Some persons sedulously devoted to other branches of the study of Classical antiquity are deterred from availing themselves of the aid of coins by a fear of being imposed upon by forgeries. Although forgers may be clever, detectors are clever also. The numismatic phalanx of investigators are more than a match for the "falsarii." The skill of Cavino, Gambello and Cellini has been met with equal skill on the part of the numismatist. The eye that has been accustomed to wander over a well-selected cabinet acquires a power of ready discrimination—a power difficult to teach by theory, but not so difficult to gain by practice. Solitary instances may occur of a solitary numismatist fondly persuading himself that some clever forgery which he possesses is a genuine coin, but we would not give much for his chance of beguiling others into the same belief. Unwilling he may be to have the "gratissimus error" extracted from his own mind, but he never will succeed in engrafting it upon others. Never does the eye of man exert so much jealous vigilance as when it is employed upon the coin of a rival numismatist claiming to be genuine upon insufficient grounds. The House of Lords sitting upon a claim of some peerage in abeyance is nothing to it. We apprehend that scarcely an instance is on record of a forged coin having enjoyed for any length of time unquestioned the honours of a genuine one. Nor do we think that there are many instances of a forger's attempting to falsify history. He generally aims at making his invention tally with historical fact as closely as he can. And if his inventive powers are not at all brought into exercise, but he simply produces a coin which is a facsimile or reproduction of a genuine one, for purposes of study that facsimile will be equally available with the genuine coin, and no further harm is done than the abstraction of a few shillings more than its value from the pocket of the unwitting purchaser. At the same time we would not let the forger go unpunished. Though the evil actually done be small, the intention is bad. We would have him tried by a jury of numismatists. Or if the offence should have been committed in a country where the power of punishing the offence resides in one magistrate, we should say that that one magistrate ought to be a numismatist. It is said that a distinguished archæologist who possessed this power in virtue of his office as Her Majesty's consul at Bagdad, exercised it by directing that a "falsarius" should be bastinadoed. The man who had counterfeited the famous sequins of Venice and had aggravated his crime by doing it badly, "che male aggiustò 'l conio di Vinegia," is represented by Dante as worthy of an especial notice among those sinners against laws divine and moral with whom he has peopled the shades of his "Inferno." Seriously, however, we think that any clever work of art is worthy of being preserved, and none the less for its having taken in some who set themselves up as judges. Even in Pliny's time a counterfeit denarius of superior workmanship was sometimes thought cheap at the price of sundry genuine denarii. The tasteful device of Cellini or of some cunning artist of Padua must not be thrown to the dogs merely because it was produced with the intention of rivalling the work of ancient artists and of testing the acumen of the cognoscenti. Those figures of Cellini, for instance, which some one brought and exhibited to the artist himself as antiques, and respecting which the nobleman who was their proprietor declared, when he saw a smile playing upon the conscious visage of Cellini, that there had not lived a man for these thousand years who could have wrought such—would not those figures have been worth preserving? And in like manner a coin which, by the excellence of its workmanship, has raised a doubt whether it may not have been really of ancient origin, ought by no means to be treated with contempt, even though it proves to be modern.

The Exhibition of the Society of Painter-Etchers and Engravers will be opened on Monday next.

NOTES AND COMMENTS.

The greatest powers in nature are invisible, and, it may be added, intangible. Nobody has ever seen steam until combined with air; the gases are also incorporeal, and although it is possible to be shocked and slain by electricity, we cannot behold what is so useful and so dangerous. If this fact is realised, it will then be found that many of the terms employed in referring to the forces are altogether figurative. As such they must be open to doubts when they are used in law cases. For instance, on Tuesday last it was asked whether electricity is an "article" within the meaning of the Factories Act. The Bilston District Council produce the electricity required for lighting the town. The inspector of factories, therefore, considered that an abstract of the Factory and Workshops Act should have been affixed at the entrance for the information of the workmen, and he summoned the Council for their neglect. The Clerk denied that electricity was an "article," whilst the inspector maintained the contrary. Doubts were also expressed as to whether the building was a factory, as the Council were not a trading corporation, and it was equally legal for them to prepare electricity as it would be for any private individual. The supplementary questions could easily be determined, but the difficulty arose over the word "article." The stipendiary said the case must be adjourned for a fortnight in order that he might go through the needful research. If the word "article" originally signified a joint, it must therefore relate to a part of something, and other applications of the word to a whole are only a result of custom. It is now employed to designate "things in general." From its comprehensiveness and vagueness it was no doubt introduced in the Factory and Workshops Act. "Article" appears likely to attain as much universality as the Latin "ens," which Julius Cæsar is said to have invented; but it would be wise to introduce the word "power" in the Act in addition to article, which would make the clauses applicable to gasworks and hydraulic works of all varieties.

Outsiders cannot understand the tactics of the Operative Plasterers' Association, for the men appear to be rushing to a contest with the lightheartedness of an Emile Olivier. Judging by their replies, they claim all the privileges of children who have been spoiled, and when impertinent escape punishment. To declare that they have "no official knowledge" of abuses which are perpetrated by them is only trifling, and indicates that the negotiations have been conducted as a game. It is impossible for the National Association of Master Builders to come to terms with men so volatile. As there can be no assurance that the objectionable practices which the Association will not condemn are to be discontinued promptly, the masters were justified in declaring that there must be a lock-out on March 6. There is time for the plasterers to show their seriousness by submission, but any further dallying with the case will only increase the evil. To be kind we are afraid the masters must show themselves to be severe.

On April 25, 1599, Oliver Cromwell was born in St. John's parish, Huntingdon. Carlyle describes the house in which the event took place as "a solid yellow brick house with a walled courtyard," and as he was unable to make more of it there is no doubt of its commonplaceness. It has been twice rebuilt, and originally may have possessed some comeliness In a couple of months will come the tercentenary of the Protector's birth, and according to the modern custom there are proposals about celebrating it. Huntingdon is not yet entirely reconciled to Cromwell's way of overcoming a political difficulty, but the modern cavaliers would not object to any expenditure by their puritan friends on an object that would benefit the town. The governors of the Grammar School, for example, desire to obtain money to expend on additional buildings, class-rooms, a laboratory, scholarships, &c. The school was part of a hospital founded in the twelfth century, and there, according to Carlyle, the young Cromwell "learned to appearance moderately well what the sons of other gentlemen were taught in such places," and which was sufficient to enable him to enter Sidney-Sussex College, Cambridge, as a fellow commoner in 1616. Many of the inhabitants would prefer a statue as a memorial of their famous townsman. In such a case it is always well to ask what would the man approve to whom the memorial is to be raised? Cromwell, it must be owned, did not afford much employment to portrait-painters or sculptors. When after the victory at Dunbar Symonds, the official medallist, was sent to Edinburgh to sketch the features of the Lord General for a medal, Cromwell begged that instead of his own "thundery countenance" the Parliament would be shown on one side and the army on the other. He added, "I may truly say it will be very thankfully acknowledged by me if you will spare the having my effigies in it." Cromwell would, therefore, be likely to have begged his townsmen to spare him the infliction of such a statue as is now too common in England. On the other hand, let anybody read what he says about the conversion of houses in Durham into a college or school of literature, and his expectation of "such happy and glorious fruits as are scarce thought on or foreseen," and it must be concluded that his desire would be to have his old school brought up to the most advanced standard of our times.

The triangular bridge of Croyland suffered on Monday, when a part of the masonry fell in consequence of the collision of a brewer's dray. Arrangements should be made to prevent a repetition of similar accidents. A bridge existed at the spot in the tenth century, but it is considered that the present structure is not older than the fourteenth century. There are three streams, the Welland, Nyne and Catwater or Catchwater. The bridge consequently consists of three pointed arches for the three watercourses, as well as three roadways. In plan the structure resembles an equilateral triangle. The abutments are unusually high but were rendered necessary by the force of the floods which occasionally arise. Each arch is formed of three ribs, and the nine are made to meet at the centre. The inclination of the roadway is very steep and is enough to arrest the speed of an ordinary runaway horse, but it evidently failed on Monday. Perhaps the flight was under the bridge and not over it. The bridge is not adapted to be taken as a model, but from its age and peculiarity it cannot be too carefully preserved. It is, moreover, a supplement to the neighbouring abbey and displays similar skill in meeting constructive difficulties.

If we judge from an address delivered at the annual meeting of the Ontario Association of Architects, some of the municipal officers who are charged with the superintendence of buildings are not entirely qualified for the examination of plans, and apparently it is only good luck which keeps down the number of accidents. At the inquest upon the victims who were killed by the collapse of the floor in the London City Hall the jury declared that extraordinary care was taken in the construction of the beam that failed, although it was unable to sustain a load of about ten pounds per square foot. In one of the Canadian cities an architect was asked to report upon the strength of some of the Corporation buildings, and, according to the President of the Association, an alderman who was not present when the appointment was made is reported to have spoken very violently in opposition to the architect's employment, charging the council with reckless and unnecessary expense, one of his reported sentences being, "Me and Jimmy Jones, a knowin' the strength of timbers, could ha' done it without costin' nothin'" ("Jimmy Jones" standing for the corporation superintendent of buildings). The President considers that it is almost impossible to have adequate municipal supervision anywhere in Canada.

ILLUSTRATIONS.

CATHEDRAL SERIES—DURHAM: FROM ST. OSWALD'S. DETAIL OF NORTH WINDOW, CHAPEL OF NINE ALTARS. ARCADE INSIDE WALL OF NAVE.

TEMPORARY PREMISES OF H.M. OFFICE OF WORKS, WESTMINSTER.

15 & 16 STRATION STREET, PICCADILLY.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

By the Author of "Ecclesiologia Germanica," &c.

(*Continued from page* 118.)

Auxerre (continued)—St. Florentin.

XIII.

BY this time I begin to feel, with the poet's bird, "the keen demands of appetite;" so leave the cathedral, intending to turn to that happy hunting-ground later on. For I have but alf exhausted its mine of architectural interest, some fresh detail some new point of view interposing to claim the attention at very turn. On my way to get some food I pass through the arket, now in full swing, and held partly outside, but chiefly side, a large covered building. Articles of crockery, hard- are, and wearing apparel are displayed externally to the dmiring gaze of the portly Burgundian dames, to whom outs an Autolycus, "Voilà vos bas! Voilà vos fils! Voilà os aiguilles! Achetez! Mesdames, achetez!" And a peculiar nd of cake, looking for all the world like a piece of petrified onge, is being carried about in the crowd. Inside the market, e babel of voices and the scene altogether baffles description. o say nothing of the fish, luscious fruits, and esculent roots, ere is the live stock—geese, fowls, turkeys, and ducks,



South-west View of St. Etienne at Auxerre.

itting calmly in rows, their feet tied together, and presenting he most pleasant expression of countenance under what must e to them rather uncomfortable and trying circumstances. I dmire a fine white rabbit. "Would I buy him?" "No!" was on a tour in France among its cathedrals, and the resence of a rabbit would be hazardous, not to say impossible. Besides, I lived in England, and should have to go back there y the *bateau à vapeur*. Suppose, then, M. le Lapin should have he *mal de mer*? "Ah!" cries the old woman, "et alors quel hagrin!" In chat similar to this, and a turn round all the talls, admiring this, that, and the other, a quarter of an hour oon passes.

Having fortified the inner man, I proceed to visit the hurches of Auxerre, which although not so numerous as those of ens, are on a grander scale and more architecturally valuable. t. Eusebius is just behind the hotel where I am staying. Externally its most interesting feature is the octagonal tower nd spire in Transition between Romanesque and Pointed, and which in early simplicity and beauty rivals the more widely known twelfth century ones of Chartres and Vendôme. The effect of this steeple is ruined by a hideous great chancel which some architect of the Renaissance has raised "cheek by jowl" with it. Those who know Ormskirk in Lancashire and its peculiar western double steeples will have some idea of the picture presented by this spire at St. Eusebius, Auxerre. The Renaissance architect, whoever he was, has entirely remodelled the choir, and very poor feeble work it is. Happily, he has left the Transition nave with its lean-to aisles and low clerestory of simple lancets untouched, the north aisle, however, is tolerable Flamboyant. The western façade is quite First Pointed, presenting three plain lancets above a very refined doorway, richly moulded, and with slender shafts bearing foliaged caps. The red-tiled roofs contribute much to the picturesqueness of St. Eusebius externally viewed from the broad Place in which it stands. Passing to the interior, I find a graceful Transitional nave arcade, on half-columns, some of which have their capitals carved, but varying in design. A triforium, clerestory, and vaulted roof give quite a minster-like appearance to this church, making it appear much larger than it really is. The bosses of the roof at the meeting of the groins are tastefully relieved with colour and gilding. Under the tower, which, as I have stated, stands just to the north of the chancel, are very plain bold arches. The lantern-like choir of the Renaissance period, although very coarse in



St. Germain's, Auxerre: Apse and North Transept.

detail, is undeniably imposing internally, and some of its windows have old glass. The eastern chapel is a miserable imitation of the lady-chapel in the cathedral, and opens out of the circumambient aisle by a triple arcade on ugly attenuated columns, some old glass masking in a degree the badness of the work. The view of the nave from behind the high altar strikes me as particularly fine, its massive vaulting contrasting strangely with the inferior work in the choir.

A steeple of similar character to St. Eusebius is found at St. Germain's. Designed with an entasis, this spire stands quite isolated, the old First Pointed structure of which it formed part having given place to the present church, a miniature cathedral in Early Middle Pointed, consisting of a lady-chapel, choir, transepts, and nave of only four bays, the rest having been destroyed by the Huguenots. Its great height gives St. Germain's a most imposing air viewed from the river, and were the three or four demolished western bays of the nave extant the internal effect would be materially enhanced.

Entering by the door in the west wall, a wretched affair in that dry, quasi-Gothic school of carpentry which flourished during the early part of the century, the aspect presented by the interior of St. Germain's is most dignified and interesting. Just inside the door is a railed gallery, from which, on either side, two flights of steps lead down into the body of the church which is built upon the declivity of a hill. Unhappily, the extreme whiteness of the stone robs this, and many another French church, of that picturesqueness obtainable by natural polychromy. Beside such churches of our English Midland shires as Worcester Cathedral, St. Mary's and the Abbey Church of Shrewsbury, the Northamptonshire churches of Higham Ferrers, Irthlingboro' and Raunds, built of rich, warm, local stones, the majority of French ecclesiastical interiors are cold, relying much, of course, upon mural and vitreous colourisation. The finest points in the interior of St. Germain's at Auxerre are the light graceful arcades whose arches die into the piers without any capitals, the massive groined roof, and the fenestration of the great transepts; that of the northern one is particularly fine, and has a richly-traceried rose.

A flight of steps, similar in elevation to those at the west end, admits to either choir aisle from the transepts; from the north transept a door under this flight leads to the crypt, the only portion of the original structure remaining. Of considerable extent, and with its well preserved paintings on pillars, walls, and roof, it suggests the old Roman catacombs. The part immediately under the high altar in the choir is truly awful. It is quite as much as one can do to stand upright in its little outer aisles, which are separated from the central domed portion by square-headed arcades on pillars with Corinthianising capitals. Here stands the altar of St. Germain, with the figure of that saint over it, enshrined in flowers and evergreens, from which a silver crucifix gleams through the darkness, with very weird effect. Emerging from this solemn crypt to the lightsome superstructure, I notice that the high altar is placed just under the eastern arch of the crossing, the stalls being arranged in the choir and apse basilican fashion. A lofty iron gate, of last century's workmanship, surmounted by a crucifix, screens the chorus from the nave, now serving as the chapel of the Hôtel Dieu. Against the western wall of the south transept is reared a wooden crucifix of imposing dimensions, and bearing on its base the words "O Crux Ave. Mission 1824." A large number of pictures and some well-executed "Stations of the Cross" relieve the general air of coldness which pervades the interior of St. Germain's, whose ensemble recalls the well-known church in the castle of Mont St. Michel.

St. Pierre, the third church, is one of those extraordinary buildings met with so frequently on the Continent. A curious combination of Gothic and Italian, there is something very grandiose about this St. Pierre, Auxerre. It stands some little way back from the hilly street leading up from the bridge, and its western façade looks most grand and imposing on entering the secluded precincts from beneath a Renaissance gateway, which, although much mutilated, is invested with that lovely colouring which time alone imparts. On the south side of the nave, about midway, stands the tower, a good one of the late Flamboyant age, without any traces of Palladian influence, and dating from the fifteenth century. The body of the church belongs to the latter part of the seventeenth century, and consists of a nave and chancel under a continuous roof, aisled and clerestoried. Its regularity renders the interior of St. Pierre at Auxerre so imposing. There is an arcade of round columns and arches carried right round the apse in a grand sweep, and designed probably in imitation of Transition work, since the pier capitals Corinthianise. There is no triforium, a blank space, doubtless intended by its designer for pictorial enrichment, intervening between the arches and the clerestory, whose large three-light windows have coarse tracery in imitation of Flamboyant. A groined roof covers the whole church, so excellent in its workmanship that it is difficult to believe that it belongs to the seventeenth century. There is a good deal of painted glass in the choir clerestory, rich, but with all the faults of a degenerated epoch.

My ecclesiological researches in a measure concluded, a walk along the tree-shaded boulevard by the river brings me back to the cathedral, where I sit until the Angelus from the great tower sounds over the city, and apprises me of the hour of noon. Crossing the market, I find a change in its aspect. Business i practically over, and the "Dames de la Halle" have, t use Sir Walter Scott's favourite expression, "broken th neck of the day's work." Déjeuner is in progress, the demo lition of various savoury viands occupying the undivide attention of such of the company as remain, and effectuall precluding any further display of eloquence.

The sun is now glaring down upon Auxerre through cloudless blue sky, so I am glad to have got through my morn ing's work between those pleasantest hours of the day in continental town, *i.e.* six and twelve o'clock. Déjeune concluded, I spend the afternoon in reading, writing an dozing; then comes tea—looking, by the way, when poure out, something like an infusion of brown paper, as I have fo gotten to tell them to make it *à l'Anglaise*, but refreshin nevertheless. A delightful saunter about the city in the coo of the evening ensues; along the boulevards; by the river; an about the quiet streets in the immediate vicinity of the cathedra whose deep-toned bell presently announces the *Ave Maria* A sister of charity throws aside the jalousies of a window in house near the south transept after the heat of the day, and few devotees are wending their way towards St. Etienne, whos "peaceful gates to all expand," to await in some quiet chap their turn for confession in preparation for the next day's Mas Referring to the "Tables des Offices pour la Semaine" I se that the "Stations of the Cross" are to be sung in the cathedra this evening at half-past seven. As the time approaches, once more repair thither. With the last rays of the setting su steeping the eastern walls of the transepts in richest colou from the painted windows, the interior of Auxerre Cathedra looks most impressive. As I enter by the portal in the nort transept a small procession, consisting of crucifer and tape bearers, clerks and officiant, issues from the sacristy in th north choir aisle, crosses the transept, and is joined on its wa to the First Station at the east end of the north nave aisle b the congregation, consisting entirely of women, among who are several sisters of charity and girls in their charge. It very solemn to see the great processional crucifix borne dow the dusky aisle of Auxerre between the two candles. Sti more so is the first verse of the "Stabat Mater dolorosa," whic presently breaks upon the ear, sung to the familiar tune, u accompanied—the third one to which this world-renowne sequence is set in our "Hymns Ancient and Modern A short exhortation follows each verse; then comes a lo murmuring from the thronging women, anon a pause for sile prayer, and a move towards the next Station while verse No. is sung—

Cujus animam gementem,
Contristatam et dolentem,
Pertransivit gladius,

and so on to the end.

During the singing of the last verse, the high altar is light up for "Benediction"; the congregation take their seats und the crux, the little procession enters the choir through t eighteenth-century crucifix-surmounted gate, the officia assumes a white cope, the glorious old hymns "O Salutar Hostia" and "Tantum ergo" are sung to the accompanime of a trombone, the successor of the "serpent,"* the great bell the cathedral tolls, incense rises in clouds before the o painted glass in the apse which the "shadows of departi day" are rendering less and less distinct, the Host is upraise before the kneeling congregation bent in silent adoration, ar this shortest but most beautiful of Roman Catholic offices enc Lingeringly we all disperse, and the vast cathedral is left on more, silent and deserted.

Saturday, August 6—the Feast of the Transfiguration breaks gloriously over Auxerre. Masses are being said in S Etienne and the other churches in quick succession by prie in white chasubles, music alone being required to give ad tional solemnity to the day on which this wonderful event

* The musical instrument called the serpent is now all but obsol in the French cathedrals. It was invented by a canon of Auxerre, c Edmé Guillaume, in 1590. The "Serpent d'Eglise" is, howev still a functionary in Gallican churches, and I remember when Amiens a few years ago buying the *Semaine Religieuse*, a lit "monthly" corresponding to our parish magazines, in which w recorded the death of the "serpentist" of the cathedral at an advanc age.

nmemorated. Only a few more hours are allotted to me in s enchanting old city, so I make the most of them, paying other visit to St. Germain's, with its fascinatingly awful crypt; St. Eusebius, where I meet a priest coming out, accom- nied by a gardener trundling a wheelbarrow, presumably flowers; thence to St. Pierre, and so back to an early *euner à la fourchette* prior to departure. To decide whether nday shall be spent at Vézelay, with its extraordinary manesque and Early Pointed abbey, illustrations of ich in the shop windows at Auxerre are distractingly npting, or at Troyes, with its five-aisled cathedral and galaxy churches, is a matter of great difficulty, but the latter gains day.

Effects are packed; the omnibus is at the door. Madame d the whole establishment are there to witness its departure d to say "Bon voyage." The driver cracks his whip, and vehicle is driven at a furious pace down the steep, tortuous eets, imperilling the life of a tame jackdaw, and across bridge to the station. Seated in the railway carriage, I e note of those who are to be my *compagnons de voyage* as as La Roche. They include two ladies of uncertain age, on whose remarks, one would think from their gestures, the e of nations depended; a soldier in a state of demi-toilette, o, when the train has left Auxerre, proceeds to invest him- f in his epaulettes, his belt and his gaiters, all of which icles he extracts from the depths of his coat pocket; and a ntleman in broad-cloth and hard felt hat, accompanied by a ild evidently in need of a little wholesome correction on the



Rood-loft in the Church of St. Florentin.

lac Stinger system. An official comes to demand our tickets. etween this functionary and the gentleman in "shoddy" an tercation ensues relative to a flimsy piece of paper—a *permit*, suppose, or something of that kind—and, according to rench custom, everybody in the carriage begins to talk at nce, offering his or her opinion on this precious document. he dispute terminating, as far as I am able to judge, in favour the passenger, the collector slams the carriage door, making se of several very naughty adjectives, the train glides out of e station, and Auxerre and its churches fade like a beautiful sion, to be conjured up during the foggy days of a London ovember.

In due course we arrive at La Roche Junction, where, a short elay occurring before a train can be got on to St. Florentin, is pleasant to sit by the canal just outside the station and atch the great blue dragon-flies skimming over the water.

Once more I am in motion and soon St. Florentin comes into view, my Alsatian driver of the preceding Wednesday being there with his vehicle, and greeting me on emerging from the station with the politest of bows.

There is leisure, until the departure of the train from a station in another part of St. Florentin for Troyes, to visit its grandly situated church. It is, however, a late and coarse Flamboyant edifice, whose most picturesque external feature is the long flight of steps leading up to the portal of the north transept from the hilly street. A procession with banners and crosses passing up or down this ascent must have an uncommonly picturesque effect. Viewed outside, this church at St. Florentin appears to consist of a lofty apsidal choir and transepts only. On entering, however, a low unfinished nave of but two unclerestored bays is presented to the visitor.

Pecuniary considerations or the religious wars doubtless determined the promoters to discontinue their work beyond this point, for a vault, by no means of temporary character, springs from just above the arcades. A gallery, in Italian Corinthian, carried on three round arches between pilasters, supports one of those imposing-looking organs so frequent in France, and marks the bare, hastily finished west end, whose only relief is a round window, traceried in very tolerable imitation of Early French. Equally meagre is the fenestration of either transept.

The glory of this truncated church at St. Florentin resides, however, in its fittings, conspicuous among them being the rood-loft and the Early Renaissance screens, which not only enclose the choir, but the chapels surrounding it, and which are perhaps only excelled in beauty and extent by those in the glorious First Pointed cathedral of Laon; but any detailed description of these fine works is precluded by the illustration with which I have furnished the present paper.

Besides these interesting instrumenta there is some good stall work, an imposing lettern, the strap-like treatment of whose ironwork has been laid under contribution by two of the most accomplished architects our Gothic revival has produced; a charming little semicircular projection from the eastern side of the jubé containing the steps conducting to the loft, and an imposing reredos of the Corinthian order. All these are very chaste, and agree remarkably well with the late character of the building, but one fails to see the appropriateness of an altar shaped like an Egyptian sarcophagus. The candlesticks and flower-vases are rococo; indeed, it is strange that so many great French churches should retain their high altars of the Louis XV. and Early Empire periods, while those in the side chapels are frequently most sumptuous and correct specimens of Revived Pointed work, with exquisitely jewelled tabernacles, predellæ faced with subjects from Scripture or saintly figures; the altars themselves, unprovided with frontals,* being seen to rest on small pillars, under which reliquaries, some of them elaborate specimens of orfèvrerie, are deposited. Side curtains, too—very picturesque and devotion-aiding adjuncts—are rarely met with in the French churches, and these, together with rich needlework of any description, are desiderata in the majority of Gallican church sanctuaries.

"It is heat and mid-day," and the streets of St. Florentin are deserted when I pass out into them from the church, intent on taking home some souvenirs of so richly furnished an interior in the shape of photographs. Luckily these were forthcoming, though not until after some difficulty, and I am happy to be enabled to "embellish" this paper with a copy of one of them.

(*To be continued.*)

EDINBURGH ARCHITECTURAL SOCIETY.

A MEETING of this Society was held on the 15th inst. in Dowell's Rooms, when Mr. Isaac Connell, S.S.C., gave a lecture on "Legal Points affecting Architects." He dealt fully with the subject, the paper being much appreciated by those present. Some discussion took place, in which the lecturer explained some matters raised by members of the Society.

* I noticed an interesting departure from this apparently established rule in the cathedral of Moulins-sur-Allier. Here every altar is provided with a frontal, thanks to the ecclesiological taste of a bishop who presided over the see fifty years ago—Monseigneur de Dreux Brêzé.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Professor Aitchison, R.A., president, in the chair.

The Secretary announced the decease of Mr. James Murray (retired Fellow).

Papers were read by Mr. J. M. Brydon and Mr. F. J. Burgoyne (Central Tate Library, Brixton) on

Public Libraries.

Mr. Brydon explained that his object was to show, with as full illustrations as possible, something of what had been recently done in library building, so that one may learn what to follow in the future.

A suitable site is of primary importance. It should be central and prominent, yet quiet, ample in area to allow for future extension, have a good light all round, and be dry.

As regards the building, the free and open system of the ordinary popular library—*i.e.* reference and loan combined with reading-rooms—rendered proper supervision essential, and as libraries are usually understaffed, the arrangements of the plan must be concentrated so as to enable the officials to supervise at a glance all the rooms to which the public have access. An ideal plan is to place all the public rooms on one floor. Where this cannot be done, the rooms to which most frequent and rapid access is required should be placed on the ground floor, and those less frequented on an upper floor. The administrative portion of the library, such as the book stores, the librarian's office and the workrooms for his staff, must be conveniently placed for the service of the department to which they are more particularly attached. The public rooms should be lofty, well lighted and thoroughly ventilated.

The planning of a public library is not, however, a complicated problem. The requirements are comparatively few and simple, and lend themselves to a stately and architectural system of design from which some striking effects almost necessarily follow. It must be endowed with a fitting dignity both in plan and elevation. The reading-rooms being large give ample scope for the designer's knowledge of proportion. They should possess that quiet dignity of effect which can only be obtained by good proportion and restraint in design. Fussy little bay windows and other nooks and corners are uncalled for and out of place.

Respecting the lending department, the author considered that an architectural opportunity had been missed in many recent English libraries. Instead of being simply a book store, with a space cut off for the public, the latter might be treated as a hall or lobby by itself, as in some of the American libraries, notably at Boston. There the delivery room is 64 feet long by 33 feet wide and 20 feet high, and is decorated in the most sumptuous manner. Adjoining it is the stack-room, to all parts of which application slips are sent through pneumatic tubes. The books come back to the alcove by means of a little electric railway with low wire basket carriages, running at the rate of 500 feet per minute. The delivery-room at the Edinburgh Public Library is modelled on the telling-room of a Scotch bank. The central space is devoted to the public, with counters round three sides and alcoves behind them, for the storage of books. This arrangement gives scope for, and is treated with considerable architectural effect, a handsome hall being the result. The public library of the future will be the centre of culture and enlightenment of the district in which it is placed, and will wield an influence which must ever become wider and stronger. The building should be of such a character as to assist this influence. The suburban villa type, with its useless turrets and bay windows, should be altogether discarded—in short, the building should be endowed with that distinction of style and nobility of purpose which will render it an enjoyment and inspiration to all who hope for the growth of a living interest in architecture as a fine art.

Having briefly referred to the arrangement of rooms in libraries recently erected in the United Kingdom, plans of all of which were shown, the author turned to the great American libraries, describing in more or less detail the buildings, plan, and more notable features of the Congressional Library at Washington, of which an interesting historical sketch was given, the public library at Boston, the Columbia University Library, New York, and the public library about to be erected in New York.

In the Washington Library the American Government had commissioned American sculptors and painters—some fifty in all—to decorate broadly and thoroughly one of its great national monuments. The result was the most interesting record possible of the scope and capabilities of American art; not only sumptuousness of design, but richness of materials had been pressed into the service—marble, bronze, mosaic, fresco and choice woods all bear their part. Staircase hall and rotunda, or reading-room, are a blaze of rich marbles and decoration. In the rotunda the columns and pilasters of the piers carrying the dome are of red Numidian marble resting on pedestals of dark purple Tennessee marble, their capitals bein gilded. The screens between the piers are of yellow marble and the portrait statues which surmount the balustrade are c bronze. The building is 468 feet long from north to south 340 feet deep from east to west, by 72 feet high. The rotund is 100 feet diameter, 125 feet high to the top of the dome, and 160 feet to the domed ceiling of the lantern. The architect were first Mr. Smithmeyer, then General Casey, Mr. Bernar Green and Mr. Pelz. The building cost 1,272,000*l.* sterling.

The great architectural features of the Boston Library ar the staircase hall and the Bates Hall—the former notable fo its mural paintings by M. Puvis de Chavannes, illustratin philosophy, astronomy, history, chemistry, physics, pastora dramatic and epic poetry. Bates Hall is the reference reading room; it is 218 feet by 42 feet, and 50 feet high to the crown o its arched ceiling. It has accommodation for 264 readers a 33 tables. Sargent Hall, named after the eminent painter, i 84 feet long, 23 feet wide and 26 feet high. The ceiling i vaulted, and the hall is lighted from the roof. The decorativ painting will be entirely by Mr. Sargent. The scheme, repre senting the triumph of religion, illustrates certain stages o Jewish and Christian history. Some of the work was shown a the Royal Academy in 1894. The interior court, anothe charming feature, is surrounded on three sides by an ope arcade of white marble, similar in design to that of the Car cellaria Palace in Rome. In its centre is a marble fountain, se about with grass plots; along the walls under the arcade ar low oak benches, so that on warm days the court may be use as an open-air reading-room. The building is a careful stud of modern Renaissance, thoughtfully and lovingly carried ou reflecting the greatest credit on its architect, Mr. McKim, an the public spirit that called it into being. Many interestin facts and figures in connection with this library and the branc libraries at Boston were given by the author.

The third library called attention to, that of the Universit of Columbia, New York, was built and presented to th University by Mr. Seth Low, president of the University, as memorial to his father. Construction and equipment hav cost nearly 240,000*l.* In plan it is like a Greek cross, with th great reading-room at the intersection of the arms, and covere by a dome. It has a magnificent approach of great terrace and steps leading up to a noble entrance portico of ten Gree Ionic columns. The entrance-hall is adorned with splendi marble columns. The building, of which many interestin details were given, may be taken as an example of a typica university library worked out on modern lines to suit moder requirements—a utilitarian scheme artistically carried out.

The public library about to be built in New York was th subject of a limited competition last year, and copies of th successful design, lent by the architects, Messrs. Carrère Hastings, were exhibited in the waiting-room. In its mai lines it somewhat resembles the Boston Library, but in th instructions was this distinction, that though the authorities di not object to external splendour, they were rather disposed t favour a simple interior. The winning design had resulted in good plan, and what promised to be a stately, dignified exterio A marked feature is the raising of the building on a gre terrace. The architects were not content with designing th building alone; it must have a dignified setting; so by means broad flights of steps, terraces, fountains and votive column the approaches were made to contribute to and enhance th effect of the architectural picture. This, the author thoug was a point to which more attention should be paid in publ buildings in England.

In conclusion the author expressed the hope that the American works were not without their lessons for us in mo senses than one—not only as libraries, but as public building Would that some of the public spirit and the love of art whi animated the founders and designers of those works could transferred to the hearts of the City Fathers of London a our great provincial towns.

Mr. F. J. Burgoyne opened his paper with some observ tions on the limited income derivable by municipal librari from the rates, urging that the initial charges for buildings a sites should be paid out of the general rates, and the whc proceeds of the penny rate be available for the current work the library. The plan of the building should be considered n only in relation to the public but also to the probable size the staff to be engaged. Dividing municipal libraries in three kinds—small, medium and large—the author indicat the minimum accommodation that should be provided for sta books and public, illustrating his points by reference to pla of existing buildings, a large number of which were shown the lantern. For a small library the plan generally adopted a rectangular room, lit chiefly from the top, with newspape stands and tables in the centre; the walls on one, two, or thr sides shelved for books 15 to 18 feet in height, and a count or rail running round the room 6 or 8 feet distant from t books. Libraries of medium size require a quiet room whe books of reference may be consulted. Such a room may combined with one for reading the higher class magazines a

vs. If the public rooms are all on one floor the refer-
books will be shelved alongside those of the lending
tment. If on two floors the reference department
ed upstairs, and the lending and general newsroom on
round-floor. In the larger libraries, the work done in the
nce department is of the most valuable character, and it
visable to have, in addition to the ordinary reference
g-room, a smaller room for the use of students of special
ts, or those who are engaged upon original research.
ibrarian should have a room for his own use—one that
e used, if necessary, for the meetings of his committee.
ge libraries there should be a fireproof strong-room, on
me floor as the reference department, in which the rarer
and MSS. can be stored, and rooms for repairing and
g books. There should be mess-rooms for the staff and
le lavatory arrangements.
e author recommended that before planning a building a
idea of the method of work to be employed should be
ed from the librarian. The various methods of issue—
ndicator, without indicator and "open access"—require
ent accommodation and different arrangements, all duly
ibed by the author.
shelving the books in the lending department, it is im-
nt to place them as near the issue desk as possible, in
to facilitate quickness of issue. Reference books, the
r considered, were best shelved in a store-room adjacent
e reference reading-room. Room must be allowed for
h in this department. It was estimated that in the larger
ies stock would increase threefold in twenty-one years.
ope with such an accretion the author favoured the
ion of the American "stack system" of packing the books,
ined with rolling bookcases for works in least demand.
system was described by the author, and plans and
ns were shown of the stack system in the libraries at
wald, Halle and Strasburg.
e new system of sliding presses in use at the British
um consists of stacks three tiers in height and about 9 feet
In front of each bookcase a couple of steel girders with
s are bolted to the iron floor above, at a distance of about
ches from each other and at right angles to the case.
these girders hang a bookcase of the same width to
a few inches of the floor. It can be filled with books, and
dily pulled away from its normal position close against
ont of the fixed bookcase. It can be adopted piecemeal as
ecessity arises for greater accommodation in any particular
n of the library. A somewhat similar system is in use in
rary of the India Office. The iron bookcases hang from
rs, as at the British Museum, but are packed close
ner, and if a book is wanted the case containing it is pulled
to the central gangway, which is the same width as the
g case. This is the closest method of shelving yet
ed, and very useful for books not much in use. All
es should be of the same length—36 inches is the most
nient length. No bookcase should be higher than 8 feet,
is preferable.
r. F. Pacy, hon. secretary of the Library Association, said
ians must congratulate themselves if, as a result of such
s as they had heard, the architectural profession would
st themselves more in the necessary details essential for
d library. For such a building, all the departments to be
e ground floor was of course preferable. The treasures,
f the library should be exposed in cases round the walls,
ese treasures were the best furniture such a place could
. Neither of the papers had touched upon the warming
e building. Radiators around the walls were not good;
eating apparatus should find a place in the centre of the
s. The ventilation was an important question, and
ugh proper provision should be shown for the benefit of
rs, yet care should be taken that the officers and staff of
ibrary should work in a pure, fresh air. It was a remark-
thing, the speaker said, that a country like our own, with
a literature as ours, should be so far behind the Americans,
e literature was not so old, in providing proper accommo-
n for its national treasures.
[r J. H. Quin (Public Library, Chelsea) pointed out that
parish or town did not build a library every year, allowance
rowth ought to be considered in the original plans of such
ilding. The site, where possible, should admit of future
sion.
[r. H. H. Statham, who proposed a vote of thanks to the
rs of the papers, said Mr. Brydon had mentioned a library
ich the windows were closed and airtight, the ventilation
obtained by means of apparatus. These precautions had
taken to prevent the entrance of dirt and dust, which
l spoil the contents. If the ventilation was carried on by
s of pipes, it was just as easy for the dirt and dust to enter
om through the pipes as through the windows.
[r. Beresford Pite seconded the vote.
he authors briefly replied.
he meeting then terminated.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

THE usual monthly meeting of this Society was held on the 14th inst. at the School of Art, when there were present Messrs. R. W. Fowler (in the chair), F. Fowler, C. J. Innocent, E. M. Gibbs, C. Hadfield, C. B. Flockton, J. B. Mitchell-Withers, C. Gibson, Thos. Winder, W. C. Fenton, (hon. sec.), T. Myles, C. F. Innocent, and many others. Mr. P. Marshall gave an interesting and instructive lecture on "Surveying." The lecturer prefaced his remarks by giving advice to the students upon the necessity of being careful and particular in all the work appertaining to the profession of a surveyor. He then proceeded with a detailed description of the work done by surveyors of 150 to 200 years ago, and the character and beautiful workmanship of the finished plans of that period, and illustrated the manner in which the surveys were carried out from that period to the beginning of the present century, and explained how the plans were prepared by these early surveyors and the various details connected therewith, contrasting the amount of labour expended upon the finished plans of that period with those prepared in these hurried times. After referring to the work done by the surveyors in the enclosures of the commons and waste lands of England, he gave a detailed description as to how the surveys of these commons were made, the manner of laying out the roads and dealing with the rights of way across the same, also the way in which the surveyors valued the commons for dealing with the commoners' rights, and also the allotting and setting out the plots apportioned to them. He also gave an outline of the work done by the Commissioners and the hearing of claims, and as to what these claims consisted of, being for various rights, such as those of pasture, horses and sheep, the rights in respect of ancient enclosures, the tithe owner and the lord of the manor and his manorial rights, and explained how the lands were allotted in lieu of those rights. The different methods adopted in meeting the expenditure incurred by the Commissioners in their work were then shown. He described the various systems of modern surveying, and their application to the surveys of country estates and property in towns, and specially explained the applicability of traversing with the theodolite for these surveys, with advice as to how the same should be carried out. Proceeding, he laid down what in his opinion was the best mode of preparing Parliamentary plans for engineering and other uses, and in particular the making of the surveys required for the working plans for railways and other works. He next gave advice as to preparing the cartoons for Parliamentary and other purposes, which are used in the illustration of works before committees of the Houses of Parliament and other tribunals, concluding his paper with a brief description of how the ordnance survey of England was carried out, and the details shown on the published maps.

On the motion of Mr. Fred Fowler, seconded by Mr. C. Hadfield and supported by Mr. H. Vickers, a hearty vote of thanks was given to the lecturer.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE usual monthly meeting of this Society was held on the 13th inst. at the National Museum of Antiquities, Queen Street, the Hon. John Abercromby in the chair. In the first paper Mr. Thomas Ross, architect, F.S.A.Scot., gave an interesting notice of James Gifford, a local sculptor, who practised his calling at West Linton in the latter half of the seventeenth century. Several of his works still remain in the village, and a number are in the possession of Sir James Ranken-Fergusson, Bart., at his mansion-house of Spitalhaugh. One of his most interesting productions contains a group of his ancestors, with himself and his son. His ancestors were the Giffords of Sheriffhall, who were tenants or vassals of Newbattle Abbey at the time of the Reformation, and had been so for generations previously. One of the figures shown on this piece of sculpture is probably the James Gifford who was charged before the Privy Council with being an accessory in the slaughter of Rizzio at Holyrood in 1566. Most of the sculpture is in low relief, and the groups generally consist of two figures in profile facing each other, with accessories consisting of conventional trees, roses, thistles, birds, &c. The rich dresses of the figures give the sculptured panels a highly decorative effect. He also erected a cross or well to the memory of his wife, Eupham Veitch, and of his children. It stood till a few years ago, adorned with their statues, when, unfortunately, it was taken down and a most tasteless Jubilee erection put up in its place, but preserving the statue of Eupham Veitch; while that of one of the children is preserved among the Spitalhaugh remains. Gifford took part with the Covenanters, and was at the affair of Rullion Green, from which he escaped scot free. He had, however, to go into hiding, and his name remains carved (it is supposed at this

time) in very weather-worn letters at a remarkable rock called Harbour Craig, near Newhall. Gifford is frequently mentioned in the poems of Alexander Penicuik, a contemporary, who was proprietor of Newhall. Several gravestones by Gifford are believed to exist in various churchyards in the district. The paper was illustrated by drawings of the principal works of Gifford still remaining in Tweeddale. In the second paper, Mr. F. C. Eeles gave a notice of a portion of a sculptured slab bearing a Celtic cross recently found in the churchyard of Kinneff, and now presented to the Museum. Kinneff Church, famous as the place of concealment of the Regalia of Scotland in the seventeenth century, is one of the oldest foundations on the east coast of Scotland, although its early history is very obscure. The original dedication appears to have been to St. Adamnan. The fragment of this sculptured slab was found among stones taken from the north wall of the church, and bears on one face a cross of the usual Celtic form with semi-circular hollows at the intersections, and having a small boss in the centre, with corresponding bosses on the arms and summit. There are also traces of an interlaced pattern of the strands on one of the arms. Comparing the cross with that sculptured on St. Wolde's Stone at Logie Coldstone, which it most nearly resembles, the author came to the conclusion that it must be assigned to a rather late date in the second Celtic period. In the third paper Mr. Angus Grant, Drumnadrochit, described a curious stone cup, with a footstalk, the whole exterior of which was boldly carved with leafage, which was ploughed up about twenty years ago on the farm of Balmacaan, Glenurquhart. The cup, which was exhibited, is made of the fine red sandstone of the district, and is 4 inches high by 4 inches across the bowl. In the fourth paper, the Rev. George Wilson contributed a list of the antiquities of Glenluce, Wigtownshire, with plans and descriptive notes, from materials accumulated during many years, but chiefly between 1868 and 1882, enumerating them under the heads of old castles or manor houses, ecclesiastical remains or sites, including sculptured stones or holy wells, mote hills, forts, hut circles, lake dwellings, standing stones and cairns. Of the latter, which are still very numerous, many have been totally dilapidated since the erection of dry stone fences came into vogue, and it is significant that the districts longest under improved cultivation are most thoroughly stripped of their antiquities—hence the necessity for a detailed list of such as have been suffered to remain. In the last paper the Rev. R. S. Mylne gave an account of the King's Master Gunners of Scotland, with the writs of their appointments from 1512 to 1703.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. G. H. Fellowes Prynne, president, in the chair.

A hearty vote of thanks was given to Mr. H. L. Florence for conducting members on the occasion of the first spring visit over the Carlton Hotel, Haymarket, on February 4, and for the hospitality shown them.

The President announced that on March 8 a series of lectures on "Coloured Decoration" by Mr. Alfred Hart would commence. The fee for the course of lectures, which started at 6.30 P.M., was 10*s.* 6*d.*

Mr. Cole A. Adams read the following paper on

Colour Decoration.

The subject of colour decoration is a vast one, and the time in which to consider it this evening very little, but even that little may seem long, according to how the lecturer treats his subject. And how to treat it? "That is the question." So much has been written and said about it during the last, say, five-and-twenty years, until I fear there is almost a likelihood of a deaf ear being turned to the preacher. After careful consideration I came to the conclusion that I would head my remarks, "A Chat about Colour Decoration," and I will endeavour to say something which may haply be of some practical use to my fellow students, for whom I have every sympathy, and the happiest recollections of the years wherein some of us have studied colour decoration together. My discourse is addressed to students, and I shall attempt no dissertation upon the higher flights that have to be ascended in treating so voluminous a subject. I propose to speak of some of the various methods adopted in colour decoration, and to offer a few suggestions which may be of use in your study of the subject.

In our cities and manufacturing towns the architect, in attempting to add the charm of colour to his building, has to encounter the smoke demon, who no sooner than the building is finished sets to work to deface it as far as he is able. At present—and I fear so long as he is permitted to work his wicked will—no remedy is possible. Perhaps in the future, when we shall see more use made of electricity, or some means are found to compel manufacturers effectually to consum h own smoke, and householders also, then, when this dem n chained, we may see our buildings decorated with colo o more cheerful tone than they now possess.

The trials which have been made of glazed earthenv majolica for both outside and inside architectural treatm hardly, I think, quite satisfactory. It is an excellent m where cleanliness is a sanitary necessity, but the glazed is fatal to that repose that colour when applied to a b seems to demand. It gives a restless appearance which turbing to the harmony of colour, and even this mate enemy, the smoke fiend, does not respect. But then y wash it, say its advocates. So you doubtless can, but find in practice it is done? The light falling on the mo ornaments is a disturbing element and distorts the gives a better appearance and is more decorative material presents a smooth, non-reflecting surface, and h a dull glaze. You do not varnish decoration which yo in oil-colour, for the reason that you would lose that qu flatness and repose which are so important. Detached executed in a glazed earthenware are properly so treated when it is applied in large surfaces it becomes distr These remarks apply, but in a lesser degree, to polished which, unless introduced with great discrimination, is satisfactory when covering large surfaces.

Mosaic should, I think, be always employed on a c or convex surface, and is hardly ever pleasing on a flat hence its unsuitability in reredoses, as generally applied.

And here I am tempted to ask how long the custod our cathedrals and churches and the worshippers in the be content with the sculpture and painting that is ge thought good enough? There are not wanting instance one sees work which it is a pleasure to find, but such in are rare. Buildings erected by our best architects cont often sculpture and painting executed by incompete nameless artists. Sedding saw this need for calling on plished artists to help him in his work, and all true arti would wish it, instead of having to be content with th lifeless, mechanical productions of advertising firm generally sees. When we go abroad we are shown masterpiece of the sculptor or painter's art done at a tim the highest efforts were alone thought worthy of a place sanctuary; and yet at the present time men are riche they ever were, and could the better afford to give. monuments to the dead in our cathedrals and churcls frequently works of worth and beauty, but we want u good work dedicated to the service of the living C worship.

Mention must in fairness be made of the great p made in stained-glass; much of it is admirable. Pe will not be long before the educated and wealthy will the aid of artists who will give us work that shall be w the building they are placed in and worthy of the arti executed them. There can be no better medium of pe ing their fame.

In a house in the North where it has been my priv stay many times, built for the most part by a man who from an artistic race and who himself is artistic in ever is a mode of decoration which, as far as I know, is and certainly most delightful. The decoration I wish larly to call your attention to in this house I will endea describe, and I am indebted to the owner for this des He was present and saw how the work was done, and t who executed it was a Scotchman—by name Cottier—a great genius, better known in the North and America th in London.

The walls and ceilings were prepared in the usu They were then covered with a thick coat of oil and wh made the consistency of pudding, and laid upon the wls ceilings with a trowel. The next process depended up the nature of the design was to be. Supposing it u ceiling to be treated as a vine trailing over the whole the artist with his thumb boldly draws the leading line of design, and then with the end of an ordinary paint-brus the stalk, leaves and fruit. Those parts which he whe emphasise are modelled in the material—such as the which are raised in relief; in fact, with the coating wic has been careful not to lay on to a uniform thickness h to produce effects, whilst moist, as his fancy dictates wants a more or less geometrical pattern on the walls, a comb and by eye draws in patterns such as you may on the outside plaster of old cottages in Suffolk and el and also similar to some Japanese patterns with which all familiar. Again, on the surface thus prepared he powdering here and there of small patterns. This coa is capable of taking any kind of design the artist may his fancy dictate, is allowed to dry and harden. It painted the general colour it is to be, and the artist has mixings at hand of the same colour, and blends the goes. Those parts of the design to be gilded are so d the various colours applied and allowed to dry. Fin

; dull-varnished and has bronze powder mixed with the
, which gives a kind of sheen to the whole. The bright
gold are toned down and the colours blended one with
er. This, as far as I could gather, is the process. It is
anything with which I am acquainted, and it has great
lities. It gives somewhat the charm that a picture
which the colour is laid on unsparingly with brush and
knife. The burred edges of the patterns, flowers or
ised in the process reflect light. The colours running
o the other satisfy the eye by their variety, and the dull
d effects, mingling again with the bronzes, give a rich-
nd *tout ensemble* which is charming. This work, how-
must be done by artists. Executed by the ordinary
tors it would be intolerable.

e striking effect in this house was suggested by the
. He saw a ceiling after it had been floated with the oil
hite lead with the trowel marks left. With a happy
tion he told the man to leave it so, and paint it with a
opper bronze. The result is a most happy one—it has
ne charm that beaten copper produces.

speaking of this decoration—which I am afraid conveys
eeble impression to your minds—I must tell you that the
are for the most part fine and lofty, the floors of parquet,
e house full of the most delightful old woodwork and
re gathered from many cities at home and abroad; the
are hung with pictures, and an air of distinction and
aste is prevalent everywhere, which makes a visit to the
an education in itself.

ere may be some among you with an eye and love for
and ornament who might do much worse than take up
anch of architecture as their calling. With the advan-
you enjoy of learning your profession, it would be a
gain to you, and you would bring to bear a knowledge of
cture and building construction which would be of
use. The want of such acquaintance with this art
ts for the failure one so often sees in modern decoration.
possessed artists with architectural knowledge, who made
calling to decorate buildings, it would be a great public
and the public need educating in matters of taste.
ng up around us are town halls, picture galleries, free
es, swimming baths, &c. Do not these offer scope for
ist? There are hundreds of such buildings lately come
istence waiting the hand of the artist. For a moderate
epending largely, of course, upon the building and the
f decoration, they might be made more attractive and
ting. Now, what happens? The powers that be call in
al painter and decorator; he sets to work and—paints
nowing very little of the principles of decoration, abso-
nothing about architecture, he, of course, cannot apply
coration architecturally, and, as a result, he not only
s the building and the architect who designed it, but
its the further crime of offending against good taste.
for comparatively a few guineas paid to an architect who
such work his specialty, or to a skilled decorative artist,
me local painter and decorator might be led to turn out a
which would at once appeal to educated taste and give
blic decoration of which they might be proud. I believe
norities having the care of such buildings knew where
ould obtain competent advice and skill in carrying out
ass of work, they would avail themselves of it.

ere is abroad everywhere a quickening of interest in
life, and the cities and towns are vying with one
er in providing buildings dedicated to the use of the
, which augurs well; and, as time goes on, we may look
further extension of this good—as good it is—tending to
down class prejudices and bring peer and peasant
er with the happiest results; in good time much may be
to render the lives and homes of the poor happier and
by this process of levelling up. To this end the decora-
rtist may employ his talent and do good by creating
iful work that must have a refining influence for good.
owns there are of any importance that do not tempt our
singers and actors to visit them, few that do not possess
work of an architect of eminence; and it may be that at
tant future few will be said not to possess some work of
a great painter or sculptor in a richly-decorated building.
ot worth working for to become one of them who shall
the fame of the town who employs him by his skill in
decoration, instead of leaving such work to be ignorantly
ulgarly carried out?

perience in practical decoration may be gained in a way
s probably within the reach of most of you. In the parish
ich you reside there will be a school or a parish room,
e parson would doubtless be glad of any one who could
nd to volunteer to decorate it. This would give you the
tunity of doing experimental work which would be excel-
aining, and, at the same time, you will be doing practical
to others. But how to set about it? Parson may not
sonably object to having his building made use of for
iments. You must first qualify yourselves by learning the
craft to convince him you know something about the art.

I think one of the best ways to study decoration is to sit down before the object you are engaged upon and try and grasp the notion or leading idea of the artist; how he has treated it and how worked it out; what leading colour or colours he has chosen; in short, its leading characteristics. This sitting down before the object you wish to study, and, so to speak, inhaling it through the pores will not be lost time. It will, moreover, have the great advantage of training you to the habit of recollecting a scheme of design and colour, so that when you come to transmit your thoughts to paper, you will have helped to train the faculty of seeing your design in your mind's eye. To resume. Having taken in the scheme or design, I think the next best thing is—supposing it to be a ceiling, for instance—to make a plan and sections of it, then select that portion which will illustrate how the design or pattern will repeat. These drawings you should sketch as neatly and with as little detail as will express the thing you are at work upon, then put on a few leading dimensions; note the distance from the eye where the decoration is most effective, the style, probable or approximate date, place, and, in fact, each and everything that occurs to you as worth noting. I have found by experience the utmost use of thus jotting down particulars of what I am sketching, and I am sure it is a good plan, as (may be years after) it recalls the subject and gives you data which may have passed from the memory. Having made these drawings, which may be more or less elaborated according to what you are engaged upon, you may now proceed to detail the work to a larger scale and draw with the greatest care the ornament. A number or letter referring to where the part is should be noted on the plan or section, so that the details may agree with the drawings. When you have got your details sufficiently forward in pencil you may then proceed to colour them, and this will test your eye for colour. If you have not got your colours with you, or are pressed for time, a simple plan is to put on the drawing a schedule of colours and number them thus, red 1, blue 2, yellow 3 and so on; or you may elect to adopt the heraldic method. Either of these ways will be of use in keeping you in mind of the scheme of colour, and then you can at your leisure colour in your drawing; but the study will be of most use which is painted on the spot. And here I would remark that the habit of noting will be of use in describing how particular effects are produced and where the colouring has been influenced by the hand of time. Some decoration which we find now so charming owes that charm to reasons never dreamt of by the artists who did the work. In fact the work of the past owes a great deal to the hand and palette of good old Father Time.

Of course, in sketching at a museum, for instance, the object is generally detached, and can be embraced in one drawing; but here again I would urge upon you the need of cultivating your power of criticism and observation by noting down any memoranda which the subject may call forth. Let nothing appear too trivial. Attention to seeming trifles trains the mind to greater things, for is not the house built of separate bricks? It all depends upon what you are sketching, but where the detail would work out very small and not large enough to explain the design, that part should be drawn to a larger scale. As you proceed you will insensibly learn what best shows and illustrates the subject which you are engaged upon.

As excellent examples of studies I would instance the exhibition of students' drawings for the Owen Jones Prize which was on view here recently.

In studying from nature I would suggest to you that the same method should be adopted. And as correctness, beauty and accuracy of line cannot be learnt better than by study from the living model, the same principle exists in studies made from still life, and no better advice can be given to those studying decoration than to go direct to that source. Every subtlety of line, curve and contour, every gradation of colour and tint, of light and shade, will be found by those who seek it in endless variety, and great is the happiness of the search. Store your sketch-book with such studies. Take, for instance, a spray of any flowering plant and sketch it in outline with the stalk, leaves and flowers, with just enough detail to express it. Note the varieties of form and curve, and how the effect is produced. Then sketch the same spray from another point of view, and if you wish to study it further, from yet another. Then detach one of the flowers and carefully draw it in all its parts, if possible to a full size, the plan, elevation and section. What is the use of all this? is asked. I reply, every use; for the knowledge of parts thus grasped will one day stand you in good stead, and it teaches you the value of patient research, and trains you in the habit of thinking no part of your work too small or insignificant, besides giving you glimpses of the miraculous, and discovering new beauties which you never so much as dreamt of. You must, therefore, train yourself in the habit of close observation, which will in time become a habit. The simplest flowers are the most suitable to study from, and the most useful—the simpler the better. For models of expression in sketching you should study the Japanese. They succeed in that most difficult

art of knowing how much to put into the picture to express its meaning. Time spent in studying these drawings will not be lost. Excellent Japanese books can be procured at Mr. Batsford's, bookseller, Holborn, and very inexpensively. In colouring your studies from nature do not attempt more than giving the local colours and only sufficient to express this. The way the Japanese lay on their colour will best illustrate what I mean; there is no need to spend time in elaborating your studies; you do not want to paint pretty picture-cards. For the mingling and blending of colour you cannot do better than get hold of a piece of polished agate, marble, alabaster or other richly-veined stone; note their qualities of line and colour; these studies will require great attention in the execution, and *en passant* the employment of body colour will be found useful in making them. Then make sketches of birds, beasts, shells and fishes which present features of decoration, and draw the same object from different points over and over again till you have driven it into your brain and learnt something of what they have to teach. Note carefully the lines of decoration and colour and the value of contrast. This is what Tennyson writes:—

> See what a lovely shell,
> Small and pure as a pearl,
> Lying close to my foot,
> Frail, but a work divine,
> Made so fairily well
> With delicate spire and whorl,
> How exquisitely minute,
> A miracle of design.

Butterflies, beetles and gorgeous insects convey a great deal of teaching and train the eye to the beautiful harmonies and daring contrasts to be found everywhere in nature, which brings colours together in contrasts of ever-varying beauty. Any dogmatism upon the harmony of colours, and what colours may or may not be used together, is silenced when one sees how nature employs her palette. In making these studies from nature do not forget the need of written memoranda, descriptive of what you have before you, and figure the dimensions upon the drawing; in short, give as much information as you can find space for. Bear in mind they are studies. You do not need to make pretty drawings to show "your sisters and your cousins and your aunts." Let your studies from nature and from the works of man run side by side.

You will find it useful to acquire the art of sketching in perspective. You can in less space show so much more of your subject, and if you can readily and easily sketch in perspective, it conveys the intention much better to the lay mind. It has besides a commercial value, as you may convince a client the more readily if you can show him how a work will look when executed. At the same time, do not let this kind of sketching take too great a hold upon you to the neglect of careful and figured details drawn either by eye or to scale. Drawing in perspective becomes so fascinating that the temptation is to make a picture, and you will learn your lesson better by a hard matter of fact diagram. In making studies of ornament in monochrome, it is most useful training to do so with a brush. You cannot get anything like the freedom or effect by using pencil or pen, and you will come nearer to the Greek and the Japanese if you copy their painting direct with a brush. With a little practice you will find no great difficulty; besides, it is excellent training, and it will let you into the secret of how they produced their effects and why their ornament takes certain forms. If you wish to study the ornament as practised by the ancient Greeks go to the British Museum, make your way to the vase-rooms, and you will see how, by the employment of simple yet lovely forms, they have produced designs in endless variety and mostly with the use of a single pigment. We frequently hear a great deal about the accuracy displayed by the Greeks in their treatment of ornament. Many of the examples which have come down to us are anything but well drawn, and all that I have studied show an absence of mechanical accuracy, being obviously executed by the eye and hand only.

It is the fashion in employing Greek ornament in decoration of all kinds to do so with geometrical precision, with the result that it is all "faultily faultless, icily regular, splendidly dull." It does not pulsate with life, and to employ Greek ornament thus is to miss half its beauty, which does not consist in perfect accuracy of parts, but in that charm which the trained eye and hand alone can give to all work, and which is lost in mechanical execution.

In the repetition of ornament, where the same pattern is employed over and over again, stencil-plates are generally used, and a few remarks upon stencil-plates and their use will not be out of place. The great objection to them, is that the pattern to be repeated cannot be cut without leaving what are called "ties," which are used to hold the stencil together, and these "ties" it is seldom possible to touch in afterwards without their being apparent. The whole art of stencil-plate cutting has a rather narrow margin of limitation, and work carried out with the extensive use of stencilling is anything but pleasing. It has a thin, starved, stiff, mechanical appearance. we may borrow a hint from the Japanese method of em stencil-plates as practised by them at the present day.

(*To be concluded.*)

GLASGOW ARCHÆOLOGICAL SOCIE

AT the monthly meeting of the Glasgow Archæo Society, held on the 16th inst. in the Rooms, 2 Street, the following papers were read:—By the pr Archbishop Eyre, on "The Seal of Inchaffray;" by t William H. Macleod, B.D., Buchanan, "Note on the of St. Kentigerna, Inch Cailleach, Loch Lomond;" Mr. John Honeyman, R.S.A., on "The Sculptured St Govan Churchyard."

HISTORIC SOCIETY OF LANCASHIRE CHESHIRE.

A MEETING took place on the 16th inst., Mr. Rylands presiding over a good attendance of m and friends. A paper on "Further Discoveries at Veri was read by Mr. Thomas May, of Warrington, who be paper with a description of the site and the various s and cuttings made during the year 1898. A large nu specimens of Samian ware, bearing potters' mark, em pottery, coins, bones, calcined wheat, quern, &c., we hibited, and also a description of many objects now Warrington Museum, and interest was increased by the maps, scale drawings and lantern illustrations of the of their Roman encampment. After a short discussion of thanks, proposed by Mr. A. M. Robinson, and seco Mr. J. G. Prentice, was heartily accorded to Mr. May paper.

GENERAL.

The Late Samuel Bayliss, of Hanover Terrace, Re Park, civil engineer and contractor, who died intes November 28 last, left property valued at the 545,849*l.* 11*s.* 3*d.*, and estate duty thereon has been dulya

An Oak Screen has been erected, at a cost of abo in the chancel of St. Mary's Church, Mortimer, near R in memory of the late Mr. Richard Benyon, of Ene House, Berks. It was designed by Sir A. W. Blomfield,

Professor Kennedy, C.E., is to report on the empl of mechanical traction on the London County Council ways. His fee is to be 500 guineas, with 100 guin travelling expenses.

Mr. David McGibbon, architect, joint author w Ross of "The Castellated and Domestic Architecture land" and "The Ecclesiastical Architecture of Scotlan receive the honorary degree of Doctor of Laws fr University of St. Andrews.

M. Gustave Déloye, the French sculptor, whose de announced at the age of sixty-one, executed many commis for the State, and in 1872 he was decorated with the the Legion of Honour. He did important work for Ver and St. Petersburg, and on the occasion of the Czar's v Paris he was selected to decorate the garden of the Embassy. M. Gustave Déloye was much esteemed by late Emperor Alexander III. He was a pupil of Jouffr won the Prix de Rome in 1862.

The Second Part of "Selected Examples of Decora Art from South Kensington Museum" (Longmans, Gre Co.) contains interesting examples of wood-carving, sculpture, leather (Cuir Bouilli), glass, bronze, brass, silv brocade. For designers, manufacturers and amateurs collection of plates will be a matchless acquisition.

Mr. Morgan, a New York banker, has promised t of 5,000*l.* to defray the cost of such an installation of el light in St. Paul's Cathedral as will serve to light up the decorations.

The Château de Longchamps, which was constru for the Prefect of the Seine, has been let by the Muni Council of Paris to M. Chauchard, one of the proprietors "The Louvre."

Messrs. Mawson & Hudson have obtained the fi of 100*l.* in the competition for the fire brigade station, B The second prize was gained by Mr. W. J. Morley (B and the third by Mr. Owen Roberts (Liverpool).

The Alterations to Kensington Palace to fit it for use have been far more costly than was originally expect the first estimate a sum of 23,000*l.* was fixed, but owing to extensive scheme of renovation, necessitated by long dis the palace, this has proved inadequate, and in the supp mentary Civil Service Estimates a still further sum of 5,00 provided.

THE

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IMPORTANT NOTICE.

ORKMEN'S COMPENSATION ACT.

view of the many difficulties which are certain to in connection with the law, practice rules and dure under the above Act, we have added to our A VERY EMINENT BARRISTER, who has made ubject a special study, and will be glad to answer e columns of this paper any questions relating to omplicated matters arising from the provisions of difficult Act. Our LEGAL ADVISER will further er any legal question that may be of interest to readers. All letters must be addressed "LEGAL ISER," Office of "The Architect," Imperial Build Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

uthors of signed articles and papers read in public must ecessarily be held responsible for their contents.

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spondents are requested to make their communications s brief as possible. The space we can devote to Corre- bondence will not usually permit our inserting lengthy mmunications.

TENDERS, ETC.

s great disappointment is frequently expressed at the non- ppearance of Contracts Open, Tenders, &c., it is par- cularly requested that information of this description be rwarded to the Office, Imperial Buildings, Ludgate ircus, London, E.C., not later than 2 P.M. on Thursdays.

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For Advertisement Scale, see page 31.

COMPETITION OPEN.

ADFORD.—April 14.—Designs will be invited for the n of the Bradford Corporation Cartwright Memorial t a cost of 38,000*l.* Three prizes will be offered, value 100*l.* and 50*l.* respectively. Particulars will be found in r column.

CONTRACTS OPEN.

ABERDEEN.—For erection of bank house in New Deer. Mr. R. G. Wilson, architect, 181A Union Street, Aberdeen.

ALNWICK.—Feb. 27.—For repairs to Denwick Bridge. Mr. Geoffrey Wilson, town surveyor, Alnwick.

ASHTON-UNDER-LYNE.—For erection of a Methodist New Connection Sunday-school, Hurst Brook. Mr. S. Shirt, Mount Pleasant, Ashton-under-Lyne.

BELFAST.—For erection of block of dwelling-houses, Brown's Square and Gardiner Street. Mr. W. J. Moore, architect, Whitehall Buildings, Ann Street, Belfast.

BELFAST.—For alterations and improvements to licensed premises, Short Strand and Anderson Street. Mr. W. J. Moore, architect, Whitehall Buildings, Ann Street, Belfast.

BIRMINGHAM.—Feb. 28.—For enlargement of the hydraulic power pumping station, Dalton Street. Mr. E. Antony Lees, secretary, Water Offices, 44 Broad Street, Birmingham.

BLAYDON-ON-TYNE.—March 6.—For erection of six houses and additions to business premises at Low Westwood. Mr. G. T. Wilson, architect, 121 Durham Road, Blackhill.

BRADFORD.—Feb. 28.—For pulling-down and rebuilding the Wagon and Horses Inn, Drighlington Street. Mr. F. Fielding, architect, 7 Fountain Street, Halifax.

BRADFORD.—March 1.—For erection of store warehouses and alterations at Brownroyd Brewery. Messrs. Milnes & France, architects, Bradford.

BRIDLINGTON QUAY.—March 14.—For erection of residence. Messrs. Brodrick, Lowther & Walker, architects, Central Chambers, Bridlington Quay.

BRISTOL.—March 2.—For erection of the Avonmouth granary electric general station. Mr. Thomas A. Peace, engineer, Cumberland Basin, Bristol.

BUXTON.—Feb. 28.—For rebuilding bridge, St. John's Road. Mr. Josiah Taylor, clerk, Town Hall, Buxton.

BUTTERKNOWLE.—Feb. 28.—For erection of four houses. Mr. Michael Craggs, Pinfold Lane, Butterknowle.

CAMBORNE.—March 1.—For erection of two five-roomed dwelling-houses at Barripper. Mr. James S. Pearce, Barripper Road, Camborne.

CANNOCK.—March 3.—For additions to the Norton girls' school, for the Trustees of Norton Schools. Plan and specifications may be seen at the Rectory, Norton Canes, near Cannock, Staffs.

CASTLEFORD.—Feb. 27.—For erection of house and shop at Roundhill Road. Mr. R. M. McDowall, architect, Carlton Street, Castleford.

CLAYTON-LE-DALE.—March 6.—For taking-down Oakes Bridge and erection of a new stone bridge in lieu thereof. The County Bridge Master, County Offices, Preston.

CONGLETON.—March 1.—For erection of an infirmary at the workhouse, Arclid, near Sandbach. Mr. Alfred Price, architect, Elworth, Sandbach.

CORNWALL.—Feb. 28.—For erection of two cottages at St. Erth Station, Cornwall, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

CROXDALE.—Feb. 27.—For alterations to Croxdale P.M. chapel. Mr. Geo. Graham, Rogerson Terrace, Croxdale.

CROYDON.—Feb. 27.—For erection of an engine-house and cottage at Norbury Sewage Works. Mr. Thomas Walker, borough engineer, Town Hall, Croydon.

DEVONPORT.—Feb. 27.—For erection of boundary wall at Stoke Church burial-ground. Mr. John F. Burns, borough surveyor, Municipal Offices, 30 Ker Street, Liverpool.

DEVONPORT.—Feb. 28.—For erection of four-roomed houses. Mr. W. N. Richards, architect, 29 St. Aubyn Street, Devonport.



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ESTIMATES FREE.



Dewsbury.—Feb. 27.—For erection of a house and shop, Thornhill Lees. Mr. Frank Douglas, Brewery Lane, Thornhill Lees.

Doncaster.—Feb. 28.—For erection of clubhouse and buildings at Thurnscoe, near Doncaster. Messrs. Athron & Beck, architects, Doncaster.

Dublin.—March 13.—For erection at Amiens Street, Dublin, of an electric-power house, 75 feet long by 23 feet wide, to be built of brick, with steel principal roof, for the Great Northern Railway Company, Ireland. Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

Earlsheaton.—Feb. 27.—For extension of weaving sheds. Mr. F. W. Ridgway, architect, Dewsbury.

Eccleshill.—For erection of stabling and outbuildings and alterations to New inn, Eccleshill. Mr. John Jackson, architect, Barry Street, Bradford.

Edinburgh.—March 4.—For erection of a chimney-stalk 105 feet high at the new gasworks at Granton. Mr. James M'G. Jack, clerk, 25 Waterloo Place, Edinburgh.

Foulridge.—March 6.—For rebuilding the Hole-in-the-Wall inn, Foulridge. Mr. Robert Neill, architect, 9 Grimshaw Street, Burnley.

Glasgow.—March 15.—For construction of buildings in Kelvingrove Park, Glasgow, for the Glasgow International Exhibition, 1901. Mr. H. A. Hedley, general manager and secretary, 141 Buchanan Street, Glasgow.

Halifax.—Feb. 28.—For erection of a barn and appurtenances thereto, at Stone Farm, near Triangle. Messrs. Richard Horsfall & Son, architects, 22A Commercial Street, Halifax.

Halifax.—March 2.—For reconstruction of premises, 23 and 25 Bull Green. Messrs. Utley, Hebblethwaite & Utley, architects, 10 Waterhouse Street, Halifax.

Hastings.—Feb. 27.—For alterations to Silverhill Board school. Messrs. Elworthy & Son, architects, London Road, St. Leonards.

Hastings.—Feb. 27.—For fitting-up technical schools of Silverhill. Mr. Arthur Wells, architect, Queen's Chambers, Hastings.

Hastings.—Feb. 27.—For additions, alterations and repairs to 18 Wellington Square. Mr. Alfred Dray, architect, Town Hall Chambers, Hastings.

Hereford.—March 13.—For erection of buildings in connection with the electricity station in Widemarsh Street. Mr. John Parker, city engineer, Hereford.

Hull.—March 1.—For erection of twelve cottages in Le desborough Street, for the North-Eastern Railway Compa Mr. William Bell, architect, York.

Ipswich.—April 1.—For alterations and additions to w and bathroom on male side at the borough asylum. Mr. Buckham, borough surveyor, Town Hall, Ipswich.

Ireland.—For erection of a male National school Ballyporeen. Drawings and specifications may be seen at t Presbytery.

Ireland.—March 1.—For erection of three laboure cottages on plots of ground in the townland of Laughaunsto Killiney. Mr. Joseph D. Cope, sanitary officer, Board Roc Loughlinstown.

Ireland.—March 1.—For erection of buildings n Bangor, county Down. Messrs. W. H. Stephens & S 13 Donegall Square, N.

Ireland.—March 6.—For erection of a pair of se detached villas at Rochestown, co. Cork. Messrs. W. H. H & Son, architects, 28 South Mall, Cork.

Ireland.—March 9.—For erection of shore dwellings the lightkeepers at Tearaght and Skelligs lighthouses, n Knightstown, Valencia Island, county Kerry. Mr. Ow Armstrong, secretary, Irish Lights Office, Dublin.

Ireland.—March 13.—For erection of a block of bui ings and a wall at Her Majesty's prison, Maryborough. Max S. Green, engineering inspector, Dublin Castle.

Ireland.—March 13.—For addition to the Omagh stat and erection of a stationmaster's house at Omagh, for e Great Northern Railway Company (Ireland). Mr. T. Morris secretary, Amiens Street Terminus, Dublin.

King's Lynn.—March 4.—For erection of new cla rooms and additional offices, &c., at All Saints schools. Louis F. Eagleton, architect, Bank Chambers, King's Lynn.

Kirkby Lonsdale.—March 1.—For erection of a pai semi-detached villas at High Casterton, near Kirkby Lonsd Mr. John Kassell, architect, Kirkby Lonsdale.

Knaresborough.—March 4.—For erection of scho buildings and head-master's house, for King James's Gramm School. Messrs. Barrowcliffe & Allcock, architects, Ill Street, Loughborough.

Leeds.—Feb. 27.—For erection of a police station d branch free library at Woodhouse. City Engineer, Municip Office, Municipal Buildings, Leeds.

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LEEDS.—March 3.—For alteration of premises, 38 to 46 ·eat George Street, Leeds. Messrs. Stephen Ernest Smith John Tweedale, architects, 12 South Parade, Leeds.

LETTERKENNY.—For erection of a school in Glendoan. ɛv. Andrew M'Nelis, P.P., Termon, Letterkenny.

LEWES.—The Corporation are inviting offers for the transfer the electric-lighting provisional order, and the establishment an electricity supply undertaking in the borough. Mr. F. J. arden-Stevens, consulting engineer, 34 Victoria Street, estminster.

LITTLEHAMPTON.—March 4.—For alterations and addi- ɔns to the steam laundry in Gloucester Road. Mr. H. Howard, chitect, Town Offices, Littlehampton.

LLANTWIT MAJOR.—Feb. 27.—For repairing Llantwit ajor parish church, Glamorgan. Mr. G. E. Halliday, archi- ct, Cardiff.

LONDON, S.W.—Feb. 28.—For erection of two cottages at e Heathwall pumping station, Nine Elms Lane, Battersea, r the London County Council. Engineer's Department, ɔunty Hall, Spring Gardens, S.W.

LONDON.—March 2.—For ordinary works and repairs to ıblic buildings, &c., in the Hampton Court, Kew and Rich- ond districts. H.M. Office of Works, &c., Storey's Gate, W.

MASBOROUGH.—Feb. 27.—For erection of a residence, with ·ofessional department attached, stabling and other out- ıildings. Mr. Geo. Handley Johnson, architect, 38 High ·reet, Rotherham.

MORECAMBE.—For erection of three large boarding-houses ıd shops on the Battery Estate. Mr. Jas. Hartley, architect, radford Chambers, Morecambe.

MORECAMBE.—March 1.—For erection of stables, carriage- ıed and other buildings of wood, and a cottage of brick at andylands. Mr. S. Wright, surveyor, Townley Street, lorecambe.

NEWCASTLE-ON-TYNE.—March 1.—For erection of stables ıd horse-keeper's honse in Cookson's Lane, for the North- astern Railway Company. Mr. William Bell, architect, entral Station, Newcastle-on-Tyne.

NOTTINGHAM.—March 2.—For erection of shedding, grand stand, &c., for show to be held on June 7 and 8, for the Notting- hamshire Agricultural Society. Mr. W. H. Bradwell, secretary Thurland Street, Nottingham.

OLD COLWYN.—For erection of church. Messrs. Douglas & Minshall, architects, Chester.

OTLEY.—For erection of a villa residence. Messrs. Fair- bank & Wall, architects, 3 Manor Square, Otley.

OVERTON.—For alteration, addition and repairs to the Red Lion inn. Mr. R. S. Wallis, architect, Basingstoke.

PATTERDALE.—Feb. 27.—For erection of a bridge over Grisedale Beck, Patterdale. Mr. Joseph Bintley, county sur- veyor, 7 Lowther Street, Kendal.

POPLAR.—The Guardians are inviting tenders for steam turbines and dynamos, electric motors, accumulators, switch and distribution boards, electric cables, wiring and fittings for the electric-lighting and power arrangements at the union workhouse. Mr. F. J. Warden-Stevens, consulting engineer, 34 Victoria Street, Westminster.

POPLAR.—The Guardians are inviting offers for the con- struction of deep wells and the supply and erection of the necessary pumping machinery at the union workhouse. Mr. F. J. Warden-Stevens, consulting engineer, 34 Victoria Street, Westminster.

PORTSMOUTH.—March 1.—For rebuilding a store and other works at the union workhouse. Mr. G. C. Vernon- Inkpen, architect, Whittington Chambers, Southsea.

PRESTON.—Feb. 27.—For erection of a classroom and cloakroom at Middleforth School, Penwortham. Mr. Swindells, 3 Cannon Street, Preston.

PUTNEY.—March 6.—For erection of a sorting office for the Commissioners of H.M. Works and Public Buildings. Mr. J. Wager, H.M. Office of Works, Storey's Gate, S.W.

RAWTENSTALL.—March 13.—For alterations to the White Horse hotel. Mr. Robert Neill, architect, 9 Grimshaw Street, Burnley.

RIPPONDEN.—March 6.—For erection of a butcher's shop and appurtenances on the Hollins Estate. Messrs. Richard Horsfall & Son, architects, 22A Commercial Street, Halifax.

SCARBOROUGH.—March 1.—For construction of an under- ground public convenience at the junction of Seamer Road and Falsgrave Road. Mr. Harry W. Smith, borough engineer, Town Hall.

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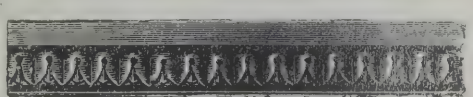
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SCOTLAND.—March 4.—For erection of a stone bridge at Buckie. Mr. James Barron, engineer, 1 Bon Accord Street, Aberdeen.

SHEFFIELD.—Feb. 28.—For additions and alterations to the girls' and infants' departments and other works at the Park School. Mr. C. J. Innocent, architect, 22 High Street, Sheffield.

SHEFFIELD.—Feb. 28.—For erection of branch stores, &c., Alfred Road and Pelham Street, Brightside. Mr. Henry Webster, architect, St. Marie's Chambers, Norfolk Road, Sheffield.

SHOEBURYNESS.—March 6.—For excavations and building gasholder tank in brickwork and Portland cement; building retort-house, engine and exhauster house, tar and liquor tank, meter and governor house, foundations, &c., for the Gas Company, Limited. Mr. Henry J. Robus, consulting engineer, 20 Bucklersbury, London, E.C.

SLEAFORD.—April 4.—For erection of the superstructure of the new lunatic asylum at Rauceby, near Sleaford. Mr. George T. Hine, architect, 35 Parliament Street, Westminster, S.W.

SOWERBY BRIDGE.—March 3.—For erection of public elementary schools in Sowerby New Road. Messrs. Chas. F. L. Horsfall & Son, architects, Lord Street Chambers, Halifax.

SOWERBY BRIDGE.—March 7.—For erection of a four-storeyed warehouse at Mearclough, Sowerby Bridge. Messrs. Jackson & Fox, architects, 7 Rawson Street.

ST. MELLONS.—For erection of three cottages at St. Mellons. Mr. David Oaklands, St. Mellons.

SWADLINCOTE.—For brickwork and concrete required for making the foundations of four new purifiers, condenser, &c., at the Swadlincote gasworks. Mr. Robert Cartwright, commercial manager.

TETTENHALL.—Feb. 28.—For erection of a superintendent's house, new cell and other additions and alterations at Tettenhall police station. Mr. Walter H. Cheadle, architect, Stafford.

THORNABY-ON-TEES.—March 6.—For erection of an infants' school at Thornaby-on-Tees. Mr. E. Goldie, architect, 31 Upper Phillimore Place, Kensington, W.

THWING.—March 1.—For restoration of Thwing Church, Yorks. Mr. Temple Moore, architect, 46 Well Walk, Hampstead, N.W.

TODMORDEN.—For additions to the Unitarian Sunday-school. Mr. Jesse Horsfall, architect, Todmorden.

ULVERSTON.—March 1.—For erection of a Wesle church, &c. Mr. John Wills, architect, St. Peter's Churchy Derby.

WALES.—Feb. 27.—For reparation of Llantwit M parish church. Mr. G. E. Halliday, architect, Cardiff.

WALES.—March 1.—For erection of a villa residence Cymle Road, Neath. Mr. Sam. Cym Jones, Great Wes Chambers, Neath.

WALES.—March 2.—For erection of Baptist chapel Senghenydd. Mr. Thomas Dd. Davies, 3 Park Terr Senghenydd.

WALES.—March 7.—For alterations and additions to schools at Abergwynfi to accommodate 264 children. Mr Penton Lambert, architect, Bridgend.

WALES.—March 14.—For erection of a county intermed school for girls, Bala, Merioneth. Mr. H. Teather, archi 83 Wyle Cop, Shrewsbury.

WESTON-SUPER-MARE.—Feb. 28.—For erection of bu ings and alterations at the public slaughter-house; erectio fire-brigade station; painting shelters, railings and seats on Marine Parade; and fixing telephonic communication betw the fire-brigade station and firemen's dwellings. Mr. Hu Nettleton, surveyor, Town Hall, Weston-super-Mare.

WOLVERHAMPTON.—Feb. 27.—For erection of an extens of the electric lighting station, Commercial Road. Mr J. Bradley, borough engineer, Town Hall, Wolverhampton.

WOOLWICH.—Feb. 28.—For erection of stabling and ho keeper's residence in Callis Alley. Mr. J. O. Cook, archit 1A Eleanor Road, Woolwich.

IN the tower of the ancient parish church and adjoin Skipton Castle, the ancient seat of the Cliffords, a large tur clock, made by Messrs. Wm. Potts & Sons, Guildford Str Leeds, under the direction of the Urban District Council, s started at noon on Saturday, the 18th inst. The clock sho the time on two external dials, the one facing south be 12 feet in diameter, and the west dial being smaller; there s also a dial fixed in front of the clock frame and one below the ringing-chamber. The clock strikes the hours and e Cambridge quarters. It has Lord Grimthorpe's double th legged gravity escapement and compensation pendulum, a all latest improvements.

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TENDERS.

BAKEWELL.

For erection of a new infirmary, female tramp wards, porter's lodge, and the alteration of the present receiving wards at the workhouse. Mr. E. M. LONGSDON, architect, Bakewell.

T. Allsop & Son	£6,572 0 0
Cox, Wilson & Sons	6,381 0 0
G. Knowles	6,058 0 0
H. JORDAN, Horsley Woodhouse, Derby (*accepted*)	5,794 0 0

BARKIP.

For providing a water supply for the special water-supply districts of Barkip. Mr. P. CAMPBELL HART, engineer, 32 John Finnie Street, Kilmarnock.

T. CRAWFORD & SON, Wishaw, N.B. (*accepted*)	£820 0 0
Windmill pumping arrangement.	
W. MURCHLAND, Kilmarnock (*accepted*)	80 0 0
Valves, street wells, &c.	
GLENFIELD COMPANY, LIMITED, Kilmarnock (*accepted*)	41 11 0

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BARNSLEY.

For erection of a house on Huddersfield Road.

Accepted tenders.

J. Smith, joiner and carpenter	£315 0 0
S. Rushforth, plumber and glazier	130 0 0
Fleming, plasterer	84 10 0
Fleming, slating	30 0 0
E. R. Fletcher, painter	8 0 0

BIRMINGHAM.

For construction of four additional slipper baths, w.c. and storeroom, and other work at the Public Baths, Victoria Road, Aston Manor. Mr. H. RICHARDSON, engineer.

W. Hopkins	£490 0 0
E. Garfield	333 0 0
R. M. Hughes	320 0 0
W. & A. HEAPS, Nechells Park Road, Birmingham (*accepted*)	299 10 0

BIRMINGHAM—*continued.*

For erection of boundary-walls, piers, &c., at the site of the proposed smallpox hospital at Upper Witton. Mr. H. RICHARDSON, engineer.

With concrete coping.

Hulbert & Ladbury	£1,268 4 0
Oldfield & Peacock	1,191 0 0
G. Law	1,175 0 0
T. Elvins	1,150 0 0
W. Hopkins	1,110 0 0
Currall & Lewis	1,117 4 2
R. M. Hughes	996 0 0
W. & A. Heaps	967 6 6
G. Trentham	908 7 6
E. GARFIELD, Aston Manor (*accepted*)	905 10 0

With brick coping.

Hulbert & Ladbury	1,301 12 0
G. Law	1,175 0 0
Oldfield & Peacock	1,160 0 0
T. Elvins	1,130 0 0
W. Hopkins	1,130 0 0
Currall & Lewis	1,122 3 3
G. Trentham	1,099 18 6
R. M. Hughes	994 0 0
W. & A. Heaps	967 6 6
E. Garfield	917 0 0

BLACKBURN.

For erection of cattle lairs at the abattoirs, Sumner Street. Mr. WILLIAM STUBBS, borough engineer.

J. WHITTAKER (*accepted*).

COLCHESTER.

For erection of the Peckover schools, connecting corridor and gateway, at the Eastern Counties' Asylum for Idiots and Imbeciles.

Shillitoe	£5,993 0 0
Parmenter	5,680 0 0
Everett & Son	5,600 0 0
T. J. Ward	5,480 0 0
Dobson	5,438 0 0
Grimwood & Son	5,227 0 0
F. BENNETT, Ipswich (*accepted*)	5,125 0 0

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J. L. TRUEMAN, Luton Road (*accepted*)	£560 0 0

DENBIGH.

For construction of about 3,350 yards of pipe sewers, with manholes, flushing chambers, &c. Mr. JOHN T. WOOD, Cook Street, Liverpool.

T. A. Wynne-Edwards	£2,856 6 6
Jones & Son	2,315 9 3
J. Ford	2,147 10 9
Mooney & Co.	2,079 12 8
H. N. Davison	2,069 5 0
J. S. Roberts	2,062 18 5
W. Bailey & Co.	1,969 15 2
S. Warburton	1,976 0 0
J. Jowett	1,924 0 7
SHEFFIELD & EVANS, Rhyl (*accepted*)	1,918 19 11

EASINGWOLD.

For erection of vagrant cells, &c., near the union workhouse.

H. STEVENS, Burythorpe, York (*accepted*)	£1,540 0 0

EVESHAM.

For construction of about 300 yards of 6-inch earthenware pipe sewers, with necessary chambers, settling tank, &c., Mr. H. S. HARVEY, surveyor, Albert Road, Evesham.

Taylor & Cliff	£80 0 0
T. VALE, Stourport (*accepted*)	65 0 0

GATESHEAD.

For erection of a nurses' home, Coatsworth Road. Mr. L. H. ARMOUR, architect, 16 West Street, Gateshead.

M. R. Draper & Son	£2,321 4 7
A. Pringle	2,221 0 0
T. & R. Lamb	2,068 0 9
Morrison & McBean	2,053 18 0
Woodall & Wilson	2,042 5 0
H. & B. Arkless	1,938 7 0
J. Ross	1,929 7 3
G. T. Manners	1,896 0 0
Turner Bros.	1,887 0 0
J. Wales & Co.	1,850 0 0
J. C. MATHER, 97 Eastbourne Avenue (*accepted*)	1,797 18 3

HASTINGS.

For erection of workhouse buildings in Cackle Street. Messrs JEFFERY & SKILLER, architects, 5 Havelock Road Hastings.

T. Salter	£50,674 0
J. Lester	49,795 0
A. H. White	49,786 0
Padgham & Hutchinson	47,620 0
P. JENKINS, St. Leonards (*accepted*)	47,500 0

HULL.

For alterations to 13 Charlotte Street, and for the erection of hall. Mr. T. BROWNLOW THOMPSON, architect, 15 Parliament Street, Hull.

Accepted tenders.

W. Vickerman, Day Street, joiner	£499 0
J. H. Kennington, Wellington Lane, bricklayer	299 17
J. W. Newham, Francis Street West, plumber	105 10
King & Co., Limited, South Church Side, smith	75 12
C. Crane, Spring Street, painter	33 19
H. Drewery, Rugby Street, mason	32 10
W. Folkard & Son, Spring Bank, slater	28 4

ILKLEY.

For erection of four houses, Richmond Place. Mr. E. JOHNSON, architect, Ilkley.

Accepted tenders.

Waugh & Ripley, mason	£955 0
Gill & Pease, joiner	459 12
J. Lawson, plumber	185 16
J. Walsh, plasterer	129 0
R. Nelson, slater	72 10
J. G. Boden, painter	25 7

IPSWICH.

For erection of a brick wall at St. John's Home.

T. Dedmann	£24 10
A. Gayford	24 5
T. Harvey	20 15
J. Boyce	18 0
A. AVIS, Ipswich (*accepted*)	17 10

IRELAND.

For reconstruction of a house at Crosshaven for a dispensary Mr. R. EVANS, engineer, South Mall, Cork.

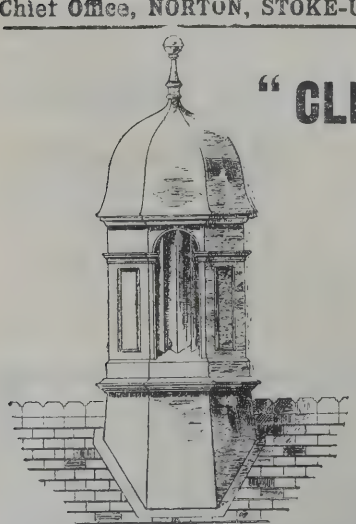
T. B. BUCKLEY, Crosshaven, co. Cork (*accepted*)	£155 5

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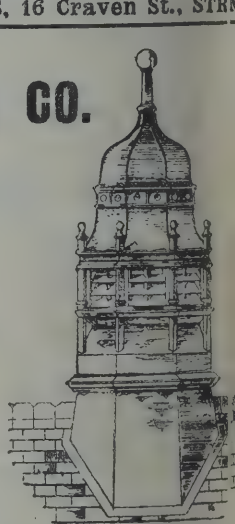
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For erection of cable station, offices and dwellings for officials at Waterville, co. Kerry. Mr. J. F. FULLER, architect, Brunswick Chambers, Dublin.

D. Foley	£5,450 0 0
Collen Bros.	5,050 0 0
Hemmingway	4,472 2 2
S. HILL, Cork (*accepted*)	4,349 0 0
Jones	4,317 0 0
Healey	4,296 16 8

N.B.—The above are for cable station only, the dwellings for officials being postponed.

LEEDS.

For erection of a cottage at Lidgett Park, Roundhay. Mr. E. B. JOHNSON, architect, Ilkley.

Accepted tenders.

Kitchen Bros., mason	£310 6 8
J. Wilson, joiner	118 6 6
T. Moore, plasterer	51 10 0
Carter & Crossland, plumber	36 7 6
Watson & Worsnop, slater	34 0 0
Roylance & Horsman, painter	9 16 0

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For repairs at the markets.

P. O'Neill	£220 0 0
P. M. Bourke	129 0 0
P. Dillon	110 0 0
M. GOUGH, Colooney Street (*accepted*)	117 0 0

For taking-down and rebuilding about 334 feet of the steamboat quay. Mr. H. V. MORONY, engineer.

G. Lawson, Glasgow	£13,100 0 0
J. Cunningham, Dublin	8,938 0 0
M. Gough, Limerick	5,904 6 2
P. Dillon, Limerick	5,046 0 0

No tender accepted.

LUTON.

For painting and other works at the baths, Waller Street and Park Lane. Mr. A. J. L. EVANS, surveyor.

G. T. Folley	£67 10 0
T. Wood & Sons	48 0 0
F. Young	43 12 0
W. George	37 3 6
H. Cooper	33 10 0
W. Fowler	24 10 0
BAGNALL & DEVINE, Acton (*accepted*)	22 0 0

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For improvements, Cranbrook Road.

J. Chessum & Sons	£6,010 0 0
McCormick & Sons	5,828 0 0
W. Shurmur	5,733 0 0
J. Grover & Son	5,695 0 0
F. & F. J. Wood	5,670 0 0
E. Lawrance & Sons	5,338 0 0
Willmott & Sons	5,200 0 0
C. Cox *	5,189 0 0

For enlargement, Kenmont Gardens.

C. Wall	£7,054 0 0
T. L. Green	6,797 0 0
T. Gregory & Co.	6,647 0 0
J. & M. Patrick	6,607 0 0
W. Scrivener & Co.	6,343 0 0
E. Triggs	6,274 0 0
O. Craske	6,205 0 0
J. Longley & Co.	6,182 0 0
R. A. Yerbury & Sons	6,161 0 0
Lathey Bros.*	6,011 0 0

For erecting two additional offices for girls and female infants respectively, and one for male infants, with the necessary new drain and connections with existing chambers. Also forming new entrance, with screen to girls' closets, Langford Road.

H. & G. Mallett	£271 0 0
Rice & Son	259 0 0
Lathey Bros.	257 0 0
W. Hammond	247 0 0
J. Carmichael	244 0 0
E. Triggs *	237 0 0

For removing and rebuilding offices (all departments) further away from the school building to allow for the provision of halls and providing new drainage, Rushmore Road.

G. Munday & Sons	£2,733 0 0
G. S. S. Williams & Sons	2,683 0 0
L. H. & R. Roberts	2,596 0 0
W. Akers & Co.	2,589 0 0
E. Lawrance & Sons	2,475 0 0
Stevens Bros.	2,392 0 0
F. Bull *	2,318 0 0

* Recommended for acceptance.

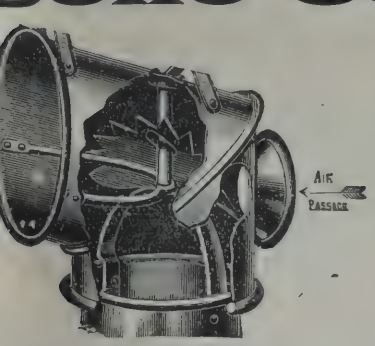
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This COWL has been used as a Ventilator, both on Workshops and Offices, with most satisfactory results, and has proved a conspicuous success as a House Cowl, possessing as it does great suctional power, perfectly noiseless action, and great durability, being made of steel.
The COWL has proved a perfect cure in the case of most troublesome chimneys.

TESTIMONIALS.
"I consider your cowl far above any other cowl in the market, and have much pleasure in recommending it to anyone suffering from smoky chimneys."
"Forward the 10-inch cowls on order at once; we have fixed the others and find they give every satisfaction."
"Your cowl has proved a complete success, no matter which way the wind blows. Please forward me another one at once"

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Timber Yard and Steam Saw Mills:—LUTON GROVE, WALTON ROAD, LIVERPOOL.
TELEPHONE NO. 3743.

LONDON SCHOOL BOARD—*continued.*

For erecting manual training centre (on arches) for forty boys, and drawing classroom, Heber Road.

Kirk & Randall	£2,984	0	0
A. White & Co.	2,935	0	0
W. J. Mitchell & Sons	2,930	0	0
J. Smith & Sons	2,912	0	0
G. E. Wallis & Sons	2,887	0	0
W. Johnson & Co., Limited	2,810	0	0
F. & H. F. Higgs	2,799	0	0
J. Garrett & Son	2,782	0	0
J. & C. Bowyer	2,693	0	0
J. Marsland	2,637	0	0
E. Triggs	2,630	0	0
Edwards & Medway*	2,592	0	0

For removing three temporary iron buildings, &c., from the Lee Street site and re-erecting them upon the Brownhill Road site.

T. Cruwys	£1,450	0	0
Humphreys, Limited	1,348	0	0
W. Harbrow	1,320	0	0
Croggon & Co.	1,250	0	0
J. Mitson & Co.	1,221	0	0
J. & W. T. Hunter	1,150	0	0
T. J. Hawkins & Co, Ashford, Middlesex *	1,092	7	6

* Recommended for acceptance.

MAIDSTONE.

For conversion of the old St. Luke's Church into parish schools.

T. Elmore	£949	0	0
J. H. Bridge	944	0	0
Wallis & Sons	893	0	0
Pryer & Co.	880	0	0
G. Candler (*accepted*)	821	5	0

NORTHFLEET.

For erection of a mortuary.

Long	£107	0	0
Thilby	104	5	6
Sandford	88	9	6

RISHTON.

For erection of the Conservative Club, Rishton. Messrs. J. C. Howard Sandbach & J. Parker, architects, 15 Richmond Terrace, Blackburn.

Accepted tenders.

Noble Bros., Harwood Road, masonry and brickwork.
Knowles Bros., Clarke Street, carpenter and joiner.
Evans & Co., Railway Station, Accrington, slater.
R. T. Kenyon, High Street, plumber and glazier.
G. Eastwood, Horne Street, Accrington, plasterer.
L. Alston, Commercial Street, painter.
H. Bulmer, Blackburn, formation of bowling-green.

SCALBY.

For erection of the Plough inn. Mr. C. Edeson, architect, 25 Huntriss Row, Scarborough.

Accepted tenders.

J. W. Bland, bricklayer	£500	0	
J. W. Allan, joiner	314	0	
W. Dodgson, slater	77	18	
J. Coates, plumber	49	0	
M. Whitehead, smith	32	0	
F. Thompson, painter	22	10	

STAFFORD.

For erection of shops, beerhouse, living accommodation and out-offices, Gaol Road. Mr. George Wormal, architect, Stafford.

T. Skett	£1,679	0	
J. Jervis	1,560	0	
S. H. Scarlett	1,560	0	
Adam & Pemberton	1,455	9	
F. Espley & Sons	1,420	0	
T. Herbert, Stafford (*accepted*)	1,390	0	

STEPNEY.

For additions, &c., to Ratcliffe Workhouse, Salmon Lane. Mr. R. Banks Martin, architect, 103 Plashet Grove, East Ham.

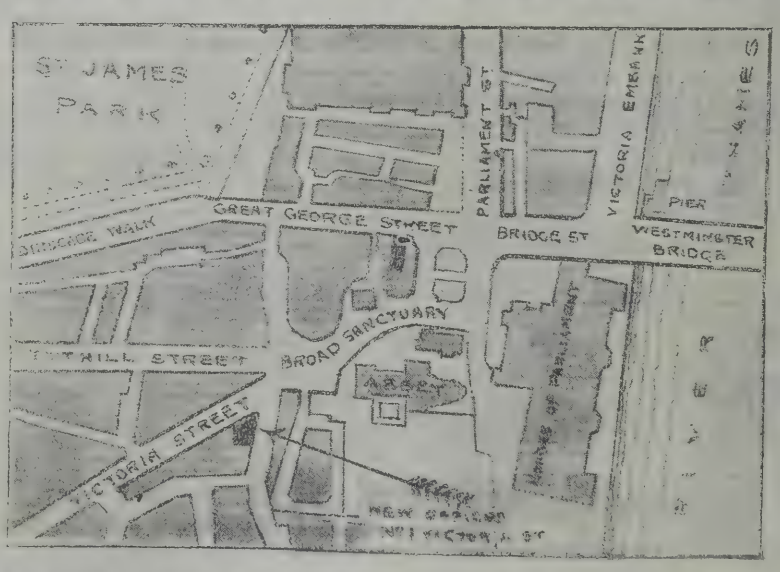
J. G. Horlock	£945	0	
A. Porter	838	0	
C. Lawrence	830	0	
T. Wilson	830	0	
W. Stuttle & Son	807	0	
Gregory & Co.	797	0	
H. Wall & Co. (*accepted*)	707	0	
General Builders, Limited	700	0	

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STABLES,
YARDS,
BASEMENTS,
WAREHOUSES,
RAILWAY
PLATFORMS,
and COPING.
TENNIS
COURTS.



FOOTPATHS—
FLAGS or
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STEPS—
CAST or
"IN SITU
CILLS, HEADS,
LINTOLS,
&c., &c.

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TO No. 1 VICTORIA STREET, WESTMINSTER, S.W.

Also at NEWCASTLE-ON-TYNE, and GREENHITHE, KENT.

SCOTLAND.

For construction of a storage reservoir. Mr. T. CAMPBELL HART, engineer, 134 St. Vincent Street, Glasgow, and Kilmarnock.

W. SIMPSON, Bonhill (*accepted*)	£1,292 15 0

SWINDON.

For erection of Even Swindon Hotel. Mr. W. H. READ, architect, Corn Exchange, Swindon.

C. WILLIAMS, Swindon (*accepted*)	£3,065 0 0

For erection of warehouse, Bath Road. Mr. W. H. READ, architect, Swindon.

H. C. COOK, Swindon (*accepted*)	£207 10 0

WAKEFIELD.

For insertion of two new shop fronts at Westgate End. Mr. WILLIE WRIGLEY, architect, 6 Westgate, Wakefield.

Accepted tenders.

C. Squires, joiner	£80 0 0
T. Lee, builder	53 8 9
S. Atkinson, plumber	24 11 2
G. Powell, painter	3 10 6

WALLINGFORD.

For erection of three cottage homes for children. Messrs. CHARLES SMITH & SON, architects, 164 Friar Street, Reading.

Bartlett Bros.	£3,910 10 0
W. Stokes	3,569 0 0
Walden & Cox	3,468 16 6
T. J. Kingerlee	3,397 0 0
E. C. Hughes	3,324 0 0
G. H. Tucker	3,300 0 0
J. H. Margetts	3,295 0 0
Higgs & Sons	3,250 0 0
Spear & King	2,975 0 0
W. Hawkins	2,955 0 0
Brashur & Sons *	2,937 0 0

* Accepted subject to the approval of the Local Government Board.

WALSALL.

For erection of Board-room and offices in the Pleck Road. Mr. H. E. LAVENDER, architect, Bridge Street, Walsall.

Hopkins	£3,906 0 0
M. Hughes	3,690 0 0
Mallin	3,649 0 0
Gough	3,590 0 0
J. Insley	3,590 0 0
Guest & Sons	3,530 0 0
Tildesley	3,499 0 0
W. WISTANCE, Sandwell Street, Walsall (*accepted*)	3,497 0 0
Hemming	3,392 0 0
Craddock	3,265 0 0
Hall	2,930 0 0

WALTON-ON-NAZE.

For construction of a brick burr groyne near Pier Hotel. Mr. H. W. GLADWELL, surveyor, 5 Crescent Road, Walton-on-the-Naze.

G. Double	£2,030 0 0
Moran & Son	1,140 0 0
D. MACKENZIE & SON (*accepted*)	1,120 0 0

WREXHAM.

For painting and colouring offices, Egerton Street.

B. Coppleston	£72 1 8
Moore Bros.	62 10 0
B. Powell	58 12 11
A. Badwick	52 11 5
Barnett & Son	47 11 9
Martin Bros.	47 1 8
E. Jones	45 3 6
H. SAMUEL, Wrexham (*accepted*)	45 17 6

NEW CATALOGUE.

THE catalogue being issued by Messrs. F. R. & C. H. Luke, of 122 George Street, Edinburgh, merits commendation for its general neatness and conciseness of "get up." It includes a very full range of varieties of fireclay goods and ornamental fireclay and enamelled ware, as well as of marble and enamelled slate mantelpieces, and of the various other articles in which they, as factors for building materials of all kinds, deal!

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ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: FROM ST. OSWALD'S. DETAILS OF NORTH WINDOW, CHAPEL OF NINE ALTARS. ARCADE INSIDE WALL OF NAVE.

TEMPORARY PREMISES OF H.M. OFFICE OF WORKS, WESTMINSTER

15 & 16 STRATTON STREET, PICCADILLY.

TRADE NOTES.

THE new schools, Heath Town, Wolverhampton, are being warmed and ventilated by means of Shorland's patent Manchester grates by Messrs. E. H. Shorland & Brother, of Manchester.

IN the ventilation of the new Hutchesontown parish church and mission halls now in course of erection (Mr. Alex. Adam, architect, Glasgow), Cousland's improved climax patent direct acting invisible roof ventilators and air inlet panels are being used, supplied by the Climax Ventilating and Heating Company, Limited, 93 Hope Street, Glasgow.

NINETEEN gold medals in seven years is the record of the Yost typewriter, the latest addition to this formidable list of honours being the highest award at the Industrial and Art Exhibition recently held at Grahamstown. South Africa is well to the front in recognition of the merits of the Yost machine.

MESSRS. BERRY, CAMPBELL & CO., 62 Watling Street, E.C., are supplying the heating apparatus for a handsome Congregational church now being erected at Muswell Hill from the design of Mr. P. Morley Horder, on land presented by Messrs. Edmondson & Sons, owners of the estate. They have also recently supplied a very efficient heating apparatus to St. Paul's Church, Upper Holloway.

THE Vestry of St. Mary's, Ambleside, have agreed to provide new choir stalls, raise the reredos, retile the chancel, place a marble pavement in the church and carry out other improvements.

BUILDING AND BUILDERS.

THE Roman Catholics of Little Hulton and Walkden are building a new church to replace the one which was destroyed by fire on March 11 of last year. The contract is for 2,730*l.* The new church will be in Bridgewater Street, Little Hulton.

THE operative plasterers of Spen Valley, Dewsbury, Batley, Morley, &c., have given notice to their employers' representatives of a demand for an advance of 1*d.* per hour in wages, to take effect on July 1. Their present rate of payment is 8*d.*, and the hours are forty-nine and a half per week.

IT has been decided to rebuild the ancient church at Overton, near Lancaster. Although additions have been made at comparatively recent dates, the greater part of the building has existed since 1100. It is not proposed to disturb the doorway and other portions, which furnish good specimens of the Norman style.

JOHN HARKNESS, mason's labourer, 81 Carrick Street, Glasgow, died in Glasgow Western Infirmary from injuries received in Elmbank Street by tripping on a stone and falling backwards from a scaffold 7 feet high. Deceased was fifty-three years of age and married.

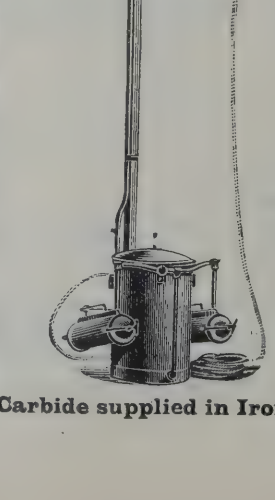
THE foundation-stone of the new church of St. Barnabas, at Penkhull Allotments, Stoke-on-Trent, was laid on the 16th inst. When completed the church will provide accommodation for from 600 to 700 worshippers; but at present only a portion of the building is to be erected.

THE foundation-stone of the new church of St. Peter, South Tottenham, has been laid by the Hon. Victoria Grosvenor, in the presence of a large assemblage. The new church, which is to be Early Gothic in style, will provide accommodation for 800 persons, and will cost about 8,600*l.*

EARLY on Saturday morning two labourers were killed by the collapse of a large chimney-stack at the Saxon Brick Company's yard, at King's Dyke, near Peterborough. One of the deceased—John Scotney, who resided at Whittesley—leaves a widow and eight children. The other man, who belonged to Peterborough, has not yet been identified. The bodies were shockingly crushed.

THE City surveyor (Mr. A. Murray) and Professor Aitchison (the president of the Royal Institute of British Architects) are engaged, says the *City Press*, in preparing the instructions to the six competing architects who will be asked to submit the plans for a new sessions house in the Old Bailey. The new building will probably cost over 150,000*l.* to erect.



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Complete, for Railways, Contract
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THE Lord Provost's committee of the Edinburgh Town ouncil devoted a good deal of time on the 15th inst. to dis- ussing the proposed improvements in Portobello. It was :mitted to Bailie Brand and Councillors Grieve and Nicol to iggest sites for a proposed Town Hall capable of accom- odating 800 people. With reference to the extension of the romenade from the foot of Pipe Street to King's Road at a ost of about 7,500*l.*, and with regard to the proposal to form proper drainage system at a cost of about 12,100*l.*, the recom- endations made were recommitted back to a sub-committee.

THE awards in connection with the theoretical examination r apprentices under the auspices of the Border Counties aster Painters' Association have been announced by Mr. 'illiam Brown, Dundee, president of the National Association Master Painters in Scotland, as follows :—Class 1 (for fifth id sixth year apprentices)—1, Adam Armstrong; 2, Ebenezer annan; 3, Robert Reaveley; 4, James Black (all of Galashiels). lass 2 (for third and fourth year apprentices)—1, James Hill, awick; 2, Andrew Leslie, Selkirk; 3, William Lindsay, alashiels; 4, James M'Intosh, Galashiels. Class 3 (for first id second year apprentices)—1, James Hope, Galashiels; Alexander May, Hawick; 3, Thomas Shiel, Lauder; Robert Jack, Kelso.

THE plans by Messrs. Mawson & Hudson, of Bradford, have en accepted for the new fire-brigade station in that city. ccording to these plans, the engine-house to accommodate e engines is placed in the centre of the principal front towards elson Street, and is 84 feet long, 35 feet wide and 16 feet 6 inches gh. Immediately behind it, and communicating directly with are the stables for eight horses ready for immediate duty. The orways to the engine-house are framed in four leaves, so that engine can pass out at full gallop. Over the engine-house d duty-room is placed the gymnasium, 45 feet 6 inches by feet (which is to be used as a reading, amusement and drill- om for the men), and a dormitory or single-men's quarter, feet by 18 feet, for the men on night duty. The workshop, feet long, will be fitted with engine, lathe, drill, forge, grind- ne and work bench. The cost of the building is estimated 15,000*l.*

THE second new wing to the Temperate House at Kew rdens is now practically finished, and the whole of this lendid conservatory thus completed will soon be open from d to end.

ELECTRIC NOTES.

THE Beckenham District Council have applied for power to raise a loan of 37,100*l.* to purchase the electric lighting of the district, which is now in the hands of a company.

DURING the month of May, 1899, there will be an electrical show in Madison Square Garden, New York. The show will be under the auspices of and in connection with the twenty-second annual convention of the National Electric Light Association.

THE installation of the electric light in the Vatican was inaugurated on Monday last, and is on a very extensive scale, comprising 6,000 lamps of sixteen-candle power. The Pope said recently, in reference to this noteworthy event in the history of the Apostolic Palace, "People will not be able henceforth to reproach the Vatican with being the enemy of light."

ABOUT a score of students from the engineering department of the Yorkshire College paid a visit on the 16th inst. to the Leeds electric power station, Crown Point, Mr. Burbidge, the chief electrical engineer of the tramways department, being present to receive them. The station contains two large horizontal compound condensing engines, each of 400 indicated horse-power, which were constructed by Messrs. J. Fowler & Co. The dynamos were made by Messrs. Greenwood & Batley. Only one of the engines was working at the time, considerably less power being required during the winter months, when very few people visit Roundhay Park. The students, who were favoured the other evening with a lecture on the Leeds electric tramways by Mr. E. Talbot, consulting electrical engineer to the Corporation, appeared to be greatly interested in what they saw.

VARIETIES.

LADY MARGARET ORMESBY-GORE formally opened a new art school for Oswestry and district on the 16th inst.

ON Wednesday morning the Grange, the mansion of Sir Chas. Nicholson, at Totteridge, near Barnet, caught fire, and before effective help could be rendered from Edgware or Hendon the place was burned out. The Grange is historic as the residence for many years of Bulwer Lytton, who there wrote "The Last of the Barons."

OWSON, TAYLOR & CO., Ltd., Engineers,
LONDON AND MANCHESTER.

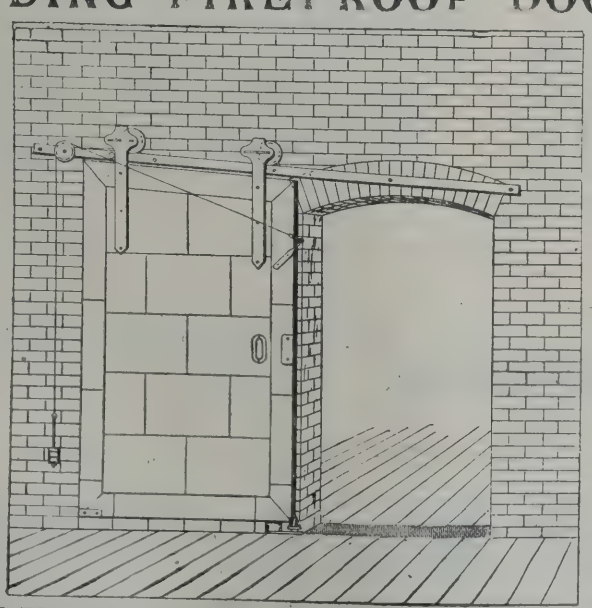
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Will not Warp or
vist out of Shape.



Proved in many actual Fires.

Special Doors and Fireproof Shutters carefully constructed.

FIRE AT THE WORKS OF THE ANAGLYPTA CO., DARWEN, LANCASHIRE.
loor we fitted in these works, although subjected to a heat intense enough to melt brass taps and fittings near it, withstood the heat perfectly, and can now be inspected at s in Manchester, fit for duty. The metal sheets have expanded without becoming detached, whilst the wood is simply charred to a depth of about ⅛ of an inch.

FULL PARTICULARS AND ESTIMATES FREE

A MEETING of the Northern Architectural Association will be held on Wednesday next, March 1, at 7.30 P.M., at the meeting-room, Art Gallery, Newcastle-upon-Tyne, when Mr. J. Walton Taylor will read a paper on "The Bricks used in Northumberland and Durham."

A CURIOUS offertory towards the restoration of the parish church of Bishops Cleeve, near Cheltenham, has been handed to the vicar by one of the churchwardens. It consisted of a soda-water bottle filled with threepenny bits. When the curious purse had been emptied of its contents it was found to have contained the sum of 7*l.* 10*s.* 6*d.*, or, in all, 602 pieces.

THE freedom of the Plumbers' Company will to-day be presented to Sir Hugh Owen, G.C.B., late secretary to the Local Government Board, at Guildhall. Mr. Chaplin, president of the Local Government Board, the Lord Mayor, Mr. McKinnon Wood, chairman of the London County Council, and others will be present at the ceremony.

AT the last meeting of the Birmingham City Council a number of memorials were presented in favour of the establishment of a natural history museum. They were referred to the general purposes committee, and at a meeting of that committee it was decided to hand them over to the special sub-committee appointed to consider the whole question of the extension of the Council House.

MR. C. J. STEWART, clerk to the London County Council, will preside at the annual general meeting of the Municipal Officers' Association, to be held in the Council Chamber, Guildhall, E.C., on Tuesday, February 28, at 8 P.M. Mr. G. L. Gomme, statistical officer, London County Council, will address the members on "The London Government Bill, and how it will affect the present position of London Governing Authorities."

PLANS have been submitted to the London County Council for building houses and shops on the Wentworth House estate at the corner of South End Road and John Street, Hampstead Heath, adjoining the house known as Lawn Bank, John Street, in which the poet Keats lived, and is said to have written the "Ode to the Nightingale," &c. Keats was also a frequent visitor to Wentworth House.

MR. HENRY MATTHEW, town clerk, Cupar, N.B., died at his residence there unexpectedly at the early age of forty-six. Though not in good health for a year, he was still able to attend to his duties, and officiated as clerk at the last monthly meeting of the Council. A native of Springfield he began life as a clerk in the office of the late Provost Welsh Tennent, Cupar, and was afterwards a partner of Welch & Matthew 1877, but resigned that position a year ago. The town clerksh he has retained since 1881. He was a man of excellent bu ness capacity, and ably served the town's interests in importa negotiations with the Fife and Kinross Lunacy Board and oth public bodies.

AN octagonal Gothic structure, 32 feet in height and 7 fe in diameter, standing upon a platform of steps, has been late unveiled in the town of Horncastle. It has been erected l public subscription in memory of the Right Hon Edwa Stanhope, M.P., late Secretary of State for the War Depa ment, and contains a bronze medallion likeness. It consists three stages, the lower one being solid of Monk's Park sto with diaper panels between polished red granite shafts a crocketted pediments above. The middle stage is an op arcading, consisting of polished red granite columns wi carved Monk's Park caps and a double set of trefoiled wo above; the third stage consisting of a lantern covered wi lead, supported by gun-metal shafts, and finished by an orn mental finial of same material. The design was selected open competition out of about seventy responses, and is t work of Mr E. H. Lingen Barker, of London and Herefo the contractors being Messrs. Walter & Hensman, of Hor castle, and the sculptor Mr. C. J. W. Ladds, of West Keal.

A FEW days since an outbreak of fire at the South Lond Music Hall was reported, but fortunately extinguished by t application of the hydrants, &c., kept on the premises. Th was followed by the saving of the Bedford Music Hall by o of those handy fire-extinguishers, the "London Brigade" ha pump, several of which are kept in the building. We n learn that Sir James Whitehead's mansion near Dartford h a narrow escape from destruction, but here also fire applianc were maintained and used to advantage. These results m be a source of gratification to Messrs. Merryweather & So who fitted up each of the above establishments with th material.

WORKMEN'S COMPENSATION ACT COSTS.

AT the Southwark County Court, on the 20th inst., his hono Judge Addison, Q.C., gave his decision on an important po in respect to costs under the Workmen's Compensation A when arbitrations have been preceded by actions under t Employers' Liability Act. An action (Skeggs *v.* Keen & C under the Employers' Liability Act had been heard by h

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ıonour and a jury, and a verdict given for the defendants. His ıonour gave judgment for the defendants with costs, and on he application of the plaintiff he assessed compensation under he Workmen's Compensation Act at 23*l.* 4*s.*, upon which he llowed costs. The registrar (Mr. Bros), in carrying out such rder, taxed the defendants' costs at 26*l.* 9*s.* 6*d.* He then axed the plaintiff's costs as if the plaintiff had brought an ction under the Workmen's Compensation Act, and fixed the mount at 25*l.* 8*s.* 6*d.* The defendants thereupon moved the Court by their counsel, Mr. Ellis Hill, for his honour to remit he taxation to the registrar upon the ground that subsection 4 f section 1 of the Act had not been complied with. The uestion was as to how the wording of the subsection was o be applied to such an order, *i.e.* where under the Em-loyers' Liability Act judgment had been given for the defend-nts with costs, and the Judge had proceeded to assess amages under the Workmen's Compensation Act, also with osts. It was contended for the plaintiff that he was entitled to ave all the costs that he might have incurred in an action nder the Workmen's Compensation Act set off against the osts which he was liable to pay under the Employers' Liability ct. Mr. Ellis Hill submitted that in this particular case the orrespondence showed that the defendants were willing to llow the plaintiff's claim under the Workmen's Compensation ct, so that no costs would have been incurred under that Act, r that, at least, the defendants would in such an action have dmitted in their answer all or some of the plaintiff's claims. lis honour held that it was the duty of an arbitrator (or judge tting as such), in applying this section, to enter upon these quiries so as to ascertain the costs which had been caused by ıe proceedings under the Employers' Liability Act, and decided Mr. Ellis Hill's favour. His honour remarked that the sub-ction was a most difficult one to apply in practice, and he ould not help thinking that if those who drew it had anticipated ıe questions that would arise under it they would have drawn very differently.

A NEW ELECTRICAL TRADES DIRECTORY.

HE seventeenth edition of the "Electrical Trades Directory," ublished by the *Electrician* Printing and Publishing Company, imited, has been considerably enlarged, and now comprises bout 1,600 pp. royal 8vo, of exceedingly useful information, ndsomely and substantially bound in blue cloth, lettered. It is divided into three several divisions. The handbook division contains *inter alia* an exhaustive digest of the law of electric lighting and electric traction. Specially prepared large folding sheets, printed on special paper, give exhaustive and most complete particulars of the electricity supply stations of the United Kingdom.

A list is given of the railways and tramways in Great Britain and Ireland in which the motive power (either actually in use or contemplated) is electricity, together with the company or local authority working them, the systems employed, and the length of the lines. Another feature which no doubt is found to be of considerable value, *i.e.* financial particulars relating to electrical limited liability companies, has been greatly extended, and the information given has been very carefully revised and corrected. It contains tabulated information concerning all the leading electric lighting, electric railway and tramway, telegraph and telephone companies, with the dates of registration, the chief officials, the nominal authorised capital, &c. In the Directory division the continued growth and progress of the electrical industry has necessitated a large increase in the size of this portion of the book, and although names of firms, &c., having only a remote connection with electricity are excluded, some 11,000 are given; and the Biographical division contains sketches of the lives of 286 persons well known in the electrical world, all of which have been revised by the subjects of the notices.

MESSRS. FLETCHER, RUSSELL & CO.'S NEW WORKS.

THE neighbourhood of Wilderspool Road, Warrington, was on the 15th inst. *en gala* on the occasion of the formal opening of the handsome and commodious new works which have been erected there by Messrs. Fletcher, Russell & Co., Limited, the well-known gas-engineers and artistic iron-founders, of London, Warrington and Pendleton. A large party was invited, and the proceedings passed off with a cheeriness and *éclat* which may be taken as an excellent augury of the future success of the new works, which are situated between Wilderspool Causeway and the low-level railway of the London and North-Western Railway Company near Arpley station. The main entrance is placed in the centre of a handsome building of brick and stone, consisting on the ground floor to the left of the entrance of time-office, inward goods and stores department, and on the right-hand side

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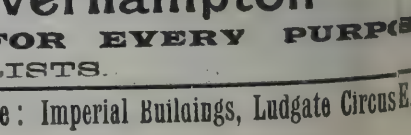
there are dining-rooms for the workmen, and temporary iron pattern stores. On the first floor are spacious offices, board-rooms, &c., and the top floor is set apart for large show-rooms. The offices and show-rooms, now nearly finished, will afford excellent facilities for the requirements of the business in the future. Entering the works, the visitor approaches a large three-storey building with spacious cellars and attics, used as a warehouse and despatch department for goods. An electrically-driven hoist conveys the goods from floor to floor. Running alongside the south side of this building is the loading stage and shed, with a convenient railway siding from the London and North-Western. Here goods will be placed in railway waggons for despatch. On the other side of the siding the boiler-house and economiser are situated, also the works chimney, which is 140 feet high. Opposite the boiler-house, and adjoining the warehouse, there are two one-storey buildings, consisting of testing department for burners and other gas apparatus, also under the same roof a blacking shop and stove. Immediately adjoining are the grinding and polishing departments, the machinery of which is driven direct by belt power from the fine engine house, which is situated at the end of this building. The engine house contains a splendid compound tandem engine, indicating about 130 horse-power. From the main counter shaft in the engine house there are two generating dynamos driven, one for distributing electric power to the various departments and the other for lighting the entire works by electricity. On the north side there is another fine block of buildings two storeys high, with commodious attics. The ground floor is used entirely for part of the fitting shop, with heavy machinery for stamping, drilling, punching, cutting, &c, and on the second floor there is another fitting shop for the drilling of light fittings, &c. The tinsmiths' department is also on this floor. The machinery is driven by belt power from the main shafts, the latter being driven by electric motors, supplied by current from the generating dynamo in the engine house. There is an electrically driven hoist in the fitting shop for conveying goods to the floor above. There is also a smithy and box-fitting department, 60 feet by 25 feet, in close proximity to this building, fitted up with the most modern appliances, the machinery being driven by electric power similar to the fitting shop. There is a large block of buildings one storey high, with six roofs running parallel with the end of the fitting and grinding departments. Leaving the smithy, the visitor enters the inspector's or stock-taker's department, in which all castings manufactured are inspected and credited to the moulders. In a line and under the same roof is the dressing department for the cleaning of castings. Adjoining this is the machine dressing department, having rumbling barrels and emery wheels, and a fan for extracting the dust from the various machinery, this being driven by an electric motor. Under the same roof at one end is the blower room, containing the blower, driven by two electric motors, from which the blast is driven into the two cupolas. Around these cupolas the staging and roofs are erected, which are about 90 feet long by 26 feet broad, having all the most modern appliances necessary for the production of light iron castings. At the end is a hoist, driven by electricity, for taking materials to the stage above, 20 feet high. Close to the cupolas is the sand-house, containing grinding and mixing mills, also stove and hot floors for the drying of bogies and ladles used for handling the molten metal. Running along the same is another section of the railway siding, affording facilities for the discharge of iron, coke, sand, coal, &c, to these stoves, cupolas and boiler house. The visitor now passes into the moulding shops, which have an area of about 2,400 square yards splendidly lighted and ventilated, the entire floor being laid with brick in cement. This building can be lighted throughout by electricity. The works have been designed by Mr. Alex. Neil (vice-chairman of the company), and his design has been carried out by Mr. J. E. Wright, architect; Mr. Davenport, builder; and Mr. Broadhurst, clerk of the works. The erection of machinery, general appliances, cupolas, &c. was supervised by Mr. Alexander Neil (managing director) and Messrs. W. R. Neil and E. L. Fletcher (directors), also Mr. T. Bower (senior foreman and engineer). The general plan of the entire works gives every facility for the economical and quick handling of the castings to the various departments, which are heated by steam and electrically lighted throughout. There are gangways connecting the various buildings. The works when finished, will be second to none of any similar kind of works in the United Kingdom.

BRICKFIELDS.

On Monday a paper was read by Mr. J. L. Crouch at the Surveyors' Institution on the management and valuation of brickfields. Commencing with a brief description of the geology of plastic clays, it was pointed out that brick-earths are classifiable as clays, as loams, as marls, Kaolin, &

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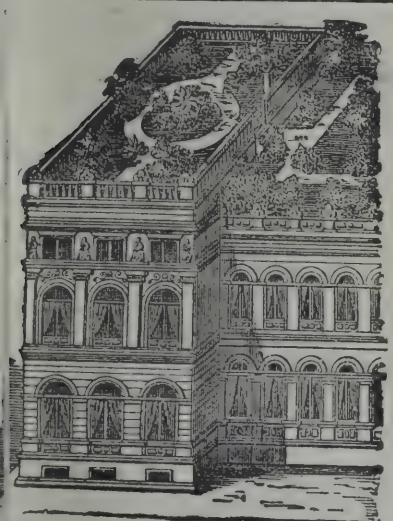
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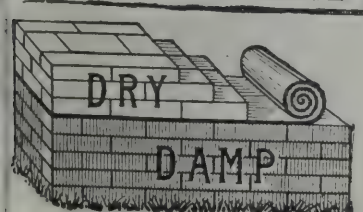
"china clay," and various methods of manufacturing were described, and the differences between pipeclay and other kaolins was noted. The plasticity of clay, depending upon chemically-combined water, the colouring matters of clay, and the reasons that some beds are valueless were explained. The relative proportions of silica and alumina in clay, and their bearing on heat-resisting qualities; the methods of taking samples of clay, by test-holes and borings; and the modes of analysis adopted for clays were next discussed, this being followed by a description of the methods of brick-making near the Metropolis and of the implements in use. The legal part of the subject involved a discussion of brickfield leases. Clay is usually paid for by surface rents and royalties. The lessee is required to remove the top soil before digging for clay—a process known as encallowing—and to replace it at the end of the tenancy. No clay can be removed to other yards without a special covenant, and none can be brought into a yard unless the full royalties are paid. The ultimate use of land after the removal of clay forms the subject of special covenants. Where land is to be levelled sections should be shown of the present level and of the intended final level. The provisions for filling in pits received attention, and cases were cited illustrating the general method of rating brickfields. The paper closed with a definition as to what plant constituted landlord's fixtures, and reference was also made to the valuation of brickfields.

FOREST WEALTH OF BRITISH COLUMBIA.

BRITISH COLUMBIA may be said to possess the greatest compact area of merchantable timber on the North American continent, and if it had not been for the great forest fires that have raged in the interior in years gone by, during which a very large portion of the surface has been denuded of its forests, the available supply would have been much greater than it is. As far north as Alaska, according to a recent report by the secretary of the British Columbia Bureau of Statistics, the coast is heavily timbered, the forest line following the indents and river valleys and fringing the mountain sides. Logging operations so far have extended to Knight's Inlet, a point of the coast of the mainland opposite the north end of Vancouver Island. Here the Douglas fir, the most important and widely dispersed of the valuable trees, disappears altogether, and the cypress or yellow cedar takes its place. North of this cedar, hemlock and spruce are the principal timber trees. It will be of interest to know that Douglas fir was named after David Douglas, a noted botanist who explored New Caledonia in the early part of the century. It is a very widely distributed tree, being found from the coast to the summit of the Rocky Mountains, and as far east as Calgary and as far north as Fort McLeod. On the coast it attains immense proportions, sometimes towering 300 feet in the air and having a base circumference of from 30 to 50 feet. This is the staple timber of commerce often classed by the trade as Oregon pine. It has about the same specific gravity as oak, with great strength, and has a wide range of usefulness, being especially adapted for building purposes. It is scientifically described as standing midway between the spruce and the balsam, and in the opinion of the Dominion naturalist is a valuable pulp-making tree. Probably the two next most important representatives of the forest wealth are the red cedar and the yellow cedar. The former is found all over the province, but reaches its greatest development on the coast where it outgirths all others. In addition to its commercial value for shingles and finishing purposes it is the friend of the settler, inasmuch as out of its straight-grained logs he can build his house, make his furniture and fence his farm, and that with the use of the most primitive tools only. It is especially valuable, however, for interior finishing, being rich in colouring, and taking a beautiful polish. For this purpose it is finding an extended market in the east of Canada. Important as the red cedar is, the yellow cedar, though much more limited in area and quantity, is still more important and useful. It is very strong, comparing with the Douglas fir in this respect, is wonderfully durable, finishes to perfection, and grows to great dimensions. The cypress, which is found in great quantities in the interior of Vancouver Island, and on Mount Benson, near Nanaimo, comes within 1,200 feet of the sea. Towards the end of the island, on Queen Charlotte Islands, and on the north coast of the mainland, it is found lower down and is very plentiful. It is out of the cedar that the Hydah Indians build their celebrated war canoes, some of which have an 8-foot beam, are 60 feet long, and can stem the heaviest seas of the coast waters. Next comes the white spruce. Its habitat is principally low, swampy and delta lands, usually interspersing the forest of fir and other trees, but in no place is it found in very large or compact bodies. From its comparative scarcity and the many uses to which it may be put, it is commercially more valuable than the

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Douglas fir. It attains a circumference almost equal to the latter, but does not grow so tall or so clear of branches. It is utilised largely in making doors, salmon-boxes, barrels, fruit-boxes, and many other similar purposes, being as it is the best adapted for these uses of all the native timbers. It is *par excellence* the wood for pulp manufacture, which is expected to become one of the most important industries of the province. Hemlock is a common timber, and up the coast is found in considerable quantities. It is a useful tree, and answers about the same purpose as the Douglas fir, and for that reason it will not be in general demand until the latter has become to some extent exhausted. White pine for cabinet purposes and general utility is very valuable, but is limited in quantity. Balsam is widely distributed, being found principally in river valleys, but is commercially of little value except for pulp. With the exception of the yew and tamarack, of which there are several varieties, the foregoing are the representatives of the family of coniferous trees. Of deciduous trees, the large leaf maple, vine maple, alder, crab apple, oak, two varieties of poplar or cotton-wood, and aspen poplar, arbutus, birch, willow and juniper, are the principal. The maple, alder and arbutus make first-class cabinet woods, though they are not abundant enough to be extensively used for this purpose. They also make popular finishing woods. Poplar, or as it is most commonly called, cottonwood, will, it is expected, in the future be greatly used in paper making. The aspen poplar is common in Vancouver Island and the northern interior of the province. It is also a good paper maker. The oak is mainly confined to the southern end of Vancouver Island. It is a stunted, gnarled species, of little use, but very picturesque. Crab apple is plentiful in swampy places, around ponds, beaver meadows, and along river banks. The hard woods are usually found in bottom lands and indicate fruitfulness of the soil. There is no part of British Columbia where the timber supply is not sufficient for local demands. There are over eighty sawmills in the province, large and small, with a daily capacity of about 2,000,000 feet, mainly on the coast, but the limit has never been reached, the annual cut running between 50 and 100 million feet. Various estimates have been made of the amount of timber in sight. These range between 40 and 100 billion feet. The average of timber under lease is about 1,175 square miles, and the total area of forest and woodland is put down by the Dominion statistician as 285,554 square miles, but this must not be taken as all of commercial value, as much of this is covered with small trees suitable only for a local supply of fuel and lumber. The future of the lumber industry in British Columbia is very promising, and when foreign demand fully revives, and the Nicaraguan Canal has been completed, it cannot fail to receive an immense impetus.

SOUTHAMPTON MASTER BUILDERS' DINNER.

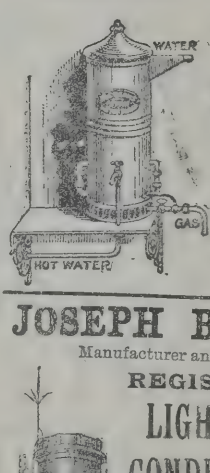
THE annual dinner of the Southampton and District Builders and Decorators' Association was held at the Swiss Café Restaurant, Southampton, and there was a large and representative attendance. Major Brunton, ex-president of the Association, who presided, was influentially supported.

The Chairman submitted the Royal toast, which having been duly honoured, Mr. H. N. Jenkins submitted the toast of "The Trade and Commerce of Southampton." The speaker referred to the strides which trade was making in the town, a result which he was sure must be most satisfactory and gratifying to them all. He also referred to the impetus which had been given to trade by the energy and go-aheadedness of the London and South-Western Railway Company. The toast was coupled with the name of Mr. Peter Stewart, and was received with enthusiasm.

Mr. Peter Stewart, in the course of an able response, said they in the shipping trade thought the builders had had it all their own way. Houses had gone up by the mile, but they had not been able to bring ships there by the mile, though they were erecting quays almost by the mile, and he hoped that would bring prosperity to all. Southampton was one of those ports where they could never make much of what they called the tramp trade, but they hoped to increase it. Notwithstanding the Spanish-American war, there had been an increase in tonnage of 832,682 tons in 1898, and that showed that they had not gone backwards. After a reference to what the coming of the L. & S.-W. R. Company as owners of the docks had meant to Southampton, the speaker concluded by thanking the company for the manner in which they had received the toast.

"The Mayor and Corporation and Borough Officials" was the next toast, and it was proposed by Mr. G. Franklin and responded to by the Mayor in a genial speech, after which the borough engineer, who met with a cordial reception, said that in 1600 there were 400 houses, nearly all under the ancient walls. In 1830 there were 4,500 houses and a population of 19,000. About twenty-five years later there were 14,000 of 15,000 houses and a population of 57,000, whilst at the present

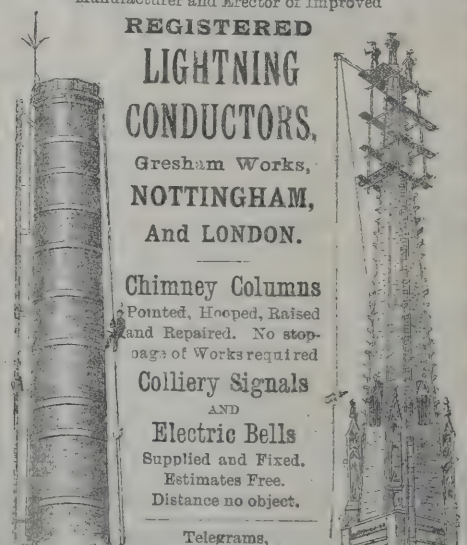
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time there were 22,000 houses and a population of over a hundred thousand. There was an old saying that God made the country and man made the town, and he believed "man" was the builders, to whom the whole community should be grateful for developing the good old town of Southampton.

"The Architectural Profession" was then given in felicitous terms by the vice-president, Mr. H. Cavte, and Messrs. A. F Gutteridge, W. E. Mitchell, and Mr. S. Kelway Pope briefly responded.

Mr. Thomas Costigan proposed the toast of the evening, "Master Builders and Decorators' Association and Kindred Associations," and met with a hearty greeting.

INCORPORATED INSTITUTE OF BRITISH DECORATORS.

THE idea of forming an Institute for those engaged in the art and business of painted decoration, and having objects allied to those with which the institutes such as those of engineers, of architects and of surveyors have been formed, seems to have originated within the present decade, and to have taken more definite shape at a meeting of the National Association of Master Painters at Manchester in 1894. Endeavours were made to obtain a charter last year, but objections being found it was decided to incorporate the Institute under the non-trading clauses of the Limited Companies Act, and after some years of persevering effort the Institute was finally registered as incorporated on January 21 this year. The first meeting of the Provisional Council since incorporation was held at Painters' Hall on February 8. This Council, consisting of twenty-five members, is representative of England and Wales, Scotland and Ireland, Mr. Crace, of London, being president. They at once proceeded to elect officers and arrange for the organisation and working of the Institute. Mr. W. H. Pitman was elected treasurer, Mr G. Petter auditor, and Mr. F. W. Englefield (of Messrs. Pritchard, Englefield & Co, solicitors) secretary. The first general meeting is appointed for March 23 at Painters' Hall, Little Trinity Lane, where the new Institute's headquarters will for the present be situate.

In noticing the definite formation of this Institute, it is only just to say that although it will have its headquarters in London, its origin and its preliminary organisation are almost entirely due to the initiative and the persevering efforts of representatives of the northern counties, and particularly also of Scotland, where Mr. Thomas Bonnar, of Edinburgh, and Colonel Bennett, of Glasgow, have been its constant and energetic supporters; most valuable of all, however, have been the indefatigable services of the interim secretary, Mr. W. B. Crawford, of Glasgow, to whom no trouble or difficulty seemed deterrent and no labour superfluous. The unanimity with which this opinion was expressed at the meeting was itself a testimony that his efforts were appreciated.

RESPONSIBILITY OF CORPORATIONS.

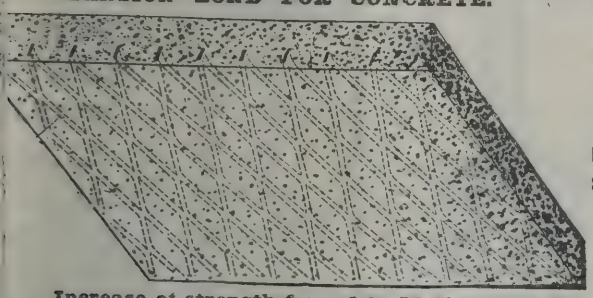
AT the Northampton assizes Thomas Brown, a baker, of Northampton, claimed damages by reason of the Corporation permitting water to flow upon the premises of the plaintiff.

In his pleadings, says the *Northampton Herald*, the plaintiff alleged that the Corporation, by their workmen, from the beginning of 1897 to about December 7 of that year allowed water to flow from a pipe connected with a main in Junction Road, whereby he suffered by reason of the water percolating through the ground from the pipe to his premises, causing the buildings to become damp and subside, and diminishing the heat of the ovens used by the plaintiff in his business. The special damage was put down at 11*l.* 15*s.* 7*d.*, expended on the discovery of the source of the nuisance and partially stopping it, and 8*l.* 2*s.* 6*d.* expended in extra fuel necessitated by the diminution of heat from the damp. Plaintiff claimed 200*l.* damages.

The defendants pleaded no injury was done, but if done there had been no negligence on their part. They further pleaded the time had gone by in which the action ought to have been brought.

Plaintiff in his evidence stated he had carried on business as a baker and confectioner for six years, and up to 1897 had used two patent ovens. Early in 1897 it was found sufficient heat could not be obtained for the ovens, and matters became worse. He had no idea of the cause, and had the ovens cleaned out on three different occasions by Mr. Hickman, builder, but matters did not improve. Plaintiff then sent for an expert from Manchester, and he stated the ovens and flues were in perfect order. The expert suggested the cause of the loss of heat might be through an escape of water, and plaintiff then had a hole dug down to the foundation of the stoke-hole, and

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on going down about a foot and a half found water. The deeper they dug the more water was found. They baled out about 120 gallons a day, and that went on for about a fortnight, until Mr. Hickman opened the ground in the road and underneath the pavement, and found a leaky pipe. This was stopped, and after that time the flow of water ceased and the ovens were better heated. Plaintiff had had a new oven built before the leakage was discovered. The end of the pipe in question was about 3 feet from the old oven. Plaintiff built a new oven at a cost of between 50*l.* and 60*l.*, because he could not get any heat in the old one, and could not carry on his bakings properly. If the old oven had worked properly it would not have been necessary to build the new one. He paid Mr. Hickman 11*l.* 15*s.* 7*d.* and the expert 2*l.* 0*s.* 5*d.* Plaintiff expended on extra fuel in connection with the old oven the sum of 8*l.* 2*s.* 6*d.* for the year. He had lost trade on his dinner bakings, and also in his bread customers, as the bread could not be made properly. Since the stoppage of the water the walls of the ovens had cracked through subsidence near, and allowed the fumes of the coke to get into the oven and damage the bakings. He did not notice the cracks until six months after the stoppage of the water, and they gradually increased; in fact, he did not think the cracking had yet stopped.

Cross-examined: All the leaking of the pipe ceased in 1897 but not the damage to the oven. The pipe had been taken away by the Corporation, but a certain amount of water remained in the ground. He first noticed the cracks in June 1898, and although six months had elapsed since the stopping of the leakage, he though it resulted from the water having been in the foundations. He did not call the attention of his solicitors to the cracks or subsidence until some time after they had occurred, as he had previously sent in his claim. He only complained of the subsidence on January 24 last. A gate was put down near where the leaking took place about five years since, and posts were sunk in the ground, but only to a little depth.

Why do you look so bashful?—I am not bashful.

Mr. Stanger: You said he looked bashful.

His Lordship: He shied a little at the posts, I think, Mr. Stanger.

The pipe was taken away in March, 1898, and the damages had increased since owing to the cracks spoken of, which were the cause of a loss of heat to the ovens. He believed he had under-estimated his losses. The loss on fuel was irrespective of the new oven. He believed that 120 gallons a day came from the pipe in question, as the water ceased when it was taken away. The foundations, in his opinion, were injured by the water. He did not remember whether his old oven had a concrete bottom or not; he thought not. Such a bottom depended upon the nature of the foundation. Ovens sometimes cracked from heat when first built. His new ovens had cracked a little.

Re-examined: Plaintiff did not think 50*l.* would repay him for the damage he had suffered. There had been old posts where the new ones were put down for nineteen years, and they did not damage the water pipe.

Mr. Buszard said his suggestion was that when the excavation was made somebody damaged the pipe (produced), and had stopped up the ends in what he termed the bungling way they now saw.

John Faulkner Stops, articled clerk to Messrs. Becke & Green, said no information was received as to the cracks when the statement of claim was put in. He did hear of the Corporation's objection to the time a few days only before the receipt of the defence.

Mr. Robert Hickman, builder, Shelley Street, deposed to making the excavations alluded to, and to finding the water at the furnace hole and also under the pathway near. He ultimately found the water collected in consequence of the defective state of the pipe produced. He considered the pipe in question had not been properly disconnected, but such a plan was pursued at the time, he supposed, the work was done. He found water 20 inches in depth, and a hole of about 18 inches in width, which the water had made. When the water was taken away the ground afterwards subsided, and he thought that accounted for the cracks in the old ovens. He thought the cracks in the new ovens were caused by overheating at first, and not by the water. The cracks were, in his opinion, greatly injurious to the old ovens, and the damage could not be remedied without rebuilding the ovens.

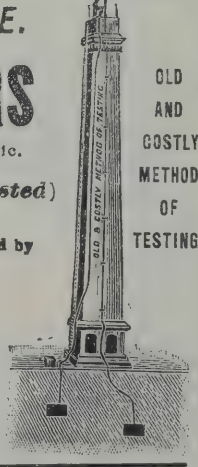
Cross-examined: The service pipe in question was placed there first by the Corporation at the request of the builder, and the Corporation would make the disconnection when the pipe was no longer required. The builders were not allowed to touch the pipes. It was his opinion the cracks were caused by the subsidence. No excavations were made when the gate spoken of was erected, as the new light posts were nailed to the old ones, put on nineteen years since.

Henry Sale, builder, Kettering Road, said that about six

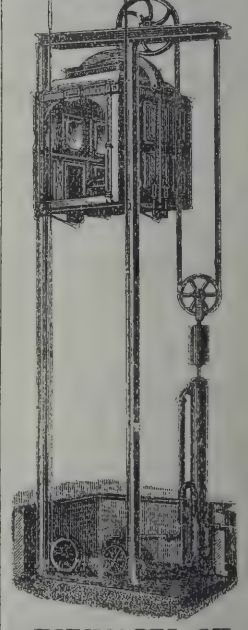
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years ago he was engaged in building near the plaintiff's premises, and had a water-pipe laid on. When he had no further use for the water the Corporation sent men to cut it off. That was about July 1892.

John Winsor, oven builder, gave evidence as to the existence of the cracks in January this year in the old ovens, and said he thought they were caused by the subsidence created by the previous existence of water underneath.

By Mr. Buszard: He considered the cracking proceeded from the existence of water near some fourteen months since, although the hole made by the water was filled up at that time. The cracks did not proceed from the bad building of the oven. If the ovens were not built on a concrete bottom they probably might crack; it was not necessary, however, in some cases to have such bottoms.

John George Hines, baker, Northampton, also gave evidence as to the existence of the cracks, and said they would have a very injurious effect on the bakings. He thought it better for an oven to have a concrete foundation, but some had not.

Frederick Hall, Northampton, deposed to erecting the gate-posts spoken of, and said one was fixed to an old post and the other plugged to the wall. The post only went down about 6 inches into the ground, and no damage was done to the water-pipe.

Mr. Abraham Mosley (Mosley & Anderson), architect, Northampton, deposed to preparing plans for the new oven for the plaintiff in 1897. He had examined the old ovens, and found cracks in the walls which were very detrimental to the value of the ovens. He did not think the damage could be properly remedied without rebuilding the ovens. He thought the subsidence alluded to would be gradual after the removal of the water, although the hole was filled up, and continued to get worse.

By Mr. Buszard: He did not think, in the instance in question, a concrete bottom was altogether necessary.

This was the case for the plaintiff.

Mr. Buszard, for the Corporation, submitted the alleged damage to the walls having occurred more than six months before the action was brought, must be considered as out of the case, and quoted the Public Authorities Prevention Act of 1893, sections 66 and 67, in support of his argument.

Mr. Stanger, in reply, argued that there was a continuation of the damage, and that the action could be brought within the six months for the one point which would include the whole of the heads.

His Lordship was against Mr. Buszard.

Continuing his defence, Mr. Buszard admitted there might have been some leakage from the pipes belonging to the Corporation some fourteen months ago, but that was not the fault of the Corporation, but arose from some extraneous cause which they were not exactly able to arrive at. It was not, he submitted, the fault of the Corporation officials in any way. The damages were divided into three heads, the first being that the buildings became damp, the second that the heat of the ovens was diminished, and thirdly, that there had been a subsidence in consequence of the action of the water. As to the first two points, it might be true that some trifling damage had resulted. He, however, submitted very strongly that the evidence that had been laid before the jury on those points was of the most shadowy and rotten character. No real damage had been shown, he contended, and no good evidence had been called to support it in order to warrant the amount of damage claimed being awarded to the plaintiff. As to the question of subsidence, they had been told it was caused by the leakage of water some fourteen months ago, when that leakage was stopped, and they heard nothing about it until recently. He strongly submitted the case had not been made out on that head. The leakage, he argued, might have been caused by natural water, and that part of the claim was put forward to bolster up an action which was very flimsy before. The plaintiff in March last set down his damages at 50*l.*, and now because of the subsidence it had been increased to 200*l.*, which he submitted was an exorbitant amount. His case was that no damage had been proved, and that if any damage had taken place it was very trifling.

George York, who had been in the service of the Corporation for twenty-two years, and prior to that in the service of the Water Company, said he recollected the service pipe in question, and cutting it off in 1892. He did not hammer up the pipe as produced in Court, and had never hammered up one like it.

By Mr. Stanger: A different system had now been adopted for closing the pipes. They left the ground open for some time, and there was no leakage.

Thomas Hooten, a workman in the service of the Corporation, gave similar evidence, and said he thought the end of the pipe produced had been tampered with in some way.

Robert Spring, foreman of the Water Works of the Corporation, said he found there was a leakage in the service pipe in question on December 21, and he had it closed up. On the

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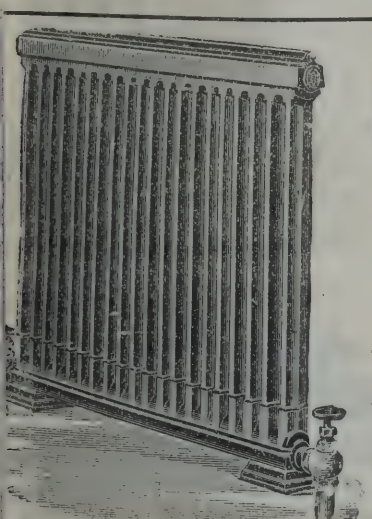
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following morning the supply to the pipe from the main was completely cut off, and there had been no leakage since. Pipes often got broken or pecked into, and sometimes by the surveyor's men.

Mr. John Eunson, water engineer, said he had known pipes closed in the way the one produced had been, and remain perfectly safe unless tampered with, and the one in question appeared to have been tampered with. He did not think the pipe had been hammered up by a skilled workman; and, further, he did not think it was possible 120 gallons of water a day could be forced through the small aperture in the pipe with the force of water they had. There was a great deal of natural water, in his opinion, on the land on which the plaintiff's premises were built. He did not think the pipe could have been hammered up as it was at the present time by one of the Corporation workmen.

By Mr. Stanger: A skilled workman might certainly be so careless as to cobble up the end in the manner seen.

His Lordship asked Mr. Stanger how much the old oven cost, and the plaintiff said 16*l.*

Mr. Buszard then called Mr. G. J. Fisher, builder, Northampton, who stated the present cracks could be repaired for about 2*o*/.

Mr. Buszard and Mr. Stanger having addressed the jury, his Lordship summed up the case to them.

The jury retired, and after an absence of a quarter of an hour, returned with a verdict for the plaintiff, and assessed the damages at 90*l.* A certificate was granted for special jury.

NATIONAL REGISTRATION OF PLUMBERS.

THE tenth annual meeting of the District Council for Forfar, Perth and Fife was held at the Town House, Dundee, on Saturday. Mr. Walter M'Gregor presided, and there was a large attendance. The secretary's annual report stated that there were at the present time 69 masters and 153 journeymen upon the register. The classes at the Technical Institute, Dundee, and in Perth had been well maintained during the year. In the Dundee classes there were 45 on the roll. It was greatly to be desired that three or four of the journeymen would take the opportunity of joining the class for teachers to be held by the Plumbers' Company at King's College, London, next summer. The meeting then re-elected the retired public representatives on the Council, adding Mr. James Mitchell, organising secretary to the Fife County Council, and substituting Dr. Robertson, medical officer of health for Perth, in the room of Dr. Simpson deceased. The retiring master plumbers' representatives were re-elected, with the addition of Mr. James Littlejohn, Arbroath. Messrs. Dewar, Fimister, Goldie and Mackay were re-elected operative plumber representatives, with the addition of Mr. Hutton. The retiring office-bearers were re-elected, viz. President, Lord Provost M'Grady; vice-presidents, ex-Provost Basingall, Councillor Elliott, Dr. Templeman and Dr. Lennox; secretary, J. J. Henderson.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously*]

APPLICATIONS FOR PATENTS

2613. George Brown Davis, for "Improvements in apparatus for the ventilation of water-closets, urinals and such like places of convenience."

2769. Samuel Stevens Hellyer, for "Improvements in water-closets, slop sinks and the like."

2798. John James Hammond, for "An improved roofing tile."

2915. Tom Walton, for "An improved chimney pot, cap cowl or ventilator."

2918. William Ernest Morum and Alfred Jones, for "A sanitary appliance for water-closets and the like."

2921. Francis Augustus Remington Neill, for "Improvements in the manufacture of bricks and the like."

3026. Heinrich Koppers, for "Coke oven with apparatus for utilising the hot waste gases."

3077. Robert Ingham, for "New or improved means or method of ventilating chimney pots, stacks and buildings."

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CATHEDRAL SERIES, No. 205.—DURHAM: DETAILS OF NORTH WINDOW, CHAPEL OF NINE ALTARS.





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CATHEDRAL SERIES, No. 204.—DURHAM: FROM S. OSWALD'S.





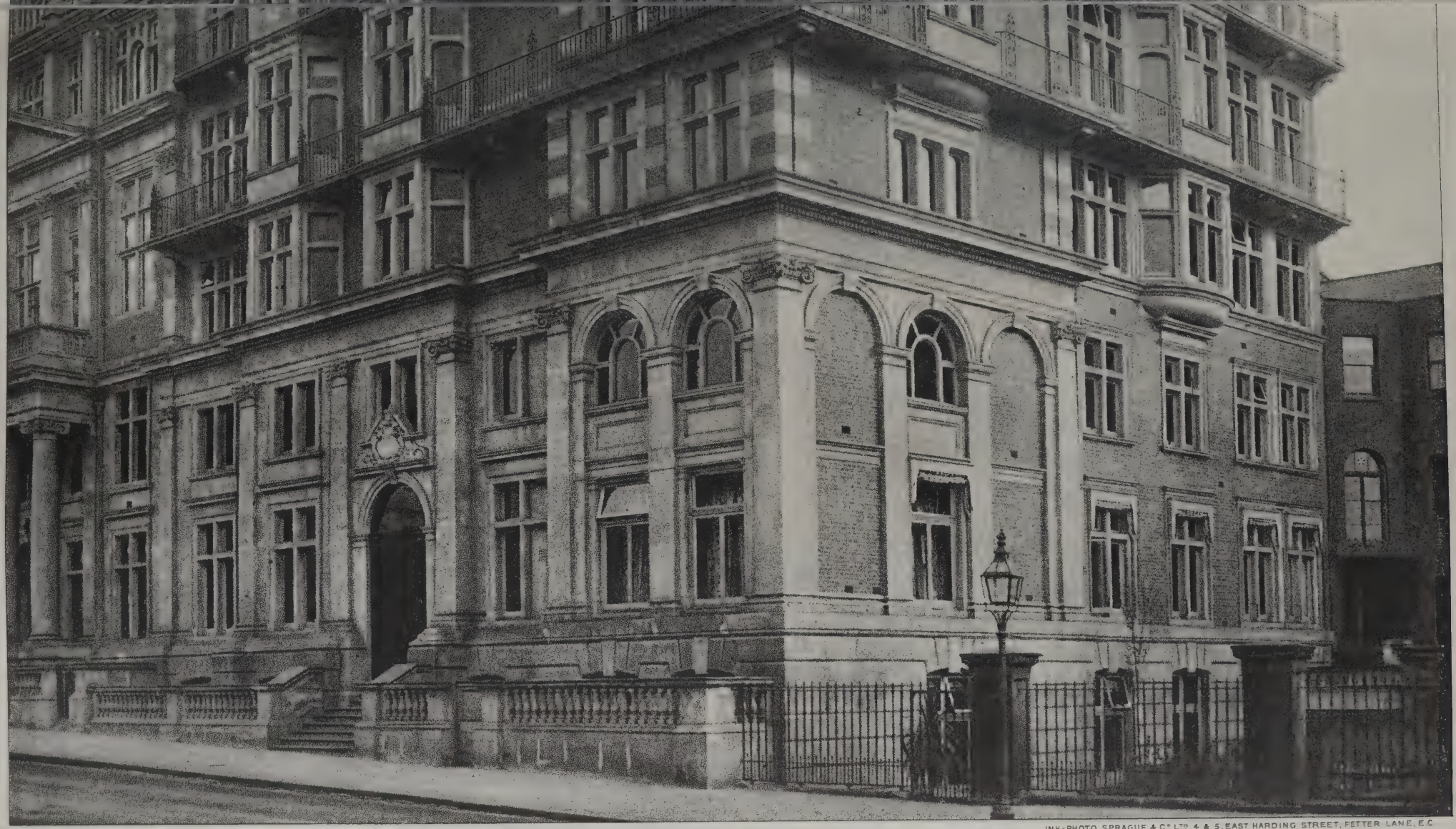
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CATHEDRAL SERIES, No. 206.—DURHAM: ARCADE, INSIDE WALL OF NAVE.

The Architect.

THE WEEK.

We have due respect for my lords of the Committee of Council on Education, but we must say there is a little of courageous FEEBLE" in the declaration, apropos of the report of the select committee on museums, that they desire to emphasise the fact that they alone are responsible to Parliament for the administration of the museums, and to declare that their directions have been loyally carried out by the staff and that they retain the fullest confidence in Sir JOHN DONNELLY and his colleagues." The question will of course be asked, Why did not my lords appear before the parliamentary committee and give evidence about the exercise of that responsibility? The task was left to subordinates, and if they failed to convince the committee about the excellence of the administration they are hardly to be blamed. Nor can it be said that Sir JOHN DONNELLY'S "observations" will counteract the committee's report. What is said bewilders instead of convinces. For instance, the infallibility of the department's system of bookkeeping is supposed to be demonstrated by the following analysis: "The committee are entirely mistaken in supposing that there is anything 'confusing' or 'confused' in the H subheads. H 3 provides for all the attendants, messengers and suchlike as are on the establishment, and for such cleaners, stores assistants, printers, labellers, &c., not on the establishment, as work directly under the museum and figures staff. H 5 provides for material whether it be in the form of cases, or for fitting up objects for exhibition, or for furniture, or for repairs of skylights, or for blinds, or for cleaning. H 7 provides for the material for heating, lighting, furnaces, hot-water apparatus, coal, gas, electric-light apparatus and the apparatus for precautions against fire, as hose, &c. H 6 provides for the cost of labour in fitting up and using this material; that is to say, for the wages of the works branch, the artisans, the labourers and the cleaners—other than those working directly under the museum staff—and for the Royal Engineers who act as a fire brigade and work at their several trades. No one in this category is on the establishment. These subheads no doubt 'overlap' in a certain sense. But in any system of account-keeping it would appear desirable to keep material and wages separate; at all events, the Science and Art Department has been required to do so, as also to keep separate what may be called the establishment subhead from the artisan and labour subhead." To go through a long series of "observations" in that style a man would require to be paid as liberally as if he were engaged on a catalogue of engraved portraits or one of photographs. We doubt if my lords will have the courage to read the defence with which they have prefixed their minute.

THE name of Canon VENABLES is likely to be known to most of our readers as one of the few surviving representatives of the old, learned race of clerical archæologists. His love of Gothic architecture has not interfered with his ministerial studies, and the list of his writings is evidence of his zeal and industry. His latest pamphlet is entitled "Thoughts at the Eventyde of Life concerning the Church of the Anglican Communion" (JARROLD & SONS). Among the suggestions contained in it are some of which notice will not be inapposite in these pages. One relates to the size of parsonages. The Canon says:—"How it came to pass that costly houses have been permitted to be erected or enlarged as vicarages and rectories, so that the person can no longer keep them in repair, puzzles those who are assured that nothing can be done without an architect whose plans have to be submitted to rural dean, archdeacon, and then the bishop." Canon VENABLES says it was suggested to him by an able architect that trouble to residents would be spared if all the rooms were on one floor. He proposes, therefore, to have one room for best kitchen and meal-room, the scullery or back kitchen being of a size where the servants' duties could be carried on. The parson's daughters would find life, he says, more enjoyable if they engaged in things domestic, like the Princesses of the Royal Family. "I believe," adds the Canon, "that the word 'lady' signified in Anglo-Saxon one who used to serve out provisions to the household and to the poor." It is also suggested that the reading and preaching in churches would be much improved if the architects did not design such high lecterns and arranged kneeling-boards in a way that would not cause pain to the clergymen. The want of receptacles for hats is said to be one of the causes which keep the laity from church, and another source of inconvenience is the neglect of cloaks and umbrellas. It is well that all obstacles to devotion should be announced, but the architects should not be held responsible for them. The large parsonages were adapted to the necessities of a time when clerical incomes allowed of ostentation, and the ladies of the house were not compelled to serve as servants. The tall lecterns are aids to effect and congregations admire them. As to the want of provision for hats, there are many devices which are cheap and efficacious, but the prejudice against them does not arise from the opposition of architects.

USHER HALL, if it should be constructed in Edinburgh, will have a strange history. It might have been devised for the promotion of discord. The Bill seeking for powers to purchase a site has excited much opposition. Contrary to the advice of Mr. WATERHOUSE, R.A., a dominant party of the Corporation fixed on Atholl Crescent as the most fitting place for the hall. That property belongs to the GEORGE HERIOT'S trust, a body that has existed from the time of the death of the famous goldsmith of JAMES I., a man whose generous bequests have rendered incalculable service to Edinburgh. The trustees allege that the Bill will completely destroy some of their rights and prejudice others, without any public necessity being apparent for the sacrifice. It is stated that the powers sought are in excess of what was originally proposed, apparently with the intention of securing the properties at less than their prospective value. There are also petitions from those who hold under the HERIOT trust, who deny that Edinburgh is in need of a municipal hall such as is proposed, and that the proposals of the Corporation to compulsorily acquire property merely to enable a legacy to be utilised is one without precedent, and that the Bill, while inflicting great hardship and pecuniary loss, is not required in the public interest. So far from the site proposed being an appropriate one (it is a mile and a half from the Council chambers), it has not, the petitioners believe, the general approval of the public, and has been adopted without due consideration, apparently to get rid of a question on which the promoters are themselves not entirely agreed.

SOUND is supposed to travel at the rate of 1,090 feet per second, and the calculation is believed to be applicable to a cry by the human voice as to the report of a cannon. Travellers and colonists can make themselves be distinctly heard at long distances, but audibility is only a question of power. Although the connection between the sounds emitted by a man can have a relation to distance, yet the voice has not been used as a measure of length. Apparently the first attempt to utilise cries was made by a surveying party attached to the Inter-Continental Railway Commission while at work at Costa Rica. In the report the following description of the process is given:—"For the survey we were obliged to extemporise an acoustic method, bandying yaups to and fro three to five times at each station by the watch second-hand, thereby ascertaining both direction and distance. Testing the method on open ground it never differed more than 6 per cent. from stadia measurements; the averages of the two methods would probably be about the same. Our experience gave us great confidence in it. Indeed, no other, no better device at least could be thought of if we were to make reasonable progress in such a country. Drums, gongs or the like thump-sounders might be an improvement on the voice and carry farther, but the voice has the advantage of being itself lighter to carry, an advantage very considerable. For long shots blank cartridges might be used, but we had none of these to spare." The experiment is interesting, but we suppose it would not be of much use if repeated in an inhabited country. But for pioneers so simple a method would possess many advantages.

MASTER-BUILDERS AND WORKMEN.

THE report of the Central Association of Master-Builders of London, which was presented at the annual meeting on Thursday in last week, is a document with which all classes should be acquainted. There are no men in the country of similar importance who are more reticent about their difficulties and grievances than builders. They have to endure many wrongs and their patience is continually tested, but they stoically accept evils which would compel other people to call on the public for sympathy. Nowadays it is impossible for any man to accomplish a builder's work unless he is endowed with unlimited passibility; he may endeavour to do more than his duty as an employer to his workpeople, but he must expect to receive ingratitude for his kindliest efforts. When, therefore, it is found that builders have abandoned their usual reserve and are indicating some of the difficulties with which they are hampered, the public can be assured that selfish considerations do not inspire the change. Builders can still be enduring, but the public should know that a crisis is approaching in which interests of a different kind are likely to be sacrificed.

It would, for example, be easy for builders and workmen to agree. Indeed, many of the latter cannot understand why differences between them arise. All that is needed is to adopt the system of various elected authorities who have set up a works department. Allow the men to do as little work as they please, and so long as they are liberally paid they are indifferent to what is required to complete the system. Allow high wages and do not insist on quantity or quality of work, there will be no objection to any charges which the builder will seek to obtain. Masters and men are supposed to have a common victim in the building owner, and while he settles the accounts presented to him it matters little whether he is to be considered as a friend or an enemy. That is the workman's political economy; he wishes to gain all he can with a little exertion of force, and he is indifferent to what may follow. From time to time his desire for money increases, and so does his repugnance to labour; but the builder is expected to be his agent in restoring equilibrium.

The public should understand what is involved in all disputes between builders and their workmen; it is simply a question of finance in which the public have more concern than those who carry out works. When it is found that the Central Association of Master Builders have to draw attention to the manner in which work is done it should be realised that the builders are endeavouring to save the public from imposition. A passage in the report will explain the new conditions of labour which have been fostered in a large measure by the practices of various works departments over which the public are supposed to have control. It is as follows:—

> One of the most serious matters for the consideration of the trade is the great increase in the cost of building, in consequence of the great decrease in the amount of work done by the workmen. Although wages have risen, the amount of work done for such wages has rapidly diminished; in fact, there seems to be a systematic determination, more particularly in some trades, that no workman shall do more than about half the amount of work that he is capable of doing, nor permit any other workman to do more. So long as a workman's remuneration is entirely independent of the amount of work he does (and a uniform rate of wages is insisted upon), there is, apparently, no prospect of preventing this state of things from developing even to a greater degree. On the other hand, if a workman's wages were dependent upon his industry and exertion, there would be an immediate revolution in the cost of building operations. The present system of almost universal day-work puts a premium upon laziness and inefficiency, and effectually strikes at all enterprise, energy and effort. It is reducing the British workman to a very low level, and developing a system of chronic dishonesty, which loses its odium from the fact that it has become general.

It is not necessary to be a master-builder in order to obtain evidence to corroborate the foregoing statement. There are few leaseholders or tenants who have to pay for repairs to their houses who do not possess acquaintance with the difference in the time which is now needed for simple operations and what sufficed some years ago. The humblest contractor in a back lane who employs a workman will have to admit the wilful decline in power which is becoming a characteristic of the building trades. Th masters are powerless against it. One of the reaso is that the men believe they have the public on their sid and unfortunately there is not much proof to the contrar People will not take the trouble to realise who are th principal sufferers by the "chronic dishonesty", which exhibited not only in an unfair measure of work, but, whe possible, in the inferior quality of the work. It might be struggle between slaveowners and slaves which is going o instead of an effort to make buildings become unnecessari costly in order to gratify a bestial sloth which is sure debase men into incorrigible rogues and vagabonds.

The high prices are in many cases an obstacle to buil ing, but the resources of the workmen are not exhausted them. They can lighten their easy labours by friend contests, in which the sufferers are the builders and tho who pay. One passage of the report will enlighten th public about the means which are adopted to del works:—

> The year has been characterised by a prevalence of palt and petty strikes against individual firms of builders. T definite agreement made with the trade unions, to submit disputes for consideration at a conference between employe and employed prior to any strike taking place, has been p sistently ignored by the workmen. In many instances t trade union officials have repudiated the action of th members, over whom they profess to have no control, althou it is to be observed that their control over their members see to be unlimited when they have a desire to exercise it. Sor of these difficulties have arisen in consequence of dispu between different trades as to which trade should do a certa class of work. Time was when the man who paid the wag decided what work should be done for the wages he paid, t this right is altogether ignored by the trade unions, who see to consider that the employer has no voice in the matter, a in the event of his refusal to endorse the particular views any trade union he is promptly struck against by the offend union.

When there is so much anarchy prevailing, the advice the Association concerning contract deeds is justifie Members are cautioned against signing any in which the is not an adequate extension of time admitted in t event of a strike or lock-out, and a proper arbitration clau in the event of dispute. The Association must think the future as well as of the present. It has to be admitt "that nothing is more serious in the outlook of the bui ing trade than the increasing scarcity of good mechanic But when the character of the workmen of to-day is co sidered, builders are to be excused if they hesitate to acc apprentices. There is no more effectual training for expert workman than is to be found in a builder's wo shops and in buildings which are in progress. But train up apprentices is like sowing dragons' teeth; it is the f course in the creation of an evil. It may also be doub whether modern youths care to go through the discipl of an apprenticeship. There is a notion abroad t not only a workman but a master builder or architect can be raised by a limited attendance at evening classes of a departmental or some other techn school. Moreover, the daytime can pass in idleness wh we fear, is fast becoming a hereditary weakness among so-called working-classes. If a lad has an additio quantity of that defect and more than the average cond he can imagine he is destined to be a craftsman, and t no great exertion will be able to supersede manufactu and be at least on a level with painters, sculptors architects. The causes which are operating against continuation of the old-fashioned English workmanship manifold, and in few trades are they so numerous a those connected with building.

When all the dangers are considered, and contingen should not be overlooked, the action of the Nati Association of Master Builders on Monday next ca be considered as unwarranted. The plasterers, who are delinquents, are sometimes treated as a class apart by o trades, but when an occasion arrives they can serve as representatives of all the building trades. If their dem were conceded, in a little time we should hear of necessity of additional privileges for other men, s apparently the claims of labour can be extended *infinitum*. Hitherto the philosophic temperament builders has prevented them from organising themse

into the power that is necessary when such dangers arrive as now prevail. But the success of their societies is a testimony that they can at length realise the futility of individual efforts. It is gratifying, therefore, to read in the report that "During the past year the process of federating the building trades' employers throughout the kingdom has been rapidly advanced, and that which for some time appeared to be only a pleasant theory has rapidly developed into an evident fact." It is only by organisation that builders' interests will be made secure, and that signifies public interests also.

AN OLYMPIAN MUSEUM.

IN the year 4 of its existence, or 1795 by ordinary reckoning, the first French Revolution was blown into space by the whiff of grapeshot which Citizen-General Buonaparte directed against the crowds on the steps of Saint-Roch in Paris. A few months before, while passions were raging and the guillotine was still in operation, an essay was read before the Institut National, a body that was holding meetings, reading papers and awarding prizes as if there were no mobs howling outside the building where the members sat like Roman senators. The essay was entitled, "A Project for the Encouragement of the Fine Arts and the Mechanical Arts," and suggested the foundation of "An Olympian Museum or Living School of the Fine Arts." The author was named Toussaint Bernard Emeric-David. It was through the recommendations in his paper that France owes the formation of the Musée du Luxembourg and the Conservatoire des Arts et Métiers, two institutions which might with advantage be introduced in this country.

It was a time of projects and revivals. The Terror had lost the greater part of its power, and men and women had grown weary of red nightcaps, which were supposed to be Phrygian, and of sabots. Fashion had demanded apparel which was not suggestive of the slums, and with the new clothes various other desires were created. David the painter was ready to demonstrate that art was elastic, and abandoning the sternness with which he played his part in the Convention up to the night when he proposed drinking hemlock with Robespierre, he designed robes which made women think they were Aspasias. Speculators who had concealed themselves in garrets ventured to come forth with plans which would take centuries to execute. Where so much was on a nebulous or colossal scale it was a relief to come across a man with a modest scheme for improvement which was adapted to the spirit of the age, and could be realised without excessive cost. We are, therefore, not surprised to find that the young advocate who fled from his province to Paris in order to escape from the death which awaited him for his *modérantisme* should have captivated the grave Institut and convinced a distracted Minister of the Interior. But although his scheme was realised to some extent, his countrymen are not aware that for the two institutions we have mentioned they are indebted to him.

Like his namesake the painter, Emeric-David believed there was little hope for the world, and especially for France, unless the people adopted Greek and Roman ways of life. When ladies were to be seen gyrating in ball-rooms as Minervas, Junos and Dianas in scanty flesh-coloured raiment, it appeared to him, as to others, that reformation was nigh. If Paris could so easily have rivals to the goddesses, why should there be any misgivings about creating artists like Phidias and Apelles? All that was necessary was to have similar conditions, and the great men would appear as certainly as an effect follows a law of nature. Emeric-David pointed out how in Athens the lowest artist was nourished at the public expense and occupied a distinguished place in the theatres. At his meals he bore a crown of olives on his head and was seated beside great captains, philosophers and magistrates. But if by any mischance he was neglectful of the proprieties, or if another artist was considered to be more able, then he was ejected from the national shelter for the illustrious. On the other hand, if an artist were extraordinarily able, like Polygnotus, he could be awarded a place not only in the Prytaneum of Athens, but in similar institutions elsewhere. He would, however, be a very foolish man if he attempted to take advantage of hospitality so general, and the bestowal was only an example of Athenian vanity. According to one interpreter, a domicile in the Prytaneum, with its corresponding advantages, was also awarded to mechanics, and a representative was selected once a year, on the feast of the Chalkeia. The reasoning of Emeric-David brought him, therefore, to a conviction of the necessity of a revival of the Athenian practice.

But at a time when a 20-franc piece was worth 5,300 francs in national assignats, and a ride in a hackney coach cost 6,000 francs in paper money, Emeric-David could not expect any minister, although he might be willing to pose as an Athenian, would build a palace for artists and craftsmen. But it was claimed as an advantage in favour of Emeric's project that it was not to add many livres to the national expenses. France had already provided the ways, if not the means. The Institut, he pointed out, consisted of able men who formed a sort of Areopagus that was worthy to be the judge as well as the model for artists. The task of selection, whether of men or of works, would therefore be gratuitous. Then in every second year there was a solemn exhibition of works of art, meaning the Salon exhibitions. But the best works in it had no chance of a continuous display, for from the "Muséum" or Louvre galleries the works of living artists were excluded. Every man wished to be considered famous in those days. The army was each year producing a batch of young heroes, and artists were eager to show how they could also be victorious. Accordingly, Emeric-David said he demanded the creation of a second Musée in which the chefs-d'œuvre of living artists were to be placed, one which would be consecrated to the reputation and glory of contemporaries, and which would make known to Frenchmen, strangers and the entire world the riches possessed by the country in having such children. From the works gathered in the new Musée a selection was to be made after the artists had died for the permanent collection in the Louvre or Panthéon of arts.

The Paris Prytaneum was therefore to be different to its Athenian predecessor. It was to contain works, and not artists. But the effect was expected to be no less beneficial to the State. In Emeric's time the Salon exhibitions were made up of a crowd of feeble attempts by young artists, with a few remarkable pictures. The masters who hesitated to send their works to the Salon would probably be attracted if they knew that the Government or a deputed body were to select works and to reward the men who produced them. Emeric's plan of obtaining paintings suggests that the spirit which at the present time has meddled with the privileges of the judges of the Cour de Cassation bore sway a hundred years ago. The Academicians might form an Areopagus and be models for artists to imitate in their daily life, but an equal number of outsiders must be combined with them when pictures had to be judged. This was proposed not from any apprehension of their competence or impartiality, but in order to avoid suspicion of their honesty.

Emeric-David insisted that all styles should be eligible for admission into the proposed galleries. Genre was to be as welcome as high art, sculpture and engraving were to have equal rights with painting. Those who imparted beauty to pottery and furniture, or who decorated the architecture of buildings, were to be honoured like the sculptor and the painter of history. The essential consideration was that whatever was to be admitted must be the best that was obtainable. For mediocrity no place was to be discovered. The new Musée was to be a battle-field for heroes alone. Thersites as well as Paris should be excluded from the contests.

It was expected that the Musée of works by living artists would recall the great competitions between those of Greece when the people became inspired by enthusiasm, which could not be otherwise than advantageous. Then, as Emeric-David pointed out, there was no prejudice in favour of schools, or system, or individuals. Timagoras carried off the prize from Panæus, the brother of Phidias; Zeuxis, who had inscribed on one of his paintings that however much his art might be envied, it could never be approached by another artist, had to succumb to Parrhasius. In his turn Parrhasius yielded his place to Timanthes, although he was so assured of his invincibility

that he insisted on men calling him the "Prince of Painters," and as tokens of his eminence wore a purple mantle, a bâton encrusted with gold and a golden crown. Parisians could offer similar instances of the uncertainty of fortune, for in the old University of the city there were constant contests, and the success of a professor depended on his ability to hold his own against all comers.

Among the advantages which could be anticipated from honouring living artists, Emeric-David counted much on the improvement in manufactures. France was then disposed to believe that military conquests formed a short road to riches, but he maintained it was the most industrious nation which was able to levy most on others. If France could not retain its pre-eminence in taste it would soon be without much commerce. He considered that the relations between the artist and the manufacturer should be multiplied, in order if possible that the versatile divinity Fashion might be captivated, or at least persuaded in her perpetual metamorphoses never to display want of taste.

Regarding expense, Emeric-David treated it as a subject which, under the circumstances, was hardly worth the consideration of a great nation. The number of works which would be deserving of a place in the Musée were likely to be few, for chefs-d'œuvre are not produced in abundance every year. The prices demanded by artists were sure to be modest, for the gaining of a place in such a collection as was sought would bring advantages which would compensate for the sacrifice of money. It is hard to find art treated in an ultra commercial spirit, and the State becoming an advertisement agent and insisting on excessive fees; but, in spite of the progress which the democracy always claims, the system still prevails. Every year works are acquired in France by the Government at prices far below those obtainable in the market, but when an offer is made an artist dare not decline it. If Emeric-David had not recognised economy as a factor, it is possible the Musée du Luxembourg and the Conservatoire des Arts et Métiers would not exist among the institutions of Paris.

SYSTEMS OF DISTRIBUTING AND GENERATING ELECTRICITY.

By F. J. Warden-Stevens.

(*Continued from page* 126.)

Steam-engines.

STEAM-ENGINES for use in electricity supply works may be divided into two classes, high and low speed; it must, however, be admitted that the former type is being adopted in most cases in this country, at any rate for small units of plant.

The continuous current dynamo is essentially a high-speed machine, and this being the case, if a slow-speed engine is used gearing must be placed between the engine and dynamo. Rope-gearing is necessary for large powers, and a long drive is required. This necessitates an increased expense for buildings. It will be seen that in large towns, at any rate, it is inexpedient to increase the area of the works, as land is expensive, and in any case the building will cost more if gearing is necessary.

Again, gearing means loss of energy, and consequently a larger engine for a given dynamo than would otherwise be necessary. Thus it is evident that as low cost is a great consideration in electricity supply works it is advisable to couple the dynamo direct to the engine. Now this may be done in two ways—by having a slow-speed engine and a slow speed dynamo coupled to it, or by adopting a high speed engine and coupling a dynamo running at a nominal speed. In the first case, the dynamo is constructed to suit the engine, and in the second, the engine to suit the dynamo. High-speed vertical engines have been improved very much within the last few years, and if two coupled sets (one high speed and the other slow) of the best class and of similar size are compared, the consumption of steam per electrical horse-power will be very little different in the two cases. The space taken up, however, by the slow-speed combination is considerably more than with the high speed.

Where space is of no consequence other questio decide the type, such as price, cost of maintenance, atten ance required and other considerations which must balanced in each case by the engineer.

Engines, whether vertical or horizontal, high or lo speed, are further divided into simple, compound a triple expansion, according to the arrangement or numb of cylinders. It must be remembered that in any engine it desirable to keep down the difference of temperature betwe the steam entering and leaving the engine to as low a lin as possible, as otherwise the steam on entering the cylind condenses, coming into contact with the lower temperatu of the cylinder walls, owing to the expanded, and therefo lower temperature steam having just left the cylinder. F this reason it is found that a simple engine is not economi if used with high-pressure steam. High-pressure steam much more efficient than low-pressure, as the high efficiency of any steam-engine is proportional to t difference of temperature between the admission a exhaust. Pressures from 120 to 180 lbs. per squa inch are now usually adopted, because with the pressures boilers are easily constructed and f economy is also attained. A simple engine with stea at 180 lbs. pressure would be extremely uneconomical, a for this reason steam is expanded in two or three cylind successively. In the first the pressure falls a portion o of the total, enters the next cylinder, which is of cou larger to take the larger bulk of expanded steam, t expands still further again in the case of a three-cylind engine.

Simple engines are used for pressures below 50 to 60 l per square inch, compound between 60 and 120 lbs., tri between 120 and 180 lbs., and quadruple expansion engi for higher pressures than this. If a condenser is used effect is to add about 14 lbs. to the boiler pressure; *i.e.* 60 lbs. non-condensing a simple engine should be used, for 60 lbs. condensing the virtual pressure would be 74 ll and this is well within the limits for compound worki The 14 lbs. pressure is added because this is the norm pressure of the air which is removed by condensing t steam and forming a vacuum.

The effect of condensing in an engine is consideral There is more benefit to be obtained by condensing w low-steam pressure than with high, as the possible efficie is roughly proportional to the range of temperature. Wo ing between 114 and 14 lbs. per square inch (atmosphi pressure) 60 degs. C. range of temperature is obtained, between 14 lbs. and 1 lb. per square inch (almost a vacu 60 degs. C. range of temperature is also obtained, theoretically the efficiency is double by working with a c denser. If, however, there is a range of 30 degs. C. m condensing, which is 40 lbs. per square inch, treble efficiency (theoretically) is obtained by adopting condens It will then be seen that, taking into account the waste air pumps and auxiliary plant necessary for cooling wa &c., that it will not pay to work condensing with very l pressures as well as it will for low. It is often the prac to adopt triple expansion non-condensing engines and w at 190 lbs per square inch pressure rather than compou engines—condensing and 150 lbs. per square inch—l economy being often quite as good. On the other h the old beam engines worked with 10 lbs. per square i and always were fitted with condensers.

The question of governing of engines is a very impo one, especially in cases where the load on the engines v vary considerably. The variations in load must be me that the pressure on the dynamos will be constant or va in a controllable manner. Dynamos are usually arra to be driven at a constant speed under all loads, and th very desirable, and in fact almost essential, with alterni current systems of supply, in order that the "freque (number of alternations per second) may be kept const

The power given out by the engines must therefo altered without varying the speed, and this must be ac plished either by altering the pressure of the steam, w is known as "throttle" governing, or altering the qua of steam admitted at each stroke, known as "expans governing.

In some works there are no governors on the eng the regulation being effected by hand, using the t valve of the engine as a throttle valve. In t

ase, or where there is a throttle governor, steam admitted for a fixed portion and expands for the emainder of the stroke, the governing being effected by ecreasing the pressure of the steam. The amount of xpansion allowed to the steam being fixed, steam is shut ff at the most economical point, which is about half stroke i compound engines. It follows, then, that a throttle overned engine cannot do more than about half the work iat would be possible if steam could, when required, be dmitted for the whole or nearly the whole stroke. It is irther evident that the engine will work most economically hen there is no throttling, that is, at full load. Now ectric-lighting engines can never be run at full load for iore than, say, an hour or so in the twenty-four, as extra mps may be put on, so it is necessary to run the engine : an uneconomical load for a large portion of the time.

These disadvantages have been met to some extent by lopting the other method, viz. the power of the engine is ried by altering the ratio of expansion of the steam. In ese engines the ranges of expansion is from ·1 to ·85 of e full stroke. Now the best expansion being say about stroke with compound engines, the engine will run most onomically at $\frac{\cdot 5}{\cdot 85}$ of full load, which is about the average und in practice. The economy will be much worse at gher or lower loads, but that is not of much importance the engine will usually run at about ·6 of full load.

Two engines of equal cylinder sizes may be compared follows :—

	Throttle Governing.	Expansion Governing.
Full load, $\frac{1}{8}$ of max.	50	85
Highest economy	Full load	·6 of full load
Average load	·5 to ·7 of full load	·5 to ·7 of full load

The expansion engine can thus be smaller for the same aximum power, and therefore there are less radiation loss, d it can usually be run with greater economy of steam an the throttle-governed engine. For these reasons the pansion-governed engine is making headway in electricity rks. The throttle-governing, however, gives better results h very low loads, and for this reason combination angements are coming into use. One class of vertical gine is being adopted in which the cut-off in the high-ssure cylinder is varied by hand, within limits of ·3 to ; of full load, and the governing is accomplished by a ottle valve. The attendant has to see that the expansion altered so that the pressure in the steam chest is never ry much less than that in the steam pipes, and so a good -round economy is obtained, and in some cases this is ected automatically. A little throttling of the steam is od, especially at low loads, as the steam is slightly super-ated (dried) by this, and there is less loss from condensa-n when the steam is entering the cylinder.

The general arrangement of a governor is that a ball or sc of metal is revolved by the engine either directly or by aring ; this is so arranged that if the speed is increased e extra centrifugal force makes it fly out at an angle inst the force or gravity. The movement causes the ves to be altered so that less steam is admitted either by ering the position of the throttle valve or by altering the int of steam cut off in the engine cylinder, according to e method of governing adopted. By this means, the vernor being set, one speed may be maintained within tain limits, usually from 3 to 4 per cent.

Coming to the actual types of governors, there is very le that need be said here. They all act on the centri-al principle, and the only radical point of variation is the ckness of cut-off of the steam. It is advisable to have harp cut-off, although the benefit of this is often exag-ated. A slow cut-off means throttling of the steam.

The sensitiveness of a governor need not be very high electric lighting if there is not a large power demand for tors, or other cause for very rapid variations in the loads the plant, but in view of the extension of electric tram-rs, it is well to be prepared to meet such conditions at a r period, so it is advisable to have the best governors.

The Corliss gear has found considerable favour owing to short steam ports and quick cut-off; but its use has ally been confined to slow-speed engines, and there is no ibt that the results obtained with this gear are very good. ently, however, a single-acting high-speed engine has been introduced, which is fitted with Corliss valves, and is an improvement in many respects upon the slow-speed engines at present using this gear. The results from this engine are very satisfactory, and it will no doubt take its place among the best engines for electrical work.

There is no doubt that the attendance and oil required by the enclosed high-speed engines of the best types are much less than for the slow-speed engines. They are started quickly, and are used to a large extent because of these qualities, which are suitable for electricity supply work.

Where a very small space is available, or where great freedom from vibration is necessary, such as where plant has to be placed on upper floors, where injunctions have been obtained or trouble is likely to arise for nuisance, it is advisable to consider the advantages of steam turbines.

The steam turbine is coming into use to a considerable extent in works where low first cost and space is important, and they are certainly to be recommended on the ground of compactness, freedom from vibration and cheapness. They require no foundations, only to be placed (not bolted) on rubber blocks.

The chief feature of the steam turbine is the high speed, and the fact that the motion is entirely rotary. All steam turbines act on similar principles to water turbines; but it must be remembered that the speed for economical working must be very much higher. Steam turbines are inefficient if run non-condensing; in fact, even more so than steam-engines, especially if low-pressure steam is used. Steam turbines can be made to govern extremely well, and are therefore very suitable for electrical work. The steam consumption is often rather high, and if the steam consumption is lessened, clearances between the moving parts have to be reduced, often making the machine unreliable.

(*To be continued.*)

MR. RUSKIN AT HOME.

A CORRESPONDENT of the *Leeds Mercury* gives the following account of a visit to Mr. Ruskin at Coniston:—

Brantwood is a fitting place for seclusion and repose and for the rest, well earned, at the end of a life long and strenuous, far beyond the ordinary. Its windows overlook "the shining levels of the lake," itself the image of tranquillity and peace. Coniston Lake is just such a mere as might have witnessed the Passing of Arthur, and have been the scene of the mystic vision of the gleaming sword. At the upper end it is dominated by the hills that buttress Coniston Old Man, and by the great mass of the Old Man itself. Gradually, towards the south, the hill eminences approach the level of the lake, until, if you have the imagination of a Tennyson, you may conceive that somewhere beyond the invisible southern shore may be the "happy valley of Avilion"—

> Deep-meadow'd, happy, fair with orchard lawns
> And bowery hollows crown'd with summer sea.

From Yorkshire and from South Lancashire Coniston is not so accessible either by road or railway as are many of the lake-side towns. It is a pretty stiff journey by railway, for you have to round the promontory of Barrow Head, and skirt the sea-shore up to Duddon Point, before you can connect with the single line which runs from Foxhill into the Coniston Valley. So on the occasion of a recent visit to Mr. Ruskin's home it was much later in the day than we had imagined it would be before we reached our destination at the Waterhead Hotel, which stands in pleasant grounds at the northern end of the lake. We were due by special invitation at Brantwood at 5.30 P.M., and it was fully five o'clock before we were deposited at the comical little station at Coniston. After a wash and a brush down, followed by light refreshment, by the advice of the landlord, we hurried down to the boat-landing in the hotel grounds, with the view of taking a boat and proceeding up the lake to Mr. Ruskin's residence. There were plenty of boats moored to the jetty, but no boatman was to be seen, so we determined to dispense with assistance (there were two of us bent on the same pilgrimage), and to use the oars ourselves. We were not experts, but with a little trouble we soon found ourselves nearly opposite to Brantwood; but so far as we could see there was no landing, so we moored our skiff to an iron fencing that ran out into the lake and walked ashore. Crossing a rich meadow, we entered a lane which took us almost in a straight line to Brantwood. The evening was fine and the atmosphere clear, so we had beautiful views of the lake, of the hills and of Coniston itself. The latter is probably the most Swiss-like village to be found anywhere in England.

From Brantwood the houses seemed dotted about anyhow on the shelving rocks and protuberances, and without any order. They were in lovely detachment and disconnection, which added rather than took away from their picturesqueness, and we could have gazed for long on so fair a scene had time permitted.

We required no introduction to Brantwood. We had before had the pleasure of meeting Mr. and Mrs. Severn, and it was to their kindness we were indebted for an invitation to go over the house and its art treasures. In the temporary absence of Mrs. Severn, Miss Severn, a beautiful and charming young lady, discharged the duties of hostess; but before we had finished tea, Mrs. Severn returned and kindly took us in hand herself, and, without any ceremony, began to show us the treasures of the house. We should mention that Mr. Severn was absent on one of his sketching excursions in the south of England. As for pictures, we began with Turner's in the drawing-room and ended with them in Mr. Ruskin's bedroom. We should have liked to pencil down their names and descriptions, but we had no permission to do this. In addition to masterpieces by Turner, there was a Titian and several old Cromes and William Hunts. The principal Turners were in Mr. Ruskin's bedroom, a little cabinet-like place in the northern wing of the building. As the great master lies in his bed—which is an ordinary cottage make with no embellishment about it—he can see Turners at his side, at his feet and all around him. Perhaps there is no similar room in England in which so much of value in the shape of pictures is hung. As daylight dawns day by day the light-beams reveal to him those splendid art dreams, the glory and beauty of which he has made famous over all the Continent. In the same room, in a fitting "case," are Mr. Ruskin's principal literary treasures, illuminated missals and black-letter Bibles. A specimen of the latter was shown to us by Mrs. Severn. The lettering and illumination had all been done by hand, and the exact regularity of the letters and lines showed how painstaking the artist must have been. Corrected passages in the margin showed that mistakes in the translations had occurred. These, by the use of ornamental scrolls and designs, had been given a pictorial value and added to the beauty of the text. The book was in an admirable state of preservation, and was regarded as one of the most precious gems of the collection—a pretty extensive one, notwithstanding the price which must have been paid for every separate specimen included in it. In passing along the corridors one could not but notice, hung on the walls, large photographs of Burne-Jones's *Legend of the Briar Rose*. There are two studios at Brantwood, the old and the new, and into both of these we were shown. There were unfinished drawings and pictures by Mr. Severn and Mr. Ruskin. Those by the latter must remain as he has left them, for he will put no further touches to them now. It is some few years since the writer of "Modern Painters" took a brush in hand, or, indeed, has made any contribution either to art or literature. One by one we visited almost every room in this delightful house; even the bedrooms of the Masters Severn, in which were hung drawings and paintings of the various fishes taken from the lake below. At Brantwood the humane domesticities, it was plain to see, had not been neglected for high art. There is quite a homely and human trace everywhere, as there is bound to be in homes where juvenility, curbed or uncurbed, is in evidence.

During our inspection of his treasures, Mr. Ruskin had been for a brief walk in the charming grounds which surround his treasure-house. He had only just returned as we came downstairs from the studios, and was taking a needed rest in his study. It seemed almost sacrilege to disturb him, but, as we were kindly offered an introduction, it was not in human nature to refuse to avail ourselves of it. We felt nervous on the question of intruding ourselves on his privacy, for we knew that his health was in a somewhat enfeebled condition, and that for some time past he had refused audience to old and dear friends. To have left Brantwood, however, without seeing him would have been a great disappointment, and so, half willingly, half reluctantly, we allowed ourselves to be ushered into his room. Mr. Ruskin is taller than the ordinary, and as he was seated in a low and cosy armchair, he had naturally to assume a bent and reclining position. Mrs. Severn kindly introduced us, and Mr. Ruskin was cordial without being in any way effusive. We noticed "the kind and searching glance" of the deep grey eyes under their heavy, cave-like brows, as if of inquiry and request, as well as of observation. Having apologised for a needless intrusion, and a pardonable curiosity, in the best and politest language we could command, we soon found ourselves in a pleasant conversation, in which Mr. Ruskin took his share, falteringly, it must be admitted, on the merits of an artist whose earlier work Mr. Ruskin had spoken of in high terms of admiration. Alluding to the most recent specimen of his genius, we soon discovered that Mr. Ruskin's memory was able to carry him back over a term of many years, for he pointed out that his earlier work, of which he gave an instance, was much superior to the later example to which we had drawn attention. "This," he said, "is undoubtedly good," but, shaking his head, "I like the —— better."

After some further conversation, in which we could see was an effort on the part of the master to in any way share made our leave-takings, but not before we had been able realise how this man, of whom half the world has been rec talking, is mentally contemplating the expiry of the remna days still left to him. The noble face had on it an expre of a solemn and almost austere serenity. That the years told upon him it is needless to say. If the sense of pow gone, the intellectual lines are there and the kindly out Mr. Ruskin still possesses a wonderful wealth of hair. four years ago it retained much of its original colour, but it is for the most part iron grey. Of late his beard has allowed to grow in all its luxuriance of silvery whiteness. a remarkable and venerable face, and one long to be rer bered for its expression of power, of conquest and of One sees at a glance how readily in the days bygone su man could solve many problems that are mysteries t general mind, for there is intuitive insight, and great pow observation and perception of analogy shown clearly in piercing eyes, which, having once seen, one can never fo One who knows Mr. Ruskin well has assured us that his expression has changed greatly in recent years. His fea have now an almost spiritual whiteness which was not only a few years ago. Something of the same change noticed in the case of the father of Charlotte Brontë, an read in Tennyson how King Arthur went "ghost-like" doom.

We learnt some facts about Mr. Ruskin from Mrs. Se and the villagers which have not as yet, so far as we know, their way into print. Mr. Ruskin when ill is a difficult pa to deal with. He never had much faith in medicine. when laid up with a severe attack of internal inflammatio asked the doctor not what would be the best, but what w be the worst for him. The answer was, "Beef." Immedi the contradictory and self-willed patient hungered for a sli cold roast beef. There was none in the house, but it had got somehow, and after some trouble a slice was obtained an eating-house. It was brought to Mr. Ruskin wrapped paper. The master enjoyed his supper thoroughly, fortunately the rash act was not followed by any serious sequences.

At present Mr. Ruskin's life is from day to day an changing routine. From his room he has ample views of lake and scenery round about. He gets but little exercise, most of his time is spent at his study window gazing ont splendid panorama which only such a coign of vantage afford. Up till the last few years it was his custom to tak walks daily, morning and afternoon, and in the evening up the time by playing chess and whist with the family. relaxations are now "few and far between." At one tir was an industrious gardener, and was allotted a plot of which was won from the bare hill-side, to till himself. were shown through this Ruskinian parterre and the fl and herbs which he had planted were pointed out to us. were told that of flowers the red rose is his favourite, a the summer time its scent is never missing from his room

On the lake-side Mr. Ruskin is everywhere spoken "The Professor." He has always been a kindly and le patron of such local institutions as flourish in these pa flower shows, Sunday schools and the like. Some time a used to take great interest in the village social gathe We gathered that on one occasion a performer, having to keep his appointment with the villagers at one of recurring entertainments, and having sent no apology doing, was soundly trounced in a letter which was read the platform, and which was couched in the choicest Rusk He took the deepest interest in the welfare of the village s and was known personally to numbers of the children. of these received letters from his pen on matters interest their little minds, and no doubt these precious scripts been treasured by them.

It is well known, of course, that Mr. Ruskin's charities been unbounded. He gave away nearly the whole of a fortune, and there is but one instance on record of his taken any money to his lawyer for investment. That, Severn assured us, was a sum of some thousands of p which he received on the sale of a Meissonier. He had b this painting originally for 1,000*l.*, and sold it for 6,000*l.* one was more surprised than the family lawyer whe Ruskin made this departure in his personal econo "Hallelujah," he is reported to have ejaculated, "there is news at last."

Ruskinese has never been written by any other ma Ruskin. There are elements in his style which remind y a distant kind of way of Jeremy Taylor, but these part no relation to the whole. His frank egotism, which offen one, is in him, and in him only, delightful. Ruskin h imagination like a subtle crystal, in whose cool depths yo

e innumerable fair things. He has a memory that seizes ion and retains whatever it has read, heard or seen that is of iport and value. This enables him to gather intellectual ealth from every possible source. He is saturated with a eling of child-joy and child-wonder concerning everything at his eyes see and his ears hear. The most trivial sight or und may be magnified in his brain into a hundred differing ctures and harmonies, compact of beauty, wonder, awe, verence, love; the great faculties of your most intellectual spirits e everywhere discoverable in his writings. Coupled with these, ere is an intense love of simple, unspoilt nature, which makes him te railways and all innovators and innovation. The scaffold ork and artificial devices of a so-called civilisation are utterly tasteful to him. How many times he must have uttered athema on the little pleasure steamer that puffs up and down e lake beneath his windows. "Gondola" it is called, as if in ny of his own beloved Venice. It would be a mistake to edit Mr. Ruskin at all times with a sound judgment, for, deed, he is a most capricious spirit, and is not at all averse contradicting himself when occasion serves. He has been th eccentric and foolish many a time and oft. Nature has ade Ruskin what he is, and no one could attain to his style l manner of handling great themes of art and economics by y manner of artifice or any amount of study. It is that art ich is beyond the teaching of the schools, though the schools n and have informed it with wealth of illustration and beauty analogy. His sentences are all clear cut and jewel-like in ir brilliancy, just as the wondrous hilt of that sword which maiden of the hills wove for Arthur. Like that "gleaming racle" it too will pass away with the great man to whom it s given with such deftness and dexterity to use it for the orming and edifying of more than one generation of not unling or unsympathetic catechumens.

RCHÆOLOGY OF THE NAPLES DISTRICT.

HE British Consul in his last report says:—A very interesting mosaic was discovered a few hundred yards oute the wall of Pompeii last summer, and has been purchased the Italian Government for the Naples Museum. It repreits a conclave of seven philosophers amongst a group of ns. The principal figure is seated and reading from a pyrus roll. In the distance is the Areopagus of Athens. e mosaic is of the finest execution, and the marble cubes of ich it is composed are of bright and varied colours. A her portion of the town wall has also been cleared and nd to be of pre-Roman period, being constructed in the an style, and at the south-western point of the city a temple ich was in course of construction has also been discovered.

In extending their cemetery the municipality of Caserta e come upon the remains of a classical necropolis, the tombs which are quite likely to yield important objects. The bs of Capua and Suessola only a few miles off have yielded at treasures to excavators for many years past, so it is much be hoped that those of Caserta may do the same, in which e the municipality will have made a first-rate bargain. ere is no doubt that enormous wealth lies hidden beneath soil of South Italy, concealed in the tombs of the various es which have from time immemorial inhabited the region. e difficulty is where to look for them. The town of Nola is iated in the province of Caserta, and it was here that the est vases of the Italo-Greek period were painted in the fifth tury B.C. What wonder then if we find them in the adjait localities? In making a new railway in the neighbourod of Avellino, another classical necropolis has been accitally disclosed in the past year, and if excavations are conued there they may quite well be productive of satisfactory ults. The Government regulations as to excavations are ublesome and apt to deter speculators, as they add considery to the expense of their operations. Naturally these finds in the nature of "treasure trove," and though the Governnt allows the finder to keep them for himself, it prohibits export of any important specimens, thus greatly narrowing owner's market. Our regulations at home in the matter of asure trove were not found to conduce to the convenience he gold-miners in Wales.

Naples deserves more attention than it receives from lers in decorative old Italian and French furniture. London lers appear annually and purchase Greek and Roman iquities and first-class objects of the fourteenth and fifteenthtury periods, but the trade in antique furniture proper is not risk as it ought to be, and our dealers might do worse than their attention to it. In the time of the French occupaat the beginning of the century there must have been a k trade from France, to judge from the quantity of uis XVI. and Empire furniture which is constantly coming the market and being sold at very moderate prices. There also in the old palaces many specimens of English furni, and recently some satinwood writing-tables and bookcases turned up, which were sent to London and are reported to have realised fabulous prices. The market is undoubtedly a cheap one and much neglected by our dealers. Dutchmen purchase a good deal for the markets of The Hague and Amsterdam, and though the supply is not very large it is very constant, as owing to the poverty of the old families and the distribution of estates, many large properties are being broken up and their treasures dispersed. These fall into the hands of the local dealers at absurdly low prices and they are glad to part with them at a moderate profit. The antiquity shops are fullest in January and February in expectation of the influx of strangers in the months of March and April, at which time of year dealers from other countries also make their appearance. The summer months are the best for obtaining low prices, as the unsold goods of the past season must be disposed of to make room for other stock which is being varnished up and got ready for next season. A shrewd buyer acting for a syndicate of London dealers might do good business here, as freights are low and steamers to London frequent. The most remunerative plan is to buy the goods before they are done up and have them restored at home, as this minimises risk of damage in transit.

ST. PATRICK'S CATHEDRAL, DUBLIN.

A PAPER was read at the meeting of the Royal Society of Antiquaries of Ireland on Tuesday by Mr. Thomas Drew, R.H.A., entitled "A Further Note on the Surroundings of St. Patrick's de Insula, Dublin. Restoration of the North Close, 1899. The Possibility of Recovery of the Ancient Well of St. Patrick." He said the whole of the lands known as the Liberty of St. Sepulchre, near Dublin, were in 1190 possessed by the Archbishop of Dublin, and on them was the church of St. Patrick de Insula. The boundaries of the respective plots have been strictly maintained for seven centuries. They are still definable on the south, east and west sides of the cathedral in existing leaseholds, and were so on the north side until 1890. The Liberty of St. Patrick's, as created by Comyn, was walled and fortified, and dignitaries' houses were built. They were, however, not maintained. The exempt jurisdiction and property of the Dean and Chapter in the street traversing the ancient cemetery, and known to us as St. Patrick's Close, did not lapse until comparatively few years ago, and has for that interval vested in the Corporation of Dublin. It is now sought, under a Bill promoted last session in Parliament by Lords Ardilaun and Iveagh and Mr. James Talbot Power, to establish an open park or city garden on the north side of the cathedral. It is proposed by it, inter alia, to restore to the cathedral its verge assigned by its founder, Archbishop Comyn, in 1190, held by it for successive centuries, and essential as a foreground to the dignity of this ancient and stately church, which has been rescued, maintained and restored to the citizens of Dublin in the past thirty years by private munificence. The veritable ancient well of St. Patrick, where baptisms were traditionally said to have been performed by the saint himself, was, on the authority of Archbishop Ussher, who saw it in his time, enclosed in houses standing on the north Close. Antiquaries of reverent instinct and ecclesiologists are hereby warned of a coming chance of recovery of this famous and sacrosanct well, on the restoration of the ground sometime desecrated as a public street, and within the area of the houses marked on the map as in possession of Henry Hunt, or Rotton, in 1750, removed by the Wide Streets Commission in 1824. Bearing in mind that the inevitable accumulation process in city bounds has in seven centuries raised the surface of the ground 6 feet, and perhaps more, above the ancient ground level, a hope may be entertained by the pious that the well of St. Patrick is not lost for ever. It was seen by Ussher in Queen Elizabeth's day, and Malton, writing in 1790, took upon himself to say that it was still to be found under the hall of the house nearest depicted in his view of the west end of St. Patrick's. That it may be but covered up, and may be brought again to light is not impossible.

The address was illustrated by limelight views.

Sir John Fowler, C.E., has left personal estate which has been valued at 153,649*l.* net, and the whole of his estate at 179,329*l.* gross. He bequeathed in trust for sale thirty-four oil-paintings and thirty-eight water-colour drawings, including eleven by Edwin Landseer, eleven by J. M. W. Turner, "The Order of Release" by Millais, "The Smoker" and "The Halberdiers" by Meissonier, "Hampstead Heath in 1818" by J. Linnell, sen., works by David Cox and Holman Hunt, "The Pedlar" by Sir David Wilkie, "The Slave Market at Cairo" by Müller, four drawings by W. Hunt, and paintings by Phillips, Faed, Bonington, Nasmyth, Rosa Bonheur, Greuze and Frère.

NOTES AND COMMENTS.

M. PASCAL is not sparing of labour over the design for the memorial of CHARLES GARNIER which is to be erected at the Paris Opera House. Already he has prepared a great many drawings. They may be divided into two classes. In one the bust of the late architect by CARPEAUX would be the principal element, and the architectural features would have to be worked up to a scale that would make them appear to be in harmony with the building. In the second class sculptured figures are introduced, and a monument essentially different to the former would be necessary. M. PASCAL is acting with great impartiality, and appears to be willing to repress his own work and to give pre-eminence to sculpture if a more suitable memorial is the result. He has sought inspiration by repeated trials, and it will be hard if, after so much toil, he is not satisfied with the result. Finance will have much to do with the determination of the character of the work. The committee has succeeded in obtaining nearly 2,000*l.* The Société Centrale des Architectes has contributed 1,200*l.* of that sum, and nearly 600*l.* was obtained from the performance of "La Bourgade" at the Opera House. The subscriptions from the non-professional admirers of CHARLES GARNIER have come in rather slowly, but the sum obtained ought to be enough to provide a satisfactory memorial.

THE parasol was originally a sign of dignity, a protection interposed between the sun and a monarch or chief. The use made of it is represented in the Assyrian sculptures. The usage passed to Greece, where the parasol appears to have been employed as a symbol of a divinity. The "Scirophorion" might be called a festival of parasols. It was not against the sun's rays, but to shield himself from an English downpour that JONAH HANWAY introduced the parasol in this country in the form of a substantial umbrella. But all ancient and modern parasols will be surpassed if the project of Madame GIVERNE should be carried out. That lady proposes that one should be constructed for the Paris Exhibition of 1900 which would shelter an area of 15,386 square mètres. The central upright would be a metallic column or tower, 330 feet high. The cover would have a diameter of 500 feet, and would be formed of coloured glass. Beneath the cover there would be four stages, like those of the Eiffel Tower, having small theatres, concert-rooms, cafés, &c. A fourth stage outside the covering would revolve, and enable visitors to enjoy a view of the exterior parts of the whole exhibition. The stages would be reached by staircases and lifts. During rain the shelter afforded by the parasol would be appreciated. The project suggests the consideration which is given to the discovery of an extra attraction for the approaching international exhibition. The Eiffel Tower was the principal cause of the success of the exhibition of 1889, and a rival to it is desired. The proposed parasol would be only a third of the height of the Eiffel Tower, but it would have the advantage of affording a vast shelter. Whether it would be as attractive is a problem for the committee of the exhibition. That it could be constructed is certain.

THE question of water-supply for London is so complicated that few men who cannot be classed with experts care to consider it. The numerous inquiries have darkened the subject rather than cleared it. Dr. ARTHUR SHADWELL, in a volume called "London Water Supply" (LONGMANS, GREEN & Co.), published this week, has undertaken "to give the general reader a broad and comprehensive grasp of the question, which can only be understood in the light of its history, so as to enable him to judge the true bearing of the present situation and the various points at issue." To narrate the history of the attempts to grapple with the difficulty, which becomes more onerous every year, would need several volumes. A sight of the Blue Books on the subject is enough to frighten a writer. But Dr SHADWELL has introduced sufficient to allow an intelligent reader to understand the extent of the danger which sooner or later must be coped with. London is, however, not the only place which is threatened with risks. We have several times pointed out that the various catchment basins should be defin and that not one of them should be appropria without the authority of the Government departm charged with the responsibility required for that d Liverpool, Manchester, Birmingham, have secured supp which are far in excess of their present needs, and, as fa can be calculated, beyond their future needs. The sour would have served for a metropolitan supply. Other to have acted in a similar spirit. Successive Governme appear to have been indifferent to the necessities of country, if considered as a whole. Dr. SHADWELL ha similar theory. He says, "The true solution is to m the sources of water supply, their distribution and protecti a department of Government." He proposes that medical side of the Local Government Board and Board of Agriculture should for that purpose be combi into a ministry of public health, one of whose functi would be care of the sources of water supply. This, says, "would solve the problem for London and all Engl at the same time," and in that conclusion we agree.

THE new railway which is in course of formation Vesuvius is under the direction of Mr. FELL, a son of nonagenarian who constructed the original railway c Mont Cenis, which was the first of the Italian mount railways, and has since the opening of the tunnel b transferred to the Righi. It is risky to undertake impro ments in the neighbourhood of Naples, for Mr. FELL a his colleagues have been threatened with personal viole by the guides, who think that their trade will be seriou interfered with by the line. The vast addition to number of visitors will, instead of injuring the guic probably increase their profits and make their work far arduous. The question, however, arises whether the can be considered as a permanent way. Vesuvius of years has been exceptionally active, as if resenting much familiarity with its terrors. The carriage-way co not be used owing to the débris which blocked it, and observatory and other new buildings were threatened w destruction. A railway under such conditions is exposed many dangers.

THE late Mr. WILLIAM ROBERTS, of Manchester, not gain a renown by his architectural works, but he surpassed all the modern English architects by munificence of his bequests. He has left for pu purposes no less than 23,850*l.* Only 4,000*l.* is to utilised for building. That sum is to be applied for erection of a Unitarian chapel at Brook's Bar, Manches The large sum of 4,500*l.* is to be expended on a bro statue of Mr. GLADSTONE for Manchester. The o bequests include 2,000*l.* to the Hulme Grammar Sch 1,200*l.* for a lifeboat on the Welsh coast, to be called "William Roberts," 1,050*l.* to the Manchester Infirm 1,000*l.* each to the Old Trafford Deaf and Dumb Schd the Welsh Theological College, Bala, the Unitarian H Missionary College, Manchester, and the Northern Cour Hospital for Incurables. There are other benefacti varying in amounts from 100*l.* to 500*l.* Mr. ROBERTS a bachelor, and had no near relatives.

IN preparation for the international exhibition t Eiffel Tower is to be repainted. The operations h commenced. The time required for giving one coa paint to the structure is about three months, and the w would not be accomplished without the labour of f painters. For each coat over fifty tons of paint are u The second coat will not be laid until the beginning of year.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: BISHOP'S THRONE. CHAPEL NINE ALTARS, LOOKING NORTH.

CREWE HALL.—THE GALLERY.

RED BRANCH HOUSE, LAURISTON ROAD, WIMBLEDON.—FR VIEW. GARDEN VIEW.

SOME GOTHIC CATHEDRALS.

LAST evening a long and interesting lecture, illustrated by upwards of 100 lantern slides, was given by Mr. T. Francis Bumpus (author of "Ecclesiologia Germanica," &c.), on Gothic Cathedrals," before the Guild for Young Men and Women attached to New College Chapel, N.W.

In some prefatory remarks the lecturer observed that although the majority of our great ecclesiastical edifices lay at a considerable distance from the Metropolis, it was not absolutely necessary to quit it in order to study the progress of pointed architecture in England, for they had, so to speak, Gothic at their doors: Norman in the chapel in the White Tower and St. Bartholomew's, Smithfield; Transition in the Round of the Temple Church; Early English in the same structure's choir, St. Saviour's, Southwark, and the chapel of Lambeth Palace; later Early English in Westminster Abbey; Decorated in St. Etheldreda's, Ely Place, and the nave of Austin Friars; Perpendicular in St. Helen's, Bishopsgate, St. Andrew's Undershaft, and St. Margaret's, Westminster; debased Gothic in St. Catherine Cree and the chapels of Lincoln's Inn and the Charterhouse; in the wonderful group of churches by Wren, and in numerous beautiful and costly modern ones in the suburbs, forming a perfect history of English ecclesiastical art from its earliest to its latest epochs. No one fond of church architecture then need repine that his or her lot was cast in London.

That evening, however, it was Mr. Bumpus's pleasurable duty to take them further afield, not only to the beautiful cathedrals and churches of their own country, but to those of France and Germany. It behoved him, therefore, to enter upon his subject with the least possible circumlocution, seeing the amount of ground waiting to be traversed. After a few words respecting the remains of pre-Norman Conquest architecture, a view of the simple, solemn Norman chapel of St. John in the White Tower was presented. Although severely plain, as befitting the chapel of a fortress, this was mentioned as one of the most complete and well-designed buildings of its kind. The exterior of Southwell Cathedral was next given as illustrative of a bold Anglo-Romanesque exterior. This was followed by an interior view of the same cathedral, which, the lecturer remarked, was verily one of wonders, with its massive round-arched nave, whose ensemble had been much improved by the removal of its flat roof; its graceful Decorated screen at the entrance of the First Pointed choir; and its chapter-house, where, if they should visit this quaint, out-of-the-way, but ideal cathedral city, they must give special attention to the delicacy and richness of the foliaged ornament.

Southwell was followed by a view of the nave of Durham. Whether we regarded it from its grand situation on an eminence overlooking the Wear, or from what Dr. Johnson so appropriately called "the rocky solidity and indeterminate duration" of its heavy circular arches and cyclopean columns, some zigzagged and others channelled, it is impossible not to feel that at Durham we stand in a mighty presence. The lecturer had a tolerably large acquaintance with the Romanesque work of Northern Europe, but knew of no one as striking the beholder in the same manner as the peculiarly solemn majesty of this mighty fabric that "looks down upon the Wear." If they carried the eye beyond the choir-screen and the pinnacles of the Neville shrine, forming one of the most glorious reredoses in England, they would perceive a lovely addition to the cathedral in the shape of the Chapel of the Nine Altars, which seemed to realise to the full the exquisite grace which the Early English style had reached towards the middle of the thirteenth century.

Durham Cathedral was the first in England to be opened from end to end by the removal of its screen.

Unfortunately these alterations were effected before such matters were properly understood, viz. in 1847, and the magnificent oaken screen on which stood the organ—one of the most superb monuments of the taste and piety of Bishop Cosin—was sacrificed and replaced by nothing. At the same time, the fine font canopy of the same epoch was cast aside as lumber, probably because it was not "Gothic," but a better taste having of late years arisen, it has happily been reinstated. About three-and-twenty years ago the present choir screen was erected. But it is needlessly heavy, and at a fraction of the cost one of Late Perpendicular character in oak might have been erected. The result would have been far more satisfactory, and it would have harmonised with the woodwork of Cosin's choral fittings. Until the time just mentioned Durham Cathedral was almost entirely destitute of stained-glass, but this defect had been remedied, and the great eastern triplet, the Joseph window in the north-eastern transept, the Perpendicular one in the great transept and that above the west door—a fine specimen of Late Decorated, representing the Radix Jesse—illustrate some of the best work of Clayton & Bell. The choir of Norwich Cathedral, although it did not give them an adequate idea of the cyclopean Anglo-Norman work in that church, was selected as being the one which had retained its original plan—*i.e.* with its procession path and radiating chapels—more completely than that of any other in England. The exceedingly clever manner in which the Perpendicular pentagonal clerestory had been superimposed upon the Norman triforium was specially pointed out.

The nave of St. David's Cathedral and the choir of Oxford Cathedral were then thrown on the sheet as illustrative of Anglo-Norman architecture in its later and richer phase. A fine view of the choir of Peterborough was next given, the lecturer remarking that when the Perpendicular "New Building" was substituted for the old procession path, the original form of the apse was left comparatively undisturbed.

After a brief sketch of the various alterations effected in the ritual arrangements at Peterborough, the lecturer passed on to the nave of Gloucester Cathedral, whose huge cylindrical columns, of a type found also at Tewkesbury and in a less grandiose form at Malvern, were but rarely met with on the Continent in Romanesque buildings of this style, though in Belgium they were used during the Middle Pointed periods not unfrequently, as at Mechlin, Liège, Brussels and elsewhere.

In showing the choir of Chichester the lecturer observed that although many English cathedrals are loftier, larger and more stately, its characteristic features were rather those of grace and richness, instancing the two bays of Transitional Norman work in the retro-choir, which, with its pillars composed of four slender shafts detached at some distance from a cylinder, and all with Corinthianising capitals, exhibited the greatest delicacy and refinement. The exterior of Chichester was also commented upon as a fine specimen of pyramidal grace. From 1845 to 1859 this cathedral had at the head of its chapter a man of great ecclesiological taste—Dean Chandler.

To Dean Chandler the Pointed revival owes a peculiar debt of gratitude. When circumstances led the Ecclesiological Society to quit Cambridge and seek London under a new name, the good Dean—as rector of All Souls, Langham Place—held out the right hand of fellowship to the new arrivals. He was the founder of St. Andrew's, Wells Street, of which church the Rev. Benjamin Webb, co-founder of the Cambridge Camden or Ecclesiological Society, subsequently became incumbent, and he made possible the Society's model church, All Saints, Margaret Street, also carved out of his parish. The architect Dean Chandler called in for Chichester was Richard Carpenter, one of the earliest, fastest and most distinguished friends of the Gothic revival, but of whose works in London we possessed but one specimen—the calm, scholarly church of St. Mary Magdalene, Munster Square. Mr. Bumpus observed that he did not wish to burden their minds with examples of Anglo-Romanesque or Norman, whichever they liked to call it, but he could not quit this epoch of our architecture without recommending them to visit and study such noble specimens as the naves of Ely, Rochester, Hereford, Romsey, Christchurch, Waltham and Dunstable; the transepts of Winchester; the crypts of Worcester, Canterbury, Lastingham and Repton; the churches of Stewkley; St. Peter's, Northampton; Caistor; St. Bartholomew's, Smithfield; Porchester; Barfreston, and Castle Rising.

When they went to France they would be perplexed by the various types of Romanesque architecture presented by that country, as that of Provence, that of Auvergne, that of Anjou, and so on. He would, however, recommend for their special study the churches of a most delightful district, viz. that around Caen, as being particularly rich in specimens of the Norman style, and one of which he would now proceed to show them—the church of St. Etienne, or Abbaye-aux-Hommes, at Caen. He was also glad to be able to present them with a view of a small but typical Rhenish Romanesque church—that of Boppart. He would remind them that Germany had several schools of Romanesque. There was that of Westphalia, very rugged and inartistic, but valuable from the fact that so many of its churches had remained so little impaired by later alterations and accretions; that of Saxony, resembling in many respects that of the South of Europe; and, richest and grandest of all, that of the provinces neighbouring to the Rhine. Nowhere in Europe did the round-arched style have so long a life as here. It would take too long to enumerate the various causes which led the people of this part of Germany to cling to it with such tenacity. They were passionately attached to it, and were it not that the dates of such great structures as Münster, Neuss, the Apostles and St. Cunibert's at Cologne, Bonn, Andernach, Sinzig, Boppart, Limburg, Gelnhausen, Bamberg, Mayence, Worms and Speyer had been pretty exactly ascertained, we should, looking at their external ensembles, assign them to 1150 or thereabouts, whereas many of them were fifty and some a hundred years younger than that date; for while Salisbury, Worcester, Lincoln, Wells and Westminster were rising in England, and Chartres, Amiens, Rheims, Troyes and a host of great Pointed churches in France, here were the Germans still deep in the round-arched style, though intermixing it, as in the example now before them, with the Pointed.

All of a sudden, towards the middle of the thirteenth

century, the Germans abandoned this style, which they were about to bring to such a pitch of excellence, to embrace the complete Gothic one, which they never properly understood, and in which they made sad mistakes. Yet many of these complete Gothic churches, although unworthy of imitation, abound in fine detail, and the study of these buildings (which have little or nothing in common with those of France and England) was a very absorbing one.

In the view of Boppart Church the lecturer drew the special attention of his hearers to the unusual height of the nave aisles, which contributed not a little to the shortness of its appearance. This was due to the presence of the Männerchor, or gallery for men (literally men's choir), a feature which, corresponding to our triforium, was made much of by the Rhenish architects in churches whose floor-space was limited. Two views of Mayence Cathedral and one of Worms were next shown as remarkably noble instances of the national style, and upon the study of which he could not insist too strongly. Too many people who went to Germany came away with their ideas of that country's architecture derived from Cologne and Strasburg Cathedrals. But to study German church architecture they must leave the beaten tracks. Limburg-on-the Lahn, Bamberg, Naumburg (with its two wonderful rood-screens) and Gelnhausen must be visited as specimens of the national style; and Marburg, Oppenheim, Trèves and Altenburg for the complete Gothic. Penetrating into Westphalia, they would find along the courses of the Lippe and the Weser those extraordinary architectural puzzles, the cathedrals of Münster and Paderborn and the Minster at Herford. Here they would find, in cities like Münster and Soëst, town churches with aisles as high as the nave, and, in some cases, deep lantern-like choirs, all very awe-inspiring and imposing. In Prussia and Pomerania, the brick architecture of the churches in Brandenburg and Lübeck, with their magnificent old furniture; and in Saxony, Hildesheim, Goslar, Hecklingen and Quedlinburg, with their basilican Romanesque churches, all would afford unending field for study and research. Views of St. Michael's Church, Hildesheim, the Dom at Brunswick and the group of steeples in the centre of Tournai Cathedral were exhibited in illustration of the foregoing remarks, the last named, although in Belgium, being distinctly German.

The Pointed arch, it was observed, had made its appearance in the southern parts of France nearly a century before its adoption in the northern provinces. Here we first meet with it in the cathedral of Noyon and in the abbey of St. Denis, whose apse and western façade were the only remains of the building commenced in 1144 by Suger, the intervening and upper portions after a fire having been rebuilt in the complete Gothic style of the age of St. Louis. St. Denis—the Westminster Abbey of France—had suffered terribly at the Revolution. Some well-meant, but sadly mistaken, restorations were undertaken to repair the damage during the reigns of Napoleon I. and the restored Bourbons; but it would be unfair to compare them with the scholarly works carried out during the Second Empire under Lassus and Viollet-le-Duc. Mr. Bumpus specially commended to the attention of his hearers a line of beautiful and very Early Pointed churches along the Oise, between Creil and Paris.

Another very early instance of the employment of the Pointed arch in France was the Abbey of Pontigny, of which simple Cistercian building Mr. Bumpus presented his audience with an external and an internal view. The connection of Pontigny with Canterbury, affording as it had done an asylum to three of our archbishops, led the way to the exhibition of a view of the glorious choir of that cathedral. This was one of the many beautiful specimens of the Transition from the round-arched to the Pointed style, erected during the reign of Henry II., a long and peaceful one, which was conducive to much friendly intercourse between that Sovereign's dominions in France and our own country. Of another and comparatively little-known example of Transition, the choir of Ripon Cathedral was given in illustration, the lecturer especially directing attention to the first three bays on the north side.

Much fine Transitional work was to be found in such ruined abbeys of the North as Furness, Fountains, Kirkstall, Buildwas, Kelso and Jedburgh. Glastonbury Abbey furnished another splendid example, as did St. Cross at Winchester, Brinkburn Priory in Northumberland, and Billingham Church, Durham, where the piers, formed of four slender shafts clustered round a core with bell-shaped capitals and square abaci, resembled those he had shown them at Ripon. And lastly he would mention the grand western transept of Peterborough Cathedral, which formed so appropriate a link between that "pride of Northern Romanesque," the nave, and that "majestick porch of columel work," the triple-arched Early English façade, concerning whose welfare so acrimonious a controversy had lately raged.

Such appendages as this gigantic western transept or narthex at Peterborough were rare in England, but of frequent occurrence in Germany, St. Cunibert's and the Apostles' Church at Cologne presenting it on an unusually grand scale

To quit London in search of Transitional work was not requisite, for a remarkably fine example existed of it in the round part of the Temple Church.

The latter part of Henry II.'s reign saw the Early English style established in all its purity, as evidenced in the nave of Wells Cathedral—a type of Early English peculiar to south-west England—Llandaff Cathedral, the abbey at Glastonbury, St. Candida at Whitchurch, in Dorset; Slymbridge Church, Gloucestershire, and Cheriton Church, in the Gower district of Wales, affording similar examples. With regard to the inverted arches, introduced for safety when the ponderous tower was raised in the fourteenth century, the lecturer took the opportunity of remarking that some people thought them a great eyesore. He, however, happened to think the reverse, and that a really noble object had been created out of necessity. Had such precautions been adopted at Chichester we might now have been in possession of the old thirteenth century spire. Similar arches, but on a lighter scale, had been introduced at Canterbury and Salisbury, and with very picturesque results.

As regards its plan, Wells might be cited as a type cathedral of the old foundation; its entourages were singularly fine, while in beauty of situation it was equalled perhaps only by Salisbury, three views of which, as our Early English cathedral of the Lancet period *par excellence*, were shown in succession to Wells. The chapterhouse attached to this cathedral was dwelt upon at some length. In style it was more developed than that of the main fabric, but it desiderated that boldness which is so fine a feature of the somewhat earlier one of Westminster. Mr. Clutton, who had restored this chapter-house at Salisbury, and Mr. Burges, who had monographed the curious sculptured scenes from Bible history within the spandrels of the wall arcades, had each made a special study of this graceful piece of later Early English work.

They had been shown England's typical First Pointed cathedral, now that of France would be presented to them in several views of the majestic one of Chartres. After some remarks in comparison of the situations of English and French cathedrals in general, and of Salisbury and Chartres in particular, Mr. Bumpus proceeded to give a brief sketch of the latter, the most perfect and least altered great French work of the period 1194-1260, showing no evidence anywhere of a change from the first scheme during the long progress of the work, the whole of which was carried out exactly on the lines dictated at first, leaving nothing for a subsequent age to accomplish. Much of the work had, to eyes accustomed to our delicate First Pointed work, a somewhat rugged look, but this might be attributable to haste, the men of Chartres being unwilling to see their cathedral in ruins a day longer than was necessary. The views shown of this Parthenon of France comprised the west front, with its marvellous triple doorways of the twelfth century and its strangely dissimilar steeples; the interior, where the complex character of the nave piers was pointed out; and the northern transeptal porch with its wealth of imagery. Its glorious store of coeval painted glass was likewise descanted upon.

Returning to our own shores, a remarkably fine piece of Early English detail was shown in the elevation of the western side of the south transept at York, attention being specially directed to the manner in which the Early Pointed work had been disturbed when the great Middle Pointed nave was erected. This was followed by a view of the choir of Worcester, formerly one of the coldest and least effective of English cathedral interiors, but which, within the last quarter of a century, had been made to assume an appearance of great beauty. It abounded in the most exquisite detail; its elevation upon successive flights of steps was highly imposing, and the lecturer could not forbear remarking that he had rarely been so struck with any cathedral interior on first entering as he was with that of Worcester. There were, no doubt, points in the restoration of this church that were open to grave criticism, such as the removal of the beautiful old post Gothic choir stalls and pulpit canopy during the redistribution of the choral fittings between 1867 and 1874, but the general effect now was really magnificent and would be materially enhanced when the clerestory of the choir had received its complement of stained-glass. The beauty of the eastern transept at Worcester having been especially descanted upon, Mr. Bumpus proceeded to show some more Early English work as exemplified in the presbytery of Ely Cathedral, which was, he opined, the ne plus ultra of English refinement; in Lincoln Cathedral, whose choir and eastern pair of transepts, the work of St. Hugh, were little later than the nave of Wells, though of a totally different type; in the nave of the same church, the wide spacing of whose pier arches deprived it of the poetry so characteristic of Salisbury and Wells; and in the choir of Southwell. Attention having been directed to the numerous beautiful specimens of Early English work enshrined in the west front of Dunstable Priory

the Nine Altars of Durham, the choir of Rochester Cathedral, and the churches of St. Mary-le-Wigford, Lincoln; Skelton Church, York; Stone, near Dartford; Ashbourne, Derby; Ketton, Rutland; and Chetwode, Bucks, the lecturer remarked that in Germany the Lancet period, or First Pointed style could never be said to have had a separate existence on a large scale, the cathedral of Limburg-on-the-Lahn approaching nearest to our ideal; but it appeared now and again with considerable purity in portions of buildings and details, in illustration of which the north aisle of Magdeburg Cathedral was shown.

Mr. Bumpus then took his hearers to France and showed them some of the great churches that had been rising there contemporaneously with those of our own country, whose main features he had striven to render them familiar with. Notre-Dame at Paris, Laon, Rouen, Amiens, Beauvais, Le Mans, Bourges and Rheims were then severally thrown on the sheet and comments made upon their salient features.

Metz Cathedral was also exhibited, but the lecturer advised his audience to visit this remarkable church either before those he had just passed in review, or after the ecclesiastical edifices of Germany and the Rhine. Those who loved ancient painted-glass would be gratified at Metz, where the principal face of each transept was a perfect wall of vitreous decoration. And if they began with the top row of figures in the north transept window and continued down it, and then proceeded in the same way with the opposite one, they would be able to form a tolerably correct idea of the progress and decline of the art of glass-painting from the fourteenth to the sixteenth centuries.

(To be continued.)

SOCIETY OF ARCHITECTS.

THE fourth ordinary meeting of the Society of Architects was held on February 23. Mr. G. Gard Pye (member of Council) having taken the chair, the minutes of the previous meeting were read, confirmed and signed as correct.

The following nominations were then announced for membership:—F. G. M. Chancellor, Walter Cook, R. F. Fulford, G. P. Smedley.

The following members were elected:—E. C. Clare, Chelmsford; W. A. Scott, Drogheda.

The following paper by Mr. F. Scruby was read:—

Lincrusta-Walton.

It gives me much pleasure this evening to have the opportunity of speaking a few words to you upon so interesting a subject as mural decoration, as exemplified by the process known as Lincrusta-Walton, as I am myself a great admirer of the ancient mural decorations of this and other countries, having spent many years abroad at very great expense in connection therewith.

Now, gentlemen, I have to take you back a very considerable period of time, in fact to draw your attention to the days of the early Egyptians, and I may say there is scarcely one of the branches of decorative art which has not been at different times applied to the beautifying of wall surfaces. The earliest known method of decorating a wall was with sculptured marble or stone of some kind. The best proofs of this sort of thing are to be seen on the spot. Perhaps some of you have been to Egypt and seen for yourselves. We have to go back a period of 2,000 years, as this kind of decoration is so ancient. Tombs were always decorated; these sculptures were usually painted over or picked out in a great variety of colours with much care. Very seldom was the ground left the natural colour of the stone worked. Generally some scenes in war were depicted and scenes of every-day life, and the use of this marble lining was to cover stone walls. One of the oldest buildings in the world, the "Temple of the Sphinx" among the Gizeh Pyramids, is built of great blocks of granite and lined with slabs of most beautiful semi-transparent African alabaster.

Coming down to a later period, the Romans also veneered their walls with richly coloured marbles. The Egyptians, Assyrians and Sasanians of Persia, as well as the Moslems, used glazed and stamped bricks, which they brought to great perfection for ornamental uses. Now there is another peculiar kind of decoration which I am sorry to inform you is absolutely lost—there are many things which have been lost to us to-day; but dealing particularly with art there is a kind of material which we cannot discover. The Romans knew it and the Greeks knew it; it was a hard stucco, the colour of ivory, and would polish like marble, standing the most severe tests of the weather. The early Greek temples were covered with this material. We thus see that this which we know of to-day and admire very much is not at all new, it is, in fact, very ancient indeed—I mean the idea of decorating one's house inside and out. We now come to an age when stamped leather was in use, viz. the sixteenth and seventeenth centuries. Skins of goats and calves were employed, but that was a very expensive manner of decoration; these skins were pressed out with metal dies, one in relief and the other sunk, and were also painted in various brilliant colours. Italy and Spain were the important centres of this manufacture. There was a century before this period, viz. the fifteenth, a wall-hanging made of canvas to imitate tapestry. Wall-papers did not come into common use until the eighteenth century, and then they were printed on small square pieces of hand-made paper, difficult to hang, disfigured by various joints, somewhat costly and unsightly; for this reason a long time elapsed before wall-paper superseded such dignified decoration as carved wood panelling, painting, tapestry, painted cloth and stamped leather. It was very expensive, and was chosen only by those who could afford it. Now, gentlemen, I am going to ask your attention to a small historical matter. About the year 1857 a gentleman named Mr. Frederick Walton made the discovery that linseed oil exposed to the atmosphere oxidised. Now that was a very simple thing to discover, you will say; but it was a very important discovery. Often little things lead to great results; it was to be so in this case. By simply observing in this instance, a patch of linseed oil became quite firm. While he experimented, and being keen and alert and observing, he made the discovery that he was able to produce something; but of course he did not have all his own way at the outset, but that is only, of course, the history of all inventors. By the use of what Ruskin calls the "most durable oil" he thereby gave us the linoleum of to-day, which is in itself a great achievement, and we are indebted to him for it. He thereupon founded the Staines Linoleum Company, which has paid 20 per cent. for over twenty years.

One day, in the year 1878, whilst watching the machinery he noticed an impression had been made on the linoleum. You see, again, here his powers of observation: he noticed this indentation in the linoleum was caused by a screw which had got loose in some part of the machinery. A trifle like that, no doubt, some of the workmen had seen, but they had let it go by; but this little incident had struck the mind of a keen observing man. Thus he gives us Lincrusta-Walton. Now, gentlemen, this was the origin of Lincrusta-Walton. A very simple thing you say, but, like our friend Columbus and the egg, it is a very simple thing when it is done. Now this man, using his alertness and powers of observation in the first instance, not only makes money out of it himself, but enables other people to do likewise, and through his keenness, originality of thought and determination, we are indebted for the possession of a process which enables us to beautify our homes and decorate the public buildings of the country with all the ancient designs of the most beautiful kind ever worked in leather, thus immortalising art by handing these examples down to posterity. One very great advantage in using this material, Lincrusta-Walton, is that most of the warlike insects leave it alone. Now, one of the worst we know anything about is the "white ant," he cannot fill his belly with it, so he leaves it alone; beetles and worms find nothing in it, so Lincrusta-Walton is not only beautiful, but it is endurable. It is also a positive proof against dampness, as many can testify, which is a very important thing. As a further indication to you, I may tell you it is used in a large number of public buildings, including the Queen's Hall, Langham Hall, the Tivoli Palace of Varieties of Leeds, the Cambridge Palace of Varieties, London, the Coburg Hotel, Grosvenor Square, London, the Tivoli Palace of Varieties, Manchester, the Masley Hotel, Manchester, the Belfast and Northern Counties Railway Hotel, Belfast, and all the chief flats and mansions in Kensington; in a very large number of hotels, and by most of the railway companies in the United Kingdom, as well as some of the chief liners to Australia and the United States, and the new baths at Harrogate, where there is plenty of moisture. It is eminently suited for hospitals and public institutions. Now that is in itself a test of the usefulness of the material. Now I will give you a few points of the difficulties of the manufacture of Lincrusta-Walton. In the first instance, the material used gave considerable trouble, and though it was the same as linoleum, yet it was quite a failure. An ordinary man would have stopped there, he would in fact have thrown it up in disgust. Although everything seemed to point to failure, after working nearly two years he produced a composition of wood fibre, oxidised oil and gum, and the result is that to-day that material in combination is still used in the manufacture of Lincrusta-Walton. This was not his only difficulty; after having proved to his own satisfaction that this material would do, the next difficulty was the machinery. There was no machinery suitable in existence; he had therefore another task. He first tried the use of impressed composition for his rollers; this and other materials were experimented with, but owing to the excessive high pressure, steel rollers had to be used, which, after being used so long, were useless, and new rollers had to take their places. In addition to this, 50,000*l.* was spent before the company was ready for business, and but for the security and monopoly that a patent gives, this capital would not have been subscribed at

all, nor the enterprise carried out. Now this is a great and praiseworthy achievement. It has been said that the man who causes two blades of grass to grow where only one blade had grown before, may lay claim to greatness. This Mr. Frederick Walton accomplished.

Such instances as these should inspire us to fresh exertion, and encourage us to follow up an original idea, however simple it may appear to be. A man who introduces a thing that combines the useful with the beautiful is always wanted, and will always command attention; and when we consider that Lincrusta-Walton does this in reproducing all the most beautiful Italian, Spanish and other choice designs at a figure that places it within the reach of thousands, it is a matter for congratulation.

The many fine examples of wood-carving of the fifteenth and sixteenth centuries that still exist give us some idea of the wealth of the country in this branch of art. The rich oak-work of England was no exception to the universal application of coloured decoration, and nearly every screen, roof and choir-stall was covered with minute painting in gold and colours. The modern idea that oak should be unpainted was unknown to our Mediæval forefathers, and they, as a rule, preferred a simple coating of paint of different colours to the natural tint of the oak. In most cases, however, the woodwork was not left with its uniform ground of paint, but delicate and graceful patterns were added on to the main lines of the work. Many of the Norfolk screens still have much of their painted ornament in good preservation, and richness of carving is to be seen on the church roofs of both Norfolk and Suffolk. This wood-carving is usually of very high artistic merit, combining delicacy of detail with strength of decorative effect in a way that has never been surpassed by the Mediæval artists of any country of the Continent. Norfolk, Suffolk, Devonshire and other counties are rich in elaborate chancel-screens carved with delicate foliage. The tracery which fills in the upper part of these screens is of wonderful beauty and executed with most minute finish.

In the sixteenth and seventeenth centuries there was very little good wood-carving produced. The oak-panelling and other fittings of the Elizabethan and Jacobean periods were largely enriched with surface relief, coarse in execution, but often decorative in effect. Towards the end of the seventeenth century a very realistic style of wood-carving came into use, in which there was great technical skill, but little real artistic feeling. Between the years 1648 and 1721 Grinling Gibbons and his pupils produced the most elaborate works of this class, such as wreaths, scrolls and friezes carved in high relief, or in the round, with fruit and flowers modelled and carved with wonderful skill. These clever groups of foliage and fruit were carved in pear or lime wood, and fastened on to the surface of wall panels, mantelpieces and other wood fittings. The stalls and screens in St. Paul's Cathedral are some of Gibbons's best work, and a great deal of his realistic carving still exists at Oxford, in Trinity College, at Trinity College, Cambridge, at Chatsworth, Pepworth, and in many of the great country houses of that time. Since then wood-carving has not taken an important position among the lesser arts of the country.

Now, gentlemen, in looking back to these times it is a matter of great gratification at the present that all these beautiful designs in wood, which have been produced by great labour and skill, are capable of being reproduced in Lincrusta-Walton, no matter how intricate or apparently difficult. It must here be observed that Lincrusta-Walton is solid in relief, and the designs cannot be obliterated or the artistic effect marred by workmen.

In fixing Lincrusta-Walton to a new wall time must be given sufficiently long to permit the exudation of lime to pass off by exposure to the atmosphere.

The most artistic samples of Lincrusta-Walton in this country, either for walls or ceilings, are to be found only at the offices of Mr. F. Fordham Scruby, 11 Berners Street, Oxford Street, W., who has there stocked reproductions of the celebrated Cordova, Italian and Spanish leathers, as well as splendid examples of wood panellings in Lincrusta-Walton. Mr. Scruby's experience in this material covers a period of over nineteen years, and he has always been at the service of those who desire to consult him.

In conclusion, I am of the opinion that the Society of Architects are the natural custodians of the ductile and the utile, and it is to them that the country is indebted for the growing magnificence of our public and other buildings and the internal comforts they contain.

I thank you, gentlemen, for your kind attention.

Mr. J. R. Manning proposed a vote of thanks to Mr. Scruby for his interesting paper. But he must differ about some of the uses to which it was put—for instance, the imitation of carved woodwork. He could not agree with reproducing in their houses the beautiful oak screens they found in Devonshire and other counties, in Lincrusta. That Lincrusta-Walton had a use and a proper use he could quite agree. It was very effective for ceiling decoration. He had seen some very fine specimens of what could be done in commercial warehouses in Hamburg. Red bricks were used in the construction of the exterior walls, and all of those walls which were in the main roads were faced with glazed bricks, relieved by simple mouldings. The effect was extremely good, and the decorations were in a material which would stand the wear and tear of time.

Mr. William Cooper, in seconding the vote of thanks, said he could not help thinking that Mr. Walton was the pioneer for relief decorations in such a form as could be used at the present day. They all had to consider the matter of cost, and when the consideration of cost the question arose, What should they use for pleasing decoration? And he must say, from his own experience in the use of Lincrusta-Walton that it stood well, matched well, and was impervious to damp. With regard to imitation of woodwork, that, of course, architects did not like.

Mr. Ellis Marsland said that he had come there for instruction, and he did not see that the subject was open to much discussion. He thought that while Lincrusta-Walton was kept to legitimate decoration nothing could be said against it. It was merely like the former leather decoration, only instead of leather being stamped it was the material which Mr. Walton had invented. He would urge them not to attempt to imitate oak-work, as such imitation was very distasteful to architects.

The Chairman thought the paper they had listened to had been very interesting. There were a good number of places in London, however, where the material could be utilised to good effect, such as music-halls, public-houses, &c. It had been his lot to have a good deal to do in the alteration of public-houses and in the erection of new ones, and he had introduced this class of Lincrusta-Walton, and he must say that it had given every satisfaction to his clients. It was a good wearing material, could be easily cleaned and seemed to last a long time.

The Chairman then put the vote of thanks to the meeting, coupling with Mr. Scruby the name of Mr. Norris, who had read the paper on Mr. Scruby's behalf, and the vote was carried unanimously.

Mr. F. Scruby, in reply, was very pleased to hear the remarks which had been made, and thanked them very much for the vote of thanks. With regard to the Lincrusta panels, they all knew that there was a sham, but several gentlemen had seemed to take to the material, and he mentioned that some fine specimens could be seen in the Holborn Restaurant and elsewhere. The general public had wanted that material, and they were obliged to comply with that demand.

Mr. Norris, who also replied to the vote of thanks, said that many remarks had been made against imitation. He would remind them that so long ago as 5,000 years the ancients had faced their walls with marble veneer, and as they had started so early with imitation it was rather late at the present time to put it down. The ancients knew of nothing better than imitation, and he considered that a huge granite wall was certainly improved by a facing of marble veneer. Imitation he thought was necessary, and the ancients started the very thing they were objecting to. Lincrusta-Walton was an imitation, but was far more beautiful than marble veneer.

The proceedings then concluded.

COLOUR DECORATION.*

(*Concluded from last week.*)

IN a work on the art of the Japanese stencil-cutter, by Mr. Andrew Tuer, F.S.A., he says:—"The artist-workman takes some half-dozen sheets of tough paper made of mulberry fibre (*Broussonetia papyrifera*), prepared with the juice of persimmon and waterproofed with a hard-drying oil. On the top he places the artist's design, drawn with ink. The sheets firmly secured, he begins cutting with a long thin knife, which he pushes before him in the same way as a copperplate engraver at home uses the burin. Slowly and accurately the keen blade cuts through the little pile of paper, following the curves of the design. Where there are punctured holes or dots the knife is superseded by a fine punch, for if pins were used a bur would be formed and the design would not print clean and sharp. When the cutting-out is finished, two of the sheets are dampened so that they may expand and, what is of equal importance, contract equally in drying. One is laid down flat and covered with adhesive material. The threads are then one by one put in position, the ends sticking on to the margins. The second stencil is accurately laid over the first by means of upright pins placed in the 'register' holes already mentioned, the two paper plates are brought exactly together and the thread securely imprisoned. The joining of the two plates enclosing the threads is so absolutely perfect that a strong glass fails to disclose any signs of overlapping or unevenness. That anyone

* A paper by Mr. Cole A. Adams, read at the last meeting of the Architectural Association.

t a Japanese could execute such difficult work as this is nply impossible."

When the stencil-cutter has got through his first pile, he ts a stencilled impression on the top of the next as a guide in u of the original drawing which now has no independent stence, and he will continue cutting out the same design til he has a number sufficient for his purpose. From its ture, especially when the design is delicate and finely cut, a per stencil-plate cannot last very long. Many of the amples in our collection have been so much service that they nnot again be used. Now the Japanese employ stencil- ates for the decoration of their textile fabrics and produce ost artistic effects; whether they have any like method in use r wall or ceiling decoration I do not know, but I venture to row out a suggestion for adapting the principle employed by em, and applying it in a modified sense to our use.

Let the design to be employed in repetition be drawn on irly stout cartridge paper, and it may be designed without ıy care for the "ties" which it should be the object to dis- ense with, so that the plate shall leave the stencil brush ıished. Then give the paper a coating each side of patent ıotting, and with three or more similarly prepared blank ieets secured together at all available points, place on a sheet plate-glass, cut out the parts through the several sheets with sharp knife. Then when you have cut out the pattern, ɔerate the sheets and insert between two of them a network very fine wire, which may be made taut by attaching it to a ame (a trifle larger than the paper stencil-plate) of stout wire. he two plates being exactly adjusted should then be pasted ɔgether, and when dry given another coat of knotting. It ıay be objected that the wire which takes the place of the ties" will be objectionable and will show in the colour, but ith skill in manipulation it may be made, if you will, to become art of the design. I do not think it will be any detriment, nd at all events the plan will admit of a much wider, artistic nd more extensive use of stencilling. By having on your alette several mixings of the colour of varying tints, and two or ıore stencil brushes in use, it is very easy to blend the colours f the stencilling in executing it, and to remove the harsh ıechanical appearance one so often sees. By a series of ılates effects can be produced on the same principle as wall- ɔapers or printing in colours is done, and much of the objection o stencilling will vanish by adopting this method of the apanese.

The difficulties that beset a decorative artist are very great, ınd he must be ever studying so as to store his brain and keep ıbreast of the times. I think a student can hardly do better han commence his studies of decoration of the different styles vith copying from the decoration of savage tribes, of which he British Museum and most museums contain a goodly collection. I advise this as affording illustrations of what the ıntutored man does in ornament and colour, and there is a narked likeness in the early efforts of different nations or ribes; lines, circles, dots, zigzags, herring-bone, and the employment of the primaries of colour.

Then the styles should be taken, commencing with the Egyptian as the earliest. Let me suggest a visit to the Crystal Palace at Sydenham, where an object lesson may be learnt from the courts decorated in the different styles. Unfortunately in this country we have but few examples of ancient decorated buildings to study from and have to be content with the fragments in our museums and the various objects to be found there. Still, one must take things as they are and be content; but however beautiful the various fragments are, they have not the teaching that applied decoration to a building possesses; to obtain this you will have to go abroad and study the style you wish to become acquainted with in its own home, with all the surroundings which so influence the art. Much and most useful information is to be gathered from the splendid works which have been published, and which you may see at the museums and in the library of the Institute and Architectural Association. They are magnificently illustrated, but the colours can only faintly show the effect that the building produces under the ever-varying light and shade. As it is hardly possible to study all the styles in the land where they have had their birth, you must study from those specimens which we possess and from books.

One of the uses of possessing a knowledge of the styles is that you never know when you may be called upon to make use of this knowledge, and you should look upon it as part of your education, and that there is no better way of familiarising yourself with them than by such study. Your sketch-book studies should include all the information you can acquire from books, and let that information be culled from the best writers on the subject; but bear in mind, a closer and more thorough study will have to be made of those styles in which you are thinking of working. What is the best style to adopt for *fin de siècle* decoration? asks the bewildered student. The hum from the battle of the styles fought in the sixties is now at rest, and we are content to admit in the nineties whatever is the fancy of the day, until maybe, at no long future, an Architectural Association student will be found, sketch-book in hand, lost in admiration of the severe simplicity of Gower Street architecture.

Yes, all is changed, and we are agreed that there is now no style in architecture which is worth dying for. For some years past men's faith in thirteenth-century work as the *ne plus ultra* has been rudely shaken, and the influence of a younger school of clever architects, led by Sedding, changed our faith, or, say, admitted into it greater latitude, and in the Church of the Holy Redeemer, Clerkenwell, and Holy Trinity Church, Sloane Street, we feel this force of Sedding's power and recognise what his teaching was; that we were free to adapt from the various styles what seemed most fitting and to cast aside the bonds of formalism, which required chapter and verse for every feature introduced into a building. He declared trumpet-tongued that he, for one, would not be "cribbed, cabined and confined" by canons which the older men had laid down, and maintained that salvation was also to be had in the "flat and pointed" with a little Classic, of a kind that would have made the men of the schools smile and wonder. Yet under Sedding's inspiration we feel, and more especially those who knew and loved him, the influence of his magic; and even though we refuse to go all the way with him, we cannot but recognise the power and that something which it is difficult to define, but which we call genius.

What Sedding's status will be in the hierarchy of art we must leave to the future; with the restraint that his genius imposed, what we feel perhaps inclined to condemn we are compelled to condone. It is in his followers that we have to look for results, and we have not had to wait long for them; the illustrations published in the professional journals are many of them strange and eccentric. They exhibit a likeness to the work of the master, but the spirit is wanting in them. But though these efforts may fail, are they not the outcome of the cry for freedom from the shackles of formalism? If men, in the joy of this freedom, may here and there stray into the paths of licentiousness, let us not be too severe in our condemnation.

As Architecture is the mother of arts, so she must influence for good or evil her daughter Decoration. No longer will men tolerate a cold, lifeless revival of the past, a grinning skeleton galvanised into life. Sedding's gospel of freedom is heard and felt, and what he taught finds many disciples.

In every known style under the sun there is truth and beauty, and a likeness which makes them all akin, and as the bee sucks the honey from every flower, so may we gather the sweets where we will. Who shall say that we are not to make use of ornament, no matter where we find it, if we have the wit? not a mere copying, but ideas worked out from it. "Whatsoever was written aforetime was written for our learning;" may we not employ the words without irreverence? Evolution is at work now as it ever was and ever will be. And what a perplexing state of things exists in our midst, and what difficulties it creates. The artist-decorator may in the course of his practice be called upon to decorate a church built in the Classic style, the Renaissance, the Romanesque, the Byzantine, the Mohammedan or the Gothic; he will be required to do so in the correct style, as it is called, of the period of which the particular church is an example. Another time it will be a theatre, a concert or ball-room or mansion where maybe particular rooms are to be decorated in particular styles; such a house I came across some time since in the North decorated by that clever artist whom I have before mentioned, the late Mr. Cottier, but with his skill and inspiration one was forced to be pleased. Is it not, however, appalling this demand upon the artist? No wonder if he bewails the age in which he has been born, and from sheer weariness closes his eyes and dreams of a time in which one style was in vogue, and one only; no newspaper critics, no art journals, no books on art, no cant and jargon of the stereotyped order—the one style, which yet gave infinite latitude to the ordered mind and the inventive genius. Small wonder that, with time to work out his idea, the Greek artist excelled in beauty of design which never lacked grace, and that quality of fitness and repose are also to be found in the best Japanese art, which, alas! in its turn threatens now to become a thing of the past.

But our dreamer awakes to the fact that he can only in dream world live in Greece or Italy in their period of greatness, and that he is obliged to pass his days at the end of the nineteenth century in a murky atmosphere, with all its hurrying and skurrying; to enter the lists with his fellows and compete for the prizes; and the prizes are to the skilled and the strong. Surely it is wiser not to be troubled over much about what style to adopt, *i.e.* any of the various styles of decoration; more important surely to cultivate a good style—to study the old styles and try to absorb the principles to be found in them Then if you elect to follow any one style in particular, to do s in the spirit in which it is conceived, and not to attempt the impossible or to revivify the past—here is unlimited scope. Take English as it is spoken at the present day—a language rich in its antiquity—and yet how many words and phrases are

borrowed from other nations. And in America how much more is this the case; and Americans, less trammelled than we, are producing work the best of which is distinctly modern and original in character.

One of the problems in colour decoration is to employ only those colours which will look well both by daylight and artificial light. These will be influenced again by the amount of daylight which is obtainable in the place which is to be decorated. Here only experience will guide you correctly, and here I may say how very difficult it is to prepare any sketch or drawing to show what you propose. Some artists positively refuse to do so, and no wonder. Still there are clients who insist on having an idea of what the design is to be, and who will see a sketch first; and to a young artist just starting on his career, not to show what he is going to do may be fatal to his employment. Therefore, if it is insisted on, show as little colouring as possible, enough to give the general scheme, and guard yourself by saying that circumstances may compel you to alter as you go along. When the client has approved of a scheme, the best thing that can happen for both client and artist is, that the former shall go abroad for a short time and not see the work through all its stages until finished; for should the client not absent himself, but look in to see how the work is going on, he will in all probability destroy his own peace of mind and that of the artist.

Now interiors have to be used by daylight or by artificial light, and by both day and artificial light. By daylight, as picture galleries, banks, courts of justice. By artificial light, as theatres, ballrooms and other places of amusement, and by both day and artificial light, as churches, assembly and concert rooms, &c., and private houses. Under these conditions of lighting come others, and in the way in which they are met will depend largely whether the decoration is successful or otherwise. A quiet half-hour in the place you are called upon to show your skill, with sketch-book in hand, will be time well spent.

If the place is used by daylight, note what amount you have at your disposal, or will have when the windows are upholstered; what is the aspect, north, south, east or west. Then for what use the apartment is to be put, and whether it is wanted for summer or winter use. Then, again, at what time of the year you see it, so as to judge of the amount of light; if a sombre and subdued effect is sought for, or a bright and cheery one. If, again, the apartment is to be used at night, obviously your colours must be tried by artificial light, and make your experiments by that kind of light which is to be adopted. If for day and night use you must use those colours which look well by day and night. The design thought out, you must first try the colours you are proposing to use upon the walls or ceiling, noting whether they are what you intended, and how one colour goes with another, always judging of this at the distance it will be when executed, and settling this upon the spot. This trial of colours upon the spot is of the first importance, as many are the changes that take place, and what looks well in one place looks bad in another. The experiments may be in colour only, without any design upon them, or you may, better still, put up full-size coloured cartoons in situ and judge of the effect. It is a good plan to leave them up for a day or so; frequently it happens that after an interval you come upon the design with a fresh mind and can form a better judgment than at first, and decide in what points you think they need amendment and whether, as is very probably the case, you may omit some of the detail, strengthen and accentuate those parts which require it and send back or bring forward others. Do not hurry over this stage of your work, it may take you hours only trying the colours and effects. Decoration needs the exercise of all the virtues, and patience in particular, and you cannot properly decide questions of colour with watch in hand nearing the hour at which your train starts. Let him who thinks of embarking on the pursuit of decoration think on these things. When you get the colours and the design settled somewhat to your liking you may consider yourself happy; vigilance will still be required, but the worst is over. If you have a good, intelligent and honest foreman of painters another great weight is taken off your shoulders, and by all means in your power interest those who are carrying out the work for you, and do not spurn their advice. It may be that you have to collaborate with some figure or landscape artist, and then your whole scheme of colour has to be subservient to his work. In fact, no two cases will be alike, and it will call forth all your powers of intelligence to meet and overcome the many difficulties that may arise.

And the payment for all these years of study spent upon decorative work? Your payment must be in the first place the delight of doing colour and design, for it is seldom you are paid adequately for the labour and time it involves. You will sometimes find clients who are under the impression that the 5 per cent. will cover your expenditure of brains and time, and be genuinely surprised when you tell them that such payment is totally inadequate. A gentleman connected with a large firm of decorators once told me that they reckoned 20 per cent. in their estimates for the "brains," and for good work requiring special skill and much time this is not excessive. Where a price is given for the work complete, a man knows what he is spending—stock, lock and barrel—and pays the bill cheerfully. But if, plus the actual cost of the decoration, a client has to pay the architect for his brains, skill and time on the design he frequently feels aggrieved. Unreasonable, is it not? But a fact.

Perhaps the best advice, from a purely commercial view, to get what you honestly can, acquire a name and fame by judicious self-advertisement, strive to cultivate a mannerism, become the fashion by letting it be known far and wide by the blast of the sound of your own trumpet, that you are the man to employ, and then society will pay you anything in reason and out of reason—you like to ask. I fear that what I have said will appear to be as "bald unjointed chat," but if I have succeeded in dropping some seed which, falling upon fruitful soil, may grow, it will not be in vain that I have set down the thoughts that occurred to me, though I could have wished they were in a better setting, more worthy of your acceptance and of those who did me the great honour of asking me to give a paper on colour decoration.

The Chairman said they were grateful to their old friend and past-President for coming again among them and giving all the benefit of his advice. One kind of low relief decoration described in the paper was not altogether new. As regards other kinds of decoration, the speaker thought it was a little too severe to say that mosaic work was unsuited for all surface. An example of this decoration was to be seen at St. Paul's Cathedral, and it showed that the work on the flat was not a failure. The value of stencil-work could not be denied, and where there were many repeats in work it was used to great advantage. The lecturer might have told them what colours he preferred to be used in decoration, and the special process to be followed for such a climate as that of England.

Mr. L. A. Shuffrey, who proposed a vote of thanks, said the suggestion the lecturer made regarding the study to be specialised upon decorative work was an excellent one, and there was plenty of scope for a student so inclined, but it was hard to say how his labours were to be remunerated. Unfortunately people nowadays would seldom embark upon any work before they were told how much the whole would cost. When they did hear the price clients generally cut down the figures so as to leave a very small chance for the good decorator to show his skill. Estimates had very often to be submitted for such work as they had heard described, and these did not help on the decorative artist. The client, too, very often had ideas of his own and it was difficult often to contend against his conclusions.

Mr. J. D. Crace, in seconding the vote, said every decorator should be guided by respect for the architecture of the building and try to make his work in sympathy with that of the architect. The architect, in his design, had done all he could for light and shade, and the decorator would have to introduce a scheme of colour which would bring out the accentuation of the features of that design.

Mr. Hampden W. Pratt said it seemed unfortunate that in many cases a method of decoration was introduced into a building which had never been contemplated by the architect and which helped to ruin the architectural character of structure. In the work in St. Paul's Cathedral they had an artist carrying out decorative schemes without regard to the architecture, and without the control of a member of the craft.

Mr. E. Howley Sim and Mr. Matt Garbutt also added their thanks.

THE HELLENIC SOCIETY.

THE second general meeting of the session 1898-99 of the Hellenic Society was held on February 23. The chair was taken by Mr. Talfourd Ely, and a paper was read by Professor Ernest Gardner on "A Head of Athena from the School of Alcamenes." This head, which was one of the finest pieces of marble extant, had, Mr. Gardner observed, been recently acquired by Dr. Nelson, of Birkdale, Liverpool. It formed part of the collection made in Italy between 1748 and 1753 by Hollis, and later it passed into Disney's hands. It did not, however, form part of the collection presented by Disney in 1850 to the Fitzwilliam Museum, but remained at Ingatestone and was sold in 1885. He had to thank Dr. Nelson for the valuable assistance which he had given him, and for the photographs which he showed to those who were present, and which were to be published in the Hellenic Society's journal. It was clear to a careful inspection that the nose had been restored in Parian marble, taken from the hair at the back, and it was very badly modelled. The whole nose and bust were in fact modern, and in Dr. Nelson's opinion the work of an Italian of the last century. The helmet was of the ordinary Attic type and there was distinctly traceable at the side the felt cap which was worn under the helmet to prevent its chafing the brow. The technical characteristics of the eyelids, and the slightly open mouth, with its kindly expression, indicated that the work

w; assignable to the fifth century, and was probably o a man trained in the school of Pheidias. There were e ments in this Disney head essentially different from the work o he fourth century, and a comparison of this with other heads i the Louvre and elsewhere suggested Alcamenes as the s lptor from whom or from whose school the work proceeded.

GLASGOW ARCHITECTURAL ASSOCIATION.

AT the usual fortnightly meeting, held in the rooms, 187 Pitt Street, Mr. Wm. J. Anderson delivered a lecture entitled "Impressions of a Mediterranean Trip," describing, mostly in a light and humorous manner, a cruise by way of Algiers and Malta to Athens, and a return journey by Corfu, Naples, Nice and the Loire district of France for purposes of architectural study. Among impressions of the tour which he indicated were the feeling that good design and largeness of conception had been evinced in the planning and extension of most continental cities, while they were almost wholly absent from ours, and that there existed an aspiration for something beyond the fulfilment of mere material necessities in their public buildings. This was to be attributed, especially in the case of France, which in such matters led the Continent, to the steadying influence of sound traditions of architectural education, which is permeating society with the understanding and the love of it fostered the desire as well as provided the talent for its realisation. More particularly have we to learn the lesson in so-called engineering works, such as bridges, railway stations, markets, &c., which in France are often among the most successful works of its brilliant school of architects. No question of art was at all comparable to the need for the improvement of our cities in these respects, and for skilled control of the development of their plan. In an Anglo-Saxon community it would almost seem as if the provision for animal necessities was sufficient, and that to aspire in our handiwork after anything nobler than the aims of the bird and beaver was to be hopelessly Utopian as unpractical. Concluding, the lecturer urged the claims of a more extended historical study of architecture, not for practical reasons only, but as examples of the higher manifestations of nature reaching us through the human spirit, whose path in relation to every essential matter of progress was marked by its monuments. Mr. W. H. McNab moved a vote of thanks to the author for his very able paper, which was heartily accorded.

ATMOSPHERIC INFLUENCES.

AT a meeting of the architectural section of the Philosophical Society of Glasgow in the hall of the institution in Bath Street—Mr. P. Macgregor Chalmers presiding—a paper was read by Mr. Oscar Paterson, glass stainer (Royal Scottish Society of Arts, &c.), on the subject of "Atmospheric Influence in Architecture and Decorations." The paper, which was amply illustrated by chemical demonstration and a large number of lantern slides, was extremely interesting. In the course of his remarks, the lecturer pointed out that the very offensive and noxious condition of the atmosphere of Glasgow was the resultant of the free escape of factory smoke and the subsequent oxidation of the sulphur in the coal into sulphuric acid. The immediate result of the dissemination of this corrosive and virulent compound was observed in the erosion of the stone of the public buildings in the city, and the destruction of vegetation, while the free molecules of carbon carried over in the soot of factory smoke, settled on stonework, turned the natural brightness of the material into a gloomy and sombre grey, destroying at once the precision, fineness and quality of the architecture. Mr. Paterson dwelt on the condition of the statuary in Glasgow's public squares, and while deploring the offensive condition of its surface, where all the intrinsic quality of the material was entirely destroyed by the coating of oxy-sulphides and other impurities which had formed or been deposited there, he suggested a mode of treatment based on experiments adopted by the municipality of Berlin. The stonework of the municipal chambers of the city was beginning to succumb to the effects of the atmosphere. Referring to the action of the atmosphere on decoration, the lecturer pointed out that sulphuric acid and hydric sulphide were the principal factors in the change of colour that takes place in certain decorations. It was also suggested that by a due attention to an efficient medium and method of painting the most fugitive colours could be rendered nearly permanent. Glasgow ranked next to London almost in the impurity of its atmosphere, and however high a position the city might have acquired as an art centre, there was probably no other town in the kingdom where public buildings and decorations had so uncertain a condition of stability.

The Annual General Meeting of the Architects' Benevolent Society will be held on Wednesday next in Conduit Street, at 5 P.M. Professor Aitchison, R.A., will preside.

TESSERÆ.

Atmospheric Effects in Relation to Landscape Art.

NOTHING in nature is more enchanting than a beautiful landscape in the red of the evening. The rich manifoldness and mild outline of shapes, the infinitely varying play of light, the delicate veil which envelopes distant objects—all combine to charm our senses. Perhaps the soft murmur of a waterfall, the melody of nightingales, and pleasant music are added to increase our pleasure. We are dissolved in sweet perception of tranquillity, and while our senses are affected most agreeably by the harmony of colours, shapes and tones, the mind revels in an easy and spirited flow of ideas, and the heart in the current of its feelings. Suddenly a storm arises which darkens the sky and the whole landscape, which surpasses and drowns all other sounds, and suddenly deprives us of all our pleasures. Clouds, black as pitch, encircle the horizon, deafening thunderclaps descend, flash follows flash, and our sight as well as our hearing is most disagreeably affected. The lightning only shines to render the frightful night more apparent; we see it as it strikes—nay, we begin to tremble lest it may strike us also. Yet not the less do we believe that we have rather gained than lost by the change, those persons excepted whom fear deprives of all freedom of judgment. We are powerfully attracted in one direction by this fearful spectacle, which repels our senses, and linger in it with a feeling which indeed we cannot properly call pleasure, but which is often far superior to pleasure. But now this spectacle of nature is rather destructive than good (at least, we are not obliged to regard the utility of a tempest in order to find pleasure in such a phenomenon), it is ugly rather than beautiful, for darkness, as a deprivation of all the appearances which light creates, can never be pleasing; and the sudden shattering of the air by the thunder, and its sudden illumination by the lightning, contradict a necessary condition of all beauty, which admits nothing abrupt, nothing violent. Further, this phenomenon is rather painful than agreeable to mere sense, since the nerves of sight and of hearing are painfully strained, and then just as violently relaxed, by the sudden alternations of darkness and light—from the roar of the thunder to silence. And notwithstanding all these causes of displeasure, a tempest is an attractive appearance for one who does not fear it.

Art in Bohemia.

To Bohemia undoubtedly belongs the honour of having created the first national school in the Austrian dominions, for even so early as the latter end of the fourteenth and beginning of the fifteenth century, when the Emperor Charles IV. held his court in Prague, the encouragement which painters, sculptors and architects of every nation there received soon raised a healthful spirit of emulation among the native artists of that country, among whom the names of Kunze and Theodorich of Prague stand pre-eminent. The works of the early Bohemian school possess all the errors in drawing and perspective which characterise the old German style. The last and the present centuries have, however, produced many distinguished Bohemian artists, who justly earned for themselves and their country considerable reputation in painting. The imperial city of Vienna was one of the last places in the monarchy where native art commenced to flourish; how far this circumstance may have arisen from the want of that encouragement to artists and that fostering care of art (such as she now denies to science), the records make no mention, for although we read of the protection afforded by Rudolph II., the school has made but little progress till the present time. In 1704 an academy of painting and sculpture, under Leopold I., was founded in Vienna and furnished with models of the best antiques from Rome and Florence; thus the foundation was laid, but no superstructure arose upon it, and a very few years after its erection it fell into decay. In 1726 it again rose into life, and a school of architecture was connected with it; but the first great step towards the formation of a school of art had its origin in the collections commenced by the noble families of Lichtenstein and Schwartzenberg, and by the protection and patronage which they afforded to architects, sculptors and painters during the latter part of the eighteenth century. Under Joseph II the academy was enriched with many new and splendid works of art, liberally endowed by this patriotic emperor, divided into separate schools for its several branches and placed under the direction of Frederick Füger, a painter of acknowledged and superior merit.

The Ideal Athens.

We see Athens in ruins. On the central rock of its Acropolis exist the remains, in a mutilated state, of three temples—the Temple of Victory, the Parthenon and the Erechtheum; of the Propylæa in the same place, at its western entrance some walls and a few columns are still standing; of the theatre on the south side of the Acropolis, in which the dramas of Æschylus, Sophocles and Euripides were represented, some

stone steps remain. Not a vestige survives of the courts in which Demosthenes pleaded. There is no trace of the academic porches of Plato, or of the lyceum of Aristotle. The pœcile of the Stoics has vanished; only a few of the long walls which ran along the plain and united Athens with its harbours, are yet visible. Even nature herself appears to have undergone a change. The source of the fountain Callirrhoe has almost failed; the bed of the Illissus is nearly dry; the harbour of the Piræus is narrowed and made shallow by mud. But while this is so, while we are forcibly and mournfully reminded by this spectacle of the perishable nature of the most beautiful objects which the world has seen, while we read in the ruins of these temples of Athens, and in the total extinction of the religion to which they were dedicated, an apology in behalf of Christianity and a refutation of paganism, more forcible and eloquent than any of those which were composed and presented to the Roman Emperor by Aristides and Quadratus in this place, we are naturally led by it to contrast the permanence and vitality of the spirit and intelligence which produced these works, of which the vestiges either exist in a condition of ruinous decay or have entirely disappeared, with the fragility of the material elements of which they are composed. Not at Athens alone are we to look for Athens. The epitaph, "Here is the heart: the spirit is everywhere," may be applied to it. From the gates of the Acropolis, as from a mother city, issued intellectual colonies into every region of the world. These buildings now before us, ruined as they are at present, have served for 2,000 years as models of the most admired fabrics in every civilised country of the world. Having perished here, they survive there. They live in them as in their legitimate offspring. Thus the genius which conceived and executed these magnificent works, while the materials on which it laboured are dissolved, has itself proved immortal. We, therefore, at the present time, having witnessed the fact, have more cogent reasons for admiring the consummate skill which created them than were possessed by those who saw these structures in their original glory and beauty.

Property in Land in Prussia.

It will scarcely be believed that, up to 1807, a person not noble could only by accident find a piece of land, whatever number of estates might be in the market, which he would be allowed to purchase. By far the greater portion of the landed property consisted of estates-noble, and if the proprietor brought his estate into the market only a nobleman could purchase it. The merchant, the banker, the artist, the manufacturer, every citizen, in short, who had acquired wealth by industry and skill, lay under an absolute prohibition against investing it in land, unless he previously purchased a patent of nobility, or stumbled on one of those few spots which, in former days, had escaped the hands of a noble proprietor, small in number and seldom in the market. Even Frederick the Great lent his aid to perpetuate this preposterous system, in the idea that he would best compel the investment of capital in trade and manufactures, by making it impossible to dispose of it when realised in agricultural pursuits—a plan which led to the depression of agriculture, the staple of the kingdom, as certainly as it was directed in vain to cherish artificially a manufacturing activity, on which the country is much less dependent. This could not possibly last; the noble proprietors were regularly becoming poorer, and the same course of events which compelled so many of them to sell disabled them generally from buying. Destitute of capital to cultivate their own estates, it was not among them that the purchasers of the royal domains were to be looked for. In 1807 Stein swept away the whole mass of absurd restrictions, and every man was made capable of holding every kind of property.

Tintagel Church.

For centuries, very probably from the very dawn of Christianity in our land, has Tintagel Church borne her silent testimony to its truth. And doubtless many a tempest-tossed and weary mariner, as he listened to the happy, cheerful peal from the tower, carried away far over the surface of the dark, deep sea, has longed to have the wings of a dove that he might escape from the perils of the ocean and find refuge in the courts of the Lord's house. The grandeur of the surrounding scenery, with its gigantic and rugged cliffs, its bluff headlands, its magnificent sea, which in fine weather is as clear as amber, as blue as the waters of the Mediterranean, and, above all, its fine bracing air, harmonises well with this ancient church. And few who have ever entered it for the first time have not been impressed with its peculiar solemnity as well as with its extreme antiquity. In the Oxford Glossary Tintagel Church is noted as one of the few in England which contains any portion of Saxon work, and to the archæologist as well as the architect it possesses many features of interest. The church is cruciform, and there is a small chantry chapel attached to the north wall of the chancel. Here may be seen the original stone altar, with the five crosses marked in the altar-slab. The south door is a beautiful specimen of Early Norman. The screen is in good preservation, and in the nave are nearly all the benches with their carved ends. It is a curious circumstance that Tintagel Church contains portions of every period of architecture, from the Saxon to the Perpendicular.

GENERAL.

The Rembrandt Exhibition at the British Museum was opened to the public on Wednesday. It forms an excellent collection of drawings and etchings by the master, and etchings by his contemporaries.

Mr. Ernest Runtz, of 10 Walbrook, informs us that Mr. Albert C. Breden and Mr. George McLean Ford, who have been associated with his business for many years, and are well known to his friends and clients, have now an interest in the firm, which in future will be known as Ernest Runtz & Co., architects.

A Second Statue of Joan of Arc is about to be set up in Paris. The position selected for the work of M. Paul Dubois is in front of the church of Saint-Augustin. The pedestal is to be designed by M. Formigé, architect.

The Royal Institute of Painters in Water Colours on Monday elected Mr. Alexander McBride and Mr. Edward Clifford as members.

M. Benjamin Constant has completed his portrait of the Queen in her royal robes seated on the throne in the House of Lords.

Mr. Thomas Corson, for many years connected with the town clerk's department, Leeds, was interred on Tuesday afternoon at the Woodhouse Cemetery.

The Sixth Ordinary Meeting of the Liverpool Architectural Society will be held at the Law Library, 41 Castle Street, on Monday next, March 6th, at 6 P.M., when a paper will be read by Edward S. Prior, M.A., on "Business Architecture."

The Metropolitan Asylums Board on Saturday last resolved that a surveyor to the Board be appointed, that he should rank as an officer on the staff of the head office, that candidates should not exceed forty years of age, and that subject to the approval of the Local Government Board, the salary of the new officer should commence at 500*l.* per annum with travelling expenses, office accommodation, and such assistance as the managers might from time to time deem necessary.

The First Commissioner of Works has announced that the width of the new Parliament Street between the building will be about 140 feet and the width between the kerbs about 95 feet. The front of the new buildings will be set back from 10 feet to 15 feet from the corner of the Home Office. The approximate height of the new public offices will be 78 feet, the tower at the south-east angle being about 106 feet. The arrangement of the refuges will follow those already in existence in Parliament Street, which have been found most convenient for traffic purposes. The width of the new Charles Street will be 80 feet.

A Sessional Meeting of the Sanitary Institute will be held at the Parkes Museum on Wednesday, March 8, at 8 P.M., when a discussion will be opened on "The Establishment of Public Abattoirs in the Metropolis in relation to the prevention of Tuberculosis," by Mr. William Arthur Bond.

The Old Mansion known as Riddlesworth Hall, dating from 1780, the seat of Mr. W. N. L. Champion, which on the 10th ult. was the scene of a most destructive fire (little being left beyond the bare walls), will, we understand, shortly be rebuilt from designs of Mr. Herbert Green, of Norwich. The building is covered by insurance to the extent of 20,000*l.*

It is Proposed that the salary of Mr. T. J. Bailey, architect of the London School Board, be at once increased to 1,100*l.* per annum, and that a further increase to 1,200*l.* per annum be granted at the end of a year from the date when the first increase takes effect. Mr. Bailey has been engaged by the Board for over twenty-six years.

The Leeds City Council on Wednesday adopted the following resolution:—"That in the opinion of this Council it is expedient that new Law Courts be provided in the city, and that it be an instruction to the property committee to make inquiries as to a suitable site and report to the Council."

Mr. John Harrison, who seven years ago succeeded the late Sir George Morrison as town clerk of Leeds, has announced his resignation. He has received 1,250*l.* a year, and the cause assigned for the resignation is the refusal of the finance committee, by a majority of one, to raise the amount to 1,500*l.*—the salary paid to Sir George Morrison.

The Next Ordinary General Meeting of the Surveyors' Institution will be held at 12 Great George Street, S.W., on Monday next, March 6, when a paper will be read by Mr. F. J. Smith (Fellow), entitled "The Working of the Light Railways Act, 1896." The chair will be taken at eight o'clock.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to se in connection with the law, practice rules and cedure under the above Act, we have added to our ff A VERY EMINENT BARRISTER, who has made subject a special study, and will be glad to answer the columns of this paper any questions relating to complicated matters arising from the provisions of difficult Act. Our LEGAL ADVISER will further wer any legal question that may be of interest to readers. All letters must be addressed "LEGAL VISER," Office of "The Architect," Imperial Build , Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

authors of signed articles and papers read in public must necessarily be held responsible for their contents.

communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

espondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts, Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. on Thursdays.

NEW READING CASE.

o Librarians of the Public Libraries and Reading-ns.—A new handsome Reading Case can be supplied nominal charge of 2s., by post 2s. 6d., on early ication to the Publisher, Imperial Buildings, Ludgate s, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

RADFORD.—April 14.—Designs will be invited for the on of the Bradford Corporation Cartwright Memorial at a cost of 38,000*l.* Three prizes will be offered, value 100*l.* and 50*l.* respectively. Particulars will be found in er column.

CONTRACTS OPEN.

ALNWICK.—March 7.—For erection of a branch shop and dwelling-house at the corner of Wagon Way and Swansfield Park Road. Mr. R. R. Temperley, Alnwick Castle.

ASHTON-UNDER-LYNE.—For erection of fourteen cottages, Cockbrook, Ashton-under-Lyne. Messrs. Thos. George & Son, architects, Old Square, Ashton-under-Lyne.

BARWICK-IN-ELMET.—March 7.—For erection of Wesleyan memorial chapel at Barwick-in-Elmet. Mr. G. F. Danby, architect, 10 Park Row, Leeds.

BARNSLEY.—March 6.—For erection of five houses and shops at Stairfoot. Messrs. Duncan & Jones, Stairfoot.

BATTLE.—March 11.—For repairing the Zion chapel. Mr. Eldridge, 18 Mount Street, Battle, Sussex.

BRADFORD.—March 8.—For alteration of shops in Market Street. Messrs. Milnes & France, architects, Bradford.

BLAYDON-ON-TYNE.—March 6.—For erection of six houses and additions to business premises at Low Westwood. Mr. G. T. Wilson, architect, 121 Durham Road, Blackhill.

BRIDLINGTON QUAY.—March 14.—For erection of residence. Messrs. Brodrick, Lowther & Walker, architects, Central Chambers, Bridlington Quay.

BUXTON.—For repointing of Fairfield Church tower, and for colour-washing and decorating the interior of the church. Messrs. Garlick & Flint, architects, Terrace Road, Buxton.

CLAYTON-LE-DALE.—March 6.—For taking-down Oakes Bridge and erection of a new stone bridge in lieu thereof. The County Bridge Master, County Offices, Preston.

CARDIFF.—For erection of a large church. Mr. Frederick R. Kempson, 16 High Street, Cardiff.

CARDIFF.—For additions to premises, 1 Adam Street. Messrs. J. P. Jones, Richards & Budgen, architects, 18 St. Mary Street, Cardiff.

CARLISLE.—March 11.—For erection of bridges at Millbeck and Durdar Fords. Mr. Joseph Bell, road surveyor, 1 Aglionby Street, Carlisle.

COLCHESTER.—For erection of a house in Rawstorn Road. Mr. Chas. E. Butcher, architect, 3 Queen Street, Colchester.

CORK.—March 13.—For erection of two houses on the Windmill Road. Messrs. W. H. Hill & Son, architects, 28 South Mall.

CROYDON.—March 7.—For repairs and painting to the Croydon Public Baths at Scarbrook Road. Mr. E. Mawdesley, town clerk, Town Hall, Croydon.

DUBLIN.—March 13.—For erection at Amiens Street, Dublin, of an electric-power house, 75 feet long by 23 feet wide, to be built of brick, with steel principal roof, for the Great Northern Railway Company, Ireland. Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

DUBLIN.—March 15.—For erecting thirteen labourers' dwellings. Mr. John O'Neill, clerk, Board Room, North Brunswick Street, Dublin.

DUBLIN.—March 16.—For erection of a lightkeeper's dwelling, with out-offices, &c, at Inishowen East Lighthouse, Shrove, Moville, co. Donegal, for the Commissioners of Irish Lights. Mr. Owen Armstrong, secretary, Irish Lights Office, Dublin.

EAGLESTONE.—March 14.—For erection of stabling at Wissahickon, Eaglescliffe Messrs. C. H. Marriott & Son, architects, West Park Street, Dewsbury.

EAST DULWICH.—March 15.—For alterations and additions to workhouse buildings at Constance Road. Messrs. Henry Jarvis & Son, architects, 29 Trinity Square, Borough, S.E.

EDINBURGH.—March 8.—For erection of three blocks of workmen's dwellings in Cowgate. Mr. Thomas Hunter, W.S., town clerk, City Chambers, Edinburgh.

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FOULRIDGE.—March 6.—For rebuilding the Hole-in-the-Wall inn, Foulridge. Mr. Robert Neill, architect, 9 Grimshaw Street, Burnley.

FRINTON-ON-SEA.—For erection of a small residence. Mr. Beresford Pite, architect, 48 Harley Street, London, W.

GLASGOW.—March 8.—For extension of Coplawhill Dépôt. Mr. J. D. Marwick, town clerk, City Chambers, Glasgow.

GLASGOW.—March 15.—For construction of buildings in Kelvingrove Park, Glasgow, for the Glasgow International Exhibition, 1901. Mr. H. A. Hedley, general manager and secretary, 141 Buchanan Street, Glasgow.

GLOUCESTER.—March 18.—For alterations at the Y.M.C.A. buildings (late Spread Eagle Hotel). Mr. Walter B. Wood, architect, 12 Queen Street, Gloucester.

GOOLE.—For alterations to a building in Victoria Street. Mr. Roberts, Clarkson's Hotel, Goole.

GREENOCK.—March 6.—For erection of electricity station at Hunter's Place. Mr. C. MacCulloch, town clerk, Municipal Buildings, Greenock.

HANLEY.—March 21.—For erection of St. Jude's parish church in Victoria Road. Messrs. R. Scrivener & Sons, architects, Hanley.

HEREFORD.—March 13.—For erection of buildings in connection with the electricity station in Widemarsh Street. Mr. John Parker, city engineer, Hereford.

IDLE MOOR.—March 9.—For erection of a school-chapel on Idle Moor. Messrs. Walker & Collinson, architects, Swan Arcade, Bradford.

IPSWICH.—April 1.—For alterations and additions to w.c.s and bathroom on male side at the borough asylum. Mr. E. Buckham, borough surveyor, Town Hall, Ipswich.

IRELAND.—For erection of grocery and licensed premises, Market Street, Lurgan. Mr. W. J. Moore, architect, Whitehall Buildings, Ann Street, Belfast.

IRELAND.—For erection of licensed premises, corner of proposed new street and Market Street, Lurgan. Mr. W. J. Moore, architect, Whitehall Buildings, Ann Street, Belfast.

IRELAND.—March 6.—For erection of a pair of semi-detached villas at Rochestown, co. Cork. Messrs. W. H. Hill & Son, architects, 28 South Mall, Cork.

IRELAND.—March 9.—For erection of shore dwellings for the lightkeepers at Tearaght and Skelligs lighthouses, near Knightstown, Valencia Island, county Kerry. Mr. C Armstrong, secretary, Irish Lights Office, Dublin.

IRELAND.—March 13.—For erection of a block of bu ings and a wall at Her Majesty's prison, Maryborough. Max S. Green, engineering inspector, Dublin Castle.

IRELAND.—March 13.—For addition to the Omagh sta and erection of a stationmaster's house at Omagh, for Great Northern Railway Company (Ireland). Mr. T. Morr secretary, Amiens Street Terminus, Dublin.

ISLE OF WIGHT.—March 13.—For erection of coal st comprising steel and iron structure on concrete founda and covered with wrought-iron roof in two spans. Mr. W. Webster, surveyor, Council Offices, Cowes, I.W.

KIDDERMINSTER.—For erection of two shops and dwel houses in New Road. Mr. J. M. Gething, architect, O Chambers, Kidderminster.

KINGSTON-ON-THAMES.—March 9.—For erection, ren and repair of the stalls, &c., for the Wednesday, Thursday Saturday's markets, for one year from the 25th inst., fo Corporation. Mr. Harold A. Winser, town clerk, Cla House, Kingston-on-Thames.

KINGSTON-ON-THAMES.—March 28.—For erection female infirmary, &c., at the workhouse. Mr. William H. architect, Union Offices, Portsmouth Road, Kingsto Thames.

LANCASTER.—March 7.—For rebuilding the front p of Messrs. E. & J. L. Milner's business premises, C Street. Messrs. Austin & Paley, architects, Castle Lancaster.

LANCHESTER.—April 5.—For construction of a bridg New House Burn. Mr. W. H. Ritson, clerk, Lanch Durham.

LEEDS.—For erection of house off Pontefract Lane. Fred Mitchell, architect, 9 Upper Fountaine Street, Leed

LEEDS.—For additions and alterations to school, for tion of sanatorium, farm buildings, &c., at Shadwell Indu School. Mr. W. S. Braithwaite, architect, Leeds.

LEWES.—The Corporation are inviting offers for the tr of the electric-lighting provisional order, and the establis of an electricity supply undertaking in the borough. Mr Warden-Stevens, consulting engineer, 34 Victoria Westminster.

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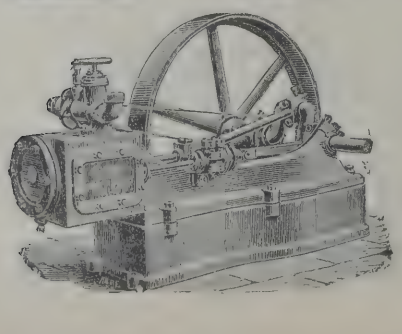
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[*Mention this Journal.*]



LANDUDNO.—March 13.—For erection of public slaughter-es, hanging-rooms, lairages, offices, boundary walls, &c., site adjacent to the London and North-Western Railway on. Mr. E. P. Stephenson, surveyor, Church Walks, dudno.

LANELLY.—For erection of two dwelling-houses and shop mes Street. Mr. William Lewis, 19 Coldstream Street, elly.

ONDON.—March 14.—For supply and erection of boundary gs, gates, &c., at Nelson Recreation Ground, Kipling t, S.E., for the London County Council. Drawings, fications, bills of quantities, form of tender and other ulars at the Architect's Department, 13 Spring ens, S.W.

ONDON.—March 14.—For erection of conveniences for at Maryon Park, Charlton, S.E., for the London County cil. Drawings, specifications, bills of quantities, form of r and other particulars at the Architect's Department, ring Gardens, S.W.

OWESTOFT.—March 8.—For erection of a cottage at eston, near Lowestoft. Mr. Sidney Rivett, architect, th Quay, Great Yarmouth.

ANCHESTER.—March 13.—For erection of an annexe to rses' block and a new isolation block at Monsall Hos- Newton Heath. The City Surveyor, Town Hall, hester.

ARYPORT.—March 10.—For erection of two cottage-s at Standingstones, Broughton Moor. Mr. Bowman k, Standingstones.

RFIELD.—March 11.—For erection of two semi-detached s at Battyeford. Mr. Tom H. Farrar, architect, Fountain bers, Fountain Street, Halifax.

ORECAMBE.—For erection of two semi-detached houses ssendale Avenue, Hornby Terrace. Messrs. Marshall architects, &c., Back Crescent, Morecambe.

ORECAMBE.—For erection of a villa, with stabling, &c., ville, near Torrisholme. Messrs. Marshall Bros., archi- &c., Back Crescent, Morecambe.

ORECAMBE.—March 7.—For erection of a stable and house off Kensington Road. Messrs. Marshall Bros., cts, &c., Back Crescent, Morecambe.

ORECAMBE.—March 20.—For erection of mineral-water off Thornton Road, Morecambe. Mr. A. Lancelot Lang, ct, 12A Pedder Street, Morecambe.

NEWARK.—March 6.—For erection of houses and shops in Catergate. Messrs. Sheppard & Harrison, architects, 17 Kirk-gate, Newark.

NORTH ORMESBY.—For alterations to back premises of grocer's shop. Mr. Dent, Stovin Street, North Ormesby.

NOTTINGHAM.—March 13.—For erection of a branch reading-room and caretaker's cottage in Carlton Road. Mr. W. B. Starr, architect, 12 St. Peter's Gate, Nottingham.

OAKWORTH (YORKS).—March 13.—For erection of six houses at Lane Ends. Messrs. John Judson & Moore, architects, Oakworth, near Keighley.

OTLEY.—For rebuilding the Black Horse hotel. Mr. Harold Chippendale, architect, Springfield, Guiseley, near Leeds.

POPLAR.—The Guardians are inviting tenders for steam turbines and dynamos, electric motors, accumulators, switch and distribution boards, electric cables, wiring and fittings for the electric-lighting and power arrangements at the union workhouse. Mr. F. J. Warden-Stevens, consulting engineer, 34 Victoria Street, Westminster

POPLAR.—The Guardians are inviting offers for the construction of deep wells and the supply and erection of the necessary pumping machinery at the union workhouse. Mr. F. J. Warden-Stevens, consulting engineer, 34 Victoria Street, Westminster.

PRUDHOE-ON-TYNE.—March 8.—For erection of house and shop. Mr. R. Walton, 2 Leaburn Terrace, Prudhoe-on-Tyne.

PUTNEY.—March 6.—For erection of a sorting office for the Commissioners of H.M. Works and Public Buildings. Mr. J. Wager, H.M. Office of Works, Storey's Gate, S.W.

RAWTENSTALL.—March 13.—For alterations to the White Horse hotel. Mr. Robert Neill, architect, 9 Grimshaw Street, Burnley.

RIPPONDEN.—March 6.—For erection of a butcher's shop and appurtenances on the Hollins Estate. Messrs. Richard Horsfall & Son, architects, 22A Commercial Street, Halifax.

SCOTLAND.—March 6.—For erection of lodge at Glenfarquhar, near Auchinblae. Messrs. Davidson & Garden, 12 Dee Street, Aberdeen.

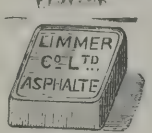
SCOTLAND.—March 7.—For erection of public schools at Craigellachie, Aberlour. Messrs. Brown & Watt, architects, Aberdeen.

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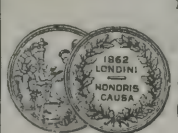
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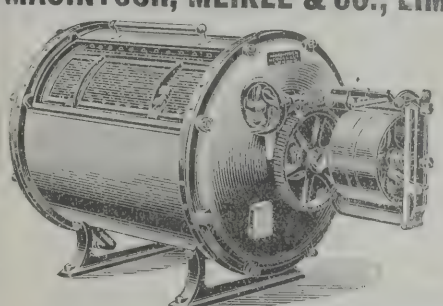
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97 LISSON GROVE, LONDON, N.W.

SCOTLAND.—March 11.—For addition to and alteration of the teacher's house at Dalmally school, Glenorchy. Mr. Kenneth MacRae, architect, Oban.

SHOEBURYNESS.—March 6.—For excavations and building gasholder tank in brickwork and Portland cement; building retort-house, engine and exhauster house, tar and liquor tank, meter and governor house, foundations, &c., for the Gas Company, Limited. Mr. Henry J. Robus, consulting engineer, 20 Bucklersbury, London, E.C.

SLEAFORD.—April 4.—For erection of the superstructure of the new lunatic asylum at Rauceby, near Sleaford. Mr. George T. Hine, architect, 35 Parliament Street, Westminster, S.W.

SOWERBY BRIDGE.—March 7.—For erection of a four-storeyed warehouse at Mearclough, Sowerby Bridge. Messrs. Jackson & Fox, architects, 7 Rawson Street.

SOUTH ACTON.—For erection of small laundry premises. Mr. G. Percy Pratt, architect, 10 The Parade, Churchfield Road, Acton.

THORNABY-ON-TEES.—March 6.—For erection of an infants' school at Thornaby-on-Tees. Mr. E. Goldie, architect, 31 Upper Phillimore Place, Kensington, W.

THORNABY.—March 14.—For erection of offices, &c., at the Thornaby Shipbuilding Yard. Messrs. C. H. Marriott & Son, architects, West Park Street, Dewsbury.

TIVERTON.—March 6.—For erection of new isolation hospital buildings, for the Tiverton Joint Hospital. Mr. J. Siddalls, architect, Tiverton.

TREDEGAR.—March 13.—For altering and cementing the Castle Hotel. Mr. Arthur O. Evans, architect, Pontypridd.

WALES.—March 7.—For alterations and additions to Bryn-Rhydderch House, near Penpergwm. Mr. Robert Williams, architect, Pontypool.

WALES.—March 7.—For alterations and additions to the schools at Abergwynfi to accommodate 264 children. Mr. O. Penton Lambert, architect, Bridgend.

WALES.—March 9.—For erection of a weights officer's rooms at the police-station ground, Bangor. County Surveyor, 8 Castle Street, Carmarthen.

WALES.—March 14.—For erection of a county intermediate school for girls, Bala, Merioneth. Mr. H. Teather, architect, 83 Wyle Cop, Shrewsbury.

WEST HARTLEPOOL.—March 8.—For erection of works at Dyke House. Mr. Thomas Bower, engineer, Ga Water Company, West Hartlepool.

WEST HARTLEPOOL.—March 13.—For erection electric-light station in Burn Road. Mr. C. Stanley P architect, West Hartlepool.

WESTON-SUPER-MARE.—March 7.—For alterations Royal Pier Hotel vaults. Messrs. S. J. Wilde & Fry, arch Boulevard Chambers, Weston-super-Mare.

WHITBY.—March 10.—For reroofing and other alter at 23 St. Hilda's Terrace. Mr. Edward H. Smales, arc 5 Flower Gate, Whitby.

WREXHAM.—For erection of a portion of a factory. Walter Slater, architect, 9 High Street, Wrexham.

WREXHAM.—March 7.—For erection of culvert on Ho Road, Burton, Rossett. Mr. John Strachan, surveyor, C Lodge, near Wrexham.

ST. PAUL'S CHURCH, West Smethwick, which has closed for several months whilst a scheme embracing tions, additions and repairs has been carried out, has no reopened. The galleries at the west end and over the transept have been taken away, and the principal entra the church has been arranged under the spire. The formerly occupied by a staircase to the gallery has been to form a porch. A baptistery has been provided at th end of the church, and this contains a handsome ne The whole of the old seats in the nave and south transe been removed, and the seating and aisles have been rear so that now there are three aisles instead of two, as fo A new boarded floor has been fixed under the whole seating, the aisles having been laid with red tiles. The h and lighting arrangements of the edifice have also und considerable revision and improvement, the long gas p which formerly hung from the ceiling having given p ornamental brass and iron standards fixed in the aisles interior of the church has been thoroughly cleaned a decorated. The work has been carried out by Mr. H. builder, of Oldbury, under the superintendence of Mr. architect, of Smethwick.

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TENDERS.

BANGOR.

For addition of a wing to St. Mary's Training College for Schoolmistresses. Messrs. GRIERSON & BELLIS, architects, Bangor.

E. WILLIAMS, Garth, Bangor (*accepted*).

BARNET.

For erection of a mortuary near the infirmary.

W. Wade	£396 0 0
J. Pavey	369 0 0
T. Butcher	295 0 0
J. Baughen	290 0 0
M. PEARSON, Barnet (*accepted*)	290 0 0

BELFAST.

For supply, erection and setting to work of one locomotive steam-crane, capable of lifting three tons at a radius of 45 feet. Mr. G. F. L. GILES, engineer.

A. Chaplin & Co.	£1,230 0 0
J. Booth & Bros.	1,125 0 0
J. H. Wilson & Co.	1,000 0 0
Dunlop, Bell & Co.	985 0 0
MACCOLL & CO., LIMITED, Belfast (*accepted*)	900 0 0

BRADFORD.

For erection of eight through houses at Bradford Moor. Mr. G. C. GAMBLE, architect, Parkinson's Chambers, Bradford.

Accepted tenders.

J. Street, Bradford, joiner.
T. Nelson & Son, Bradford, slater.
J. Wheater, Bradford, plasterer.
T. Rowe, Bradford, plumber.

For erection of a combing shed and warehouse at Dudley Hill. Mr. FRED. HOLLAND, architect, 11 Parkinson's Chambers, Hustlergate, Bradford.

Revised and accepted tenders.

Roberts & Co., Dudley Hill, ironfounder	£716 0 0
R. Raper, Dudley Hill, joiner	380 0 0
J. Sugden, Low Moor, mason	261 0 0
A. Taylor, Eccleshill, plasterer	213 0 0
J. Smithies, Bradford, slater	173 0 0
W. Pickard, Bradford, plumber	140 0 0
O. Benns, Bradford, painter	34 0 0

BRISTOL.

For constructing fireproof floor in the new granary at Avonmouth.

C. A. HAYES, Bristol (*accepted*).

BURY ST. EDMUNDS.

For supply of electric-lighting plant.

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Fowler & Co., engine-house plant	£5,793 0 0
Grimwood & Sons, buildings	3,470 0 0
Callender Cable and Construction Co., mains	2,994 0 0
Davey & Co., boiler plant	1,495 0 0

CHESHIRE.

For laying a 12-inch socketed pipe sewer, with manholes, &c., along a new road known as Chapel Road, Northenden. Mr. J. M'D. M'KENZIE, surveyor, 7 Market Street, Altrincham.

W. BARTON, Hale, Altrincham (*accepted*) . £203 0 0

COALVILLE.

For sewage scheme.

J. Biggs	£26,962 0 0
J. Holmes	26,220 0 0
G. Bell	21,652 0 0
W. & J. Foster	21,546 9 4
H. Weldon	21,326 19 7
C. Walker & Co.	21,178 0 0
E. Orton	20,756 0 0
E. Tempest	20,093 4 2
J. Ford	19,871 17 4
BENTLEY & LOCK, Leicester (*accepted*)	17,969 0 0

CORK.

For erection of offices and store. Mr. SAMUEL F. HYNES, architect, 41 South Mall, Cork.

D. O'CALLAGHAN, Grattan Street (*accepted*).

DARLINGTON.

For additions and alterations to the public baths. Mr. T. SMITH, borough surveyor.

Accepted tenders.

R. Kitching & Sons, bricklayer, stonemason and plasterer	£336 2 6
R. Kitching & Sons, carpenter and joiner	261 6 6
J. Wandless, slater	46 0 0
E. Smith, plumber and glazier	25 0 0
A. Ward, painter	14 14 6

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For erecting new male and female wards, new laundry, servants' quarters, &c., Mickleover. Mr. J. S. STOREY, architect, Derby. Quantities by Messrs. FIFE & BROWN, London.

G. Knowles	£40,679 0 0
A. Brown	39,370 0 0
Walker & Slater	37,500 0 0
W. Eaton	36,620 0 0
H. J. Robinson	36,391 0 0
W. Walkerdine	35,802 0 0
A. B. Clark	35,700 0 0
W. E. SHAW, Ilkeston (*accepted*)	34,660 0 0

DEVONPORT.

For erection of a boys' school at Johnstone Terrace.
MATCHAM & CO. (*accepted*) £10,535 0 0

DURHAM.

For erection of public conveniences in Front Street, Stanley. Mr. JOSEPH ROUTLEDGE, surveyor.

T. & R. Lamb	£158 5 3
G. Stewart	157 4 9
W. JOHNSON, Dipton (*accepted*)	149 17 1

EASTBOURNE.

For construction of a public convenience on the Grand Parade. Mr. R. M. GLOYNE, borough engineer.

J. C. Lacey	£1,050 0 0
Doulton & Co., Limited	1,045 0 0
C. Peerless-Dennis & Co.	1,027 0 0
G. JENNINGS, Lambeth Palace Road, S.E. (*accepted*)	1,009 0 0

FLEETWOOD.

For erection of a restaurant in North Albert Street. Messrs. T. A. DRUMMOND & SONS, architects, Fleetwood.

J. Kirkbride	£1,170 0 0
R. Westby	1,135 0 0
T. RILEY, Fleetwood (*accepted*)	1,076 0 11

HAVERFORDWEST.

For reroofing Poyston Mansion.

R. Davies	£310 0
Jones & Roberts	275 0
J. Lewis	250 0
T. Davies & Son	238 0
W. Thomas	204 0
Watts & Edwards	195 4
W. LEWIS, Crundale (*accepted*)	190 0

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PICKETT (*accepted*) £4,982 13

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For erection of a set of four cast-iron purifiers at the gaswork C. & W. WALKER, Donnington, Salop (*accepted*).

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A. Gayford	155 0
V. A. Marriott	147 10
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A. Sadler	140 0
H. E. Bevan	135 0
E. G. Haggar	130 0
G. F. THWAITES, Richmond Road (*accepted*)	129 5

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aunders & Hull	£180	0	5
V. Gibson	115	0	0
Bealey	100	0	0
lymouth House Decorating Co.	100	0	0
Skinner	99	10	0
Tucker	99	10	0
Hoskin	99	3	9
V. J. H. Hocking	96	8	0
Vest & Co.	89	0	0
I. Grant	88	0	0
ill & Son	82	0	0
homas & Jennings	80	0	0
Gough	74	18	6
isher Bros.	69	10	0

LEAMINGTON.

erection of a refreshment buffet in the Jephson Gardens. Mr. F. Foster, architect, 4 Euston Place, Leamington.

awkes Bros.	£670	0	0
F. Smith & Son	610	0	0
Bowen	579	0	0
R. Atkins	522	0	0
P. Gathercole, Clarendon Avenue (*accepted*)	470	0	0

LLANDUDNO.

improving Queen's Road and Ffernback Road. Mr. Stephenson, engineer.

V. Davies (*accepted*)	£1,105	0	0

MOSELEY.

erection of two villas situate in Mayfield Road, for Mr. S. Mason. Mr. H. Cresswell, architect, 12 Cherry Street, Birmingham.

Voodward & Miller	£1,714	0	0
Briley	1,700	0	0
J. Charles	1,697	0	0
Davis	1,675	0	0
Hughes & Son	1,575	0	0
V. J. Stone	1,550	0	0
iles & Son	1,515	0	0
V. Bishop (*accepted*)	1,510	0	0

MAIDSTONE.

For converting the old church of St. Luke's into schools.

T. Elmore	£949	0	0
J. H. Bridge	914	0	0
Wallis & Sons	893	6	0
Pryer & Co.	880	0	0
G. Candler, Maidstone (*accepted*)	821	5	0

NEATH.

For erection of a block of buildings, comprising manual instruction room, dining-rooms and gymnasium. Mr. D. M. Jenkins, architect, Gwyn Hall, Neath.

J. Smith	£983	0	0
E. Thomas	965	0	0
O. L. David	940	0	0
Snow & Grant, Neath (*accepted*)	885	0	0

NELSON.

For additions, &c., to Zion Baptist Chapel, Elizabeth Street. Mr. H. Whittaker, architect, 21 Market Square, Nelson.

Cunliffe, Bennet & Brockbank	£567	0	0
M. Hawley	555	0	0
S. & W. Dearden	518	15	0
C. Metcalf	509	10	0
A. Robinson, Brierfield, near Burnley (*accepted*)	507	0	0

NEWHAVEN AND SEAFORD.

For construction of a sea-wall between Newhaven and Seaford, with concrete and timber groynes, &c.
W. Hill & Co., 5 Victoria Street, Westminster (*accepted*).

NORWICH.

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Taylor, Garrett, Norwich (*accepted*) . . £100 0 0

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For completion of the Race Common water supply.
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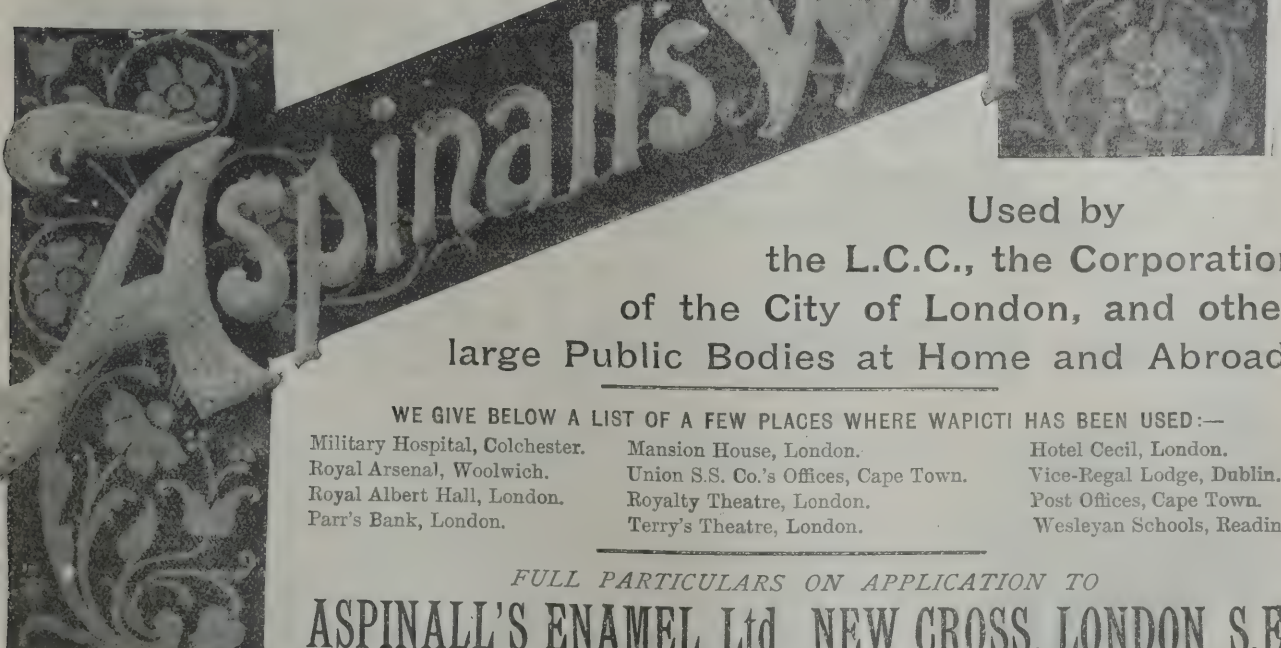
For erection of the first section of St. Barnabas's school.
Thompson & Son, Peterborough (*accepted*).

PIPE RIDWARE.

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Ward & Son, Uttoxeter (*accepted*) . . £900 0 0

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LOVATT & CO., London (*accepted*), about £400,000.

PLYMOUTH.

For fitting-up the new banking premises in Princess Square.

RUSE & SONS (*accepted*).

READING.

For erection of pair of shops in Oxford Road. Mr. W. JANE, architect, 17 Market Place, Reading.

G. H. Tucker	£764 0 0
W. Bourton	711 10 0
H. W. Godwin	655 0 0
A. Gimson	635 0 0
G. DIXON, Reading (*accepted*)	568 10 0

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For building eight houses.

NOBLE BROS. (*accepted*).

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For execution of paving, flagging, sewering, &c., in Basil Street, off Vavasour Street, and the execution of about 253 lineal yards of earthenware pipe-sewers, 18 inches and 9 inches diameter, with manholes, gullies, drain-connections, &c., in Royds Street, Moss Mill Street and Woodbine Street East, off Oldham Road. Mr. S. S. PLATT, borough surveyor.

F. KERSHAW, 110 Royds Street (*accepted*).

ROMSEY.

For alterations to the Great Bridge on the main road between Romsey and Stockbridge.

W. ROLES & SONS, Romsey (*accepted*).

SCOTLAND.

For cutting, laying and refilling sewers in John Street a Glebe Street, Campbeltown. Mr. JAMES FULLARTO master of works.

P. Docherty	£39 1
D. & A. HAMILTON, Campbeltown (*accepted*)	37 18

SEMER.

For reseating Semer Church and repairing the nave. M JOHN SHEWELL CORDER, architect, Wimborne Hou Ipswich.

C. Orfeur	£296 0
Down & Stephenson	214 0
Death	204 0
Castle	133 0

STOCKTON-ON-TEES.

For erection of new premises, for Messrs. D. Hill, Carter Co., Limited. Mr. EUGENE E. CLEPHAN, architect, Nicholas Chambers, Newcastle-on-Tyne.

J. Howe & Co.	£2,900 0
J. Davison	2,605 17
Allison Bro.	2,600 0
K. Blackett & Son	2,595 0
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CRAGGS & BENSON, Stockton-on-Tees (*accepted*)	2,420 0
G. T. Manners	2,345 0
A. Atkinson & Co.	2,222 11

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J. Williams, Swindon	34 13

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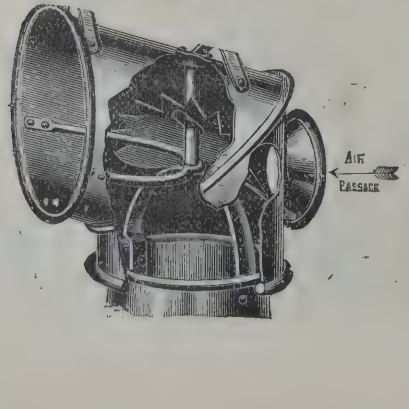
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For erection of warehouse, &c, Market Street. Messrs. TALBOT-BROWN & FISHER, architects, Wellingborough.

C. W. Abbott	£740	0	0
R. Marriott	650	0	0
Hacksley Bros.	639	0	0
G. Henson	598	0	0
W. J. Harrison	595	0	0
T. H. Dorman	589	0	0
W. Stevens	579	11	0
G. Brown & Son	577	10	0
Berrill & Green	548	15	0
G. A. Smith (*withdrawn*)	538	0	0

Received too late for Classification.

HASTINGS

For erection of a new workhouse.

Thomas Salter	£50,674	0	0
J. Lester	49,795	0	0
Arthur H. White	49,786	0	0
Padgham & Hutchinson	47,620	0	0
PETER JENKINS, St. Leonards (*accepted*)	47,500	0	0

BUILDING AND BUILDERS.

A NEW parsonage is being provided for the incumbent of Carnforth at a cost of 1,600*l.*, in addition to the sum of 160*l.* which was given for the site.

IT has been decided to erect a new United Presbyterian church at West Derby, Liverpool. The promoters are in treaty with the Liverpool Council for the purchase of a site in Green Lane.

AT Bridlington on the 23rd ult. the foundation-stone was laid of the Yorkshire Foresters' Orphanage and Convalescent Home, by Bro. R. S. Kirk, of Leeds, and several memorial-stones were laid by representatives of the various courts and districts of Yorkshire. The building is being erected by Messrs. F. Blackburn & Son, of Hull, and the architect is Mr. Robert J. Beale, of 9 Victoria Street, Westminster, whose design was selected in competition.

THE work of restoring St. Nicholas Church, Strood, Kent, after the recent fire in the tower, is about to be taken in hand. The insurance companies concerned have assessed the damage at 1,805*l.* The turret destroyed by the fire was out of harmony with the general character of the Early English tower—the sole remaining piece of the architecture of the ancient church—but it has been decided to adopt the battlemented parapet style in carrying out the restoration.

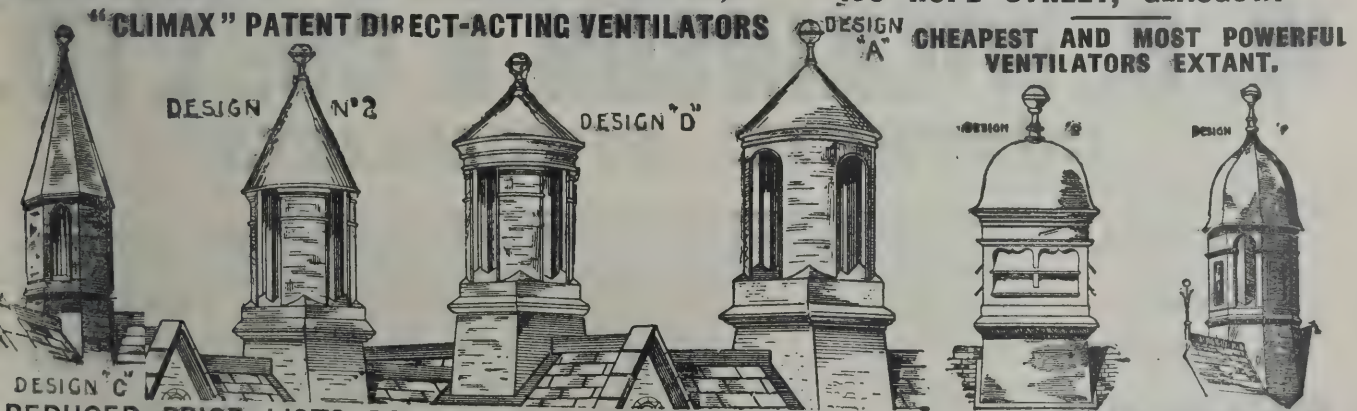
LORD ALWYNE COMPTON, bishop of Ely, dedicated on the 22nd ult a new church at North Side, Whittlesea, Cambridgeshire, which has been given by the Duke of Bedford for the accommodation of tenantry residing in that district of his extensive Thorney estate. The parish is one of the largest in England, and belongs almost exclusively to his Grace. Up to now people in this district have worshipped at one time in a coachhouse and at another in a kitchen, or had to walk several miles to the nearest church.

THE Finchley District Council has decided to purchase 2¼ acres of land upon which to erect thirty houses for the working classes, to be let at 7*s.* 6*d.* and 8*s.* 6*d.* a week. Half the land will be used for allotments until required for thirty more houses. Each dwelling will cost about 250*l.* to build, and the ground will be intersected by a 40-feet road. The total cost is estimated at 8,000*l.*, but it may amount to much more. The site decided upon is between East and Church End, Finchley, near where the Great Northern Railway Company are reported to be going to open a new station. Three members of the Council opposed the undertaking and eleven supported it.

A MEETING of the joiners in the Motherwell, N.B., district was held in the Co-operative Hall last week to consider the wages question, the meeting being the largest and most successful yet held in Motherwell in connection with the trade. Towards the end of last month a demand was made for an increase of ½*d.* per hour on the wages, the advance to begin on March 1. The reply of the masters to this request was that they were prepared to grant ¼*d.* per hour on March 1, another ¼*d.* of an advance to follow two months later. This offer the men refused, and they pressed for the full advance being conceded on March 1. Another reply from the masters is awaited, and if the demand is not conceded, it is probable a strike will follow, the district being in a well-organised state at present. The rate of wages ruling in the district at present is 8½*d.* per hour. The meeting also took up consideration of a set of by-laws, which will be placed before the employers shortly.

THE new head office of the Isle of Man Banking Company, Limited, which is about to be erected at a cost of 13,000*l.*,

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from the designs of Mr. Marshall Mackenzie, of Aberdeen, will be a handsome building in Aberdeen granite, situated at the junction of the principal thoroughfares Athol Street and Prospect Hill, Douglas. The style of architecture is Renaissance, and it has a fine bold effect, combining the appearance of great strength and stability with lightness and grace. The whole of the exterior will be executed in finely-axed granite, and the interior of the lobby will be of polished granite and of different varieties as to colour. All the granite work of the two elaborate fronts will be dressed in Aberdeen, and will be sent to Douglas by sea. On the ground floor the bank offices will be located and the two upper floors will be let out as business offices. When erected, the bank premises promise to form the finest block of buildings on the Isle of Man.

AMONG the plans approved by the Aberdeen plans committee last week, which will come before the next meeting of the Town Council for formal sanction, are those of the proposed new offices in Aberdeen for the Scottish Temperance Life and Accident Assurance Company, Limited. The new building will occupy the site of the dwelling-house, 154 Union Street, next to the Royal Bank. The site is unfortunately rather narrow, and the architects—Messrs. Jenkins & Marr, Bridge Street, Aberdeen—have consequently been somewhat hampered from an architectural point of view, but they have made the most of the space at their disposal. The style of the building may be described as free Classic. In height it will be 70 feet, with a width of 34 feet, and it will have a depth to Diamond Lane of 92 feet, which will to some extent compensate for the narrowness of the front. The basement will be occupied with cellars and stores, and on the ground floor there will be two handsome shops, with extensive saloons behind. These shops will be on either side of a fine central door, giving access to the upper floors. The door is surmounted by a moulded pediment. Up to the height of the second floor the building presents a fine effect, with the bold, oriel windows, surmounted by a balustrade. The architectural effect is accentuated by the ornamental gables in which the structure terminates above. On the first floor there are two sets of offices in the front, and one in the back of the building, and they are roomy and well lighted. In the second floor there is a slightly different arrangement, there being two offices in the front and two at the back. The third floor and attics will be let as a dwelling-house. On the level of the third floor there is a laundry and washing-house conveniently situated. Part of the first floor will be utilised as the Aberdeen offices of the assurance company. Apart from the cost of the site, that of the building is estimated to amount to 5,000*l.*

VARIETIES.

THE Duke of Connaught on Monday laid the foundation-stone of a new English church at Assouan.

THE Edinburgh streets and buildings committee reported the acceptance of an estimate by Messrs. M'Euen & Co., London, for 115,000 Blackbutt blocks at 10*l.* 16*s.* per 1,000, for the wood-paving of Princes Street.

THE net value of the estate of the late Samuel Bayliss, of No. 5 Hanover Terrace, Regent's Park, London, civil engineer and contractor, who died last November, has been sworn at 545,849*l.* The deceased died intestate.

THE new place of worship which has been erected in Grangemouth, N.B, by the congregation of the Kerse Established Church, was dedicated for public worship on Friday afternoon.

A NEW elementary school which has been erected in George Street by the Dumfries School Board was opened on Monday. It is a handsome building, having cost (with the site) nearly 10,000*l.*, and it takes the place of the old Greensands school, in the same neighbourhood. It provides accommodation for over 500 pupils. The architect is Mr. Crombie, Dumfries.

THE spring provincial meeting of the Auctioneers' Institute, which now numbers considerably over 1,000 members, will be held at Derby on Thursday and Friday, March 9 and 10. The Council and members will be received in the Guildhall by the mayor (Alderman E. T. Ann), after which the general business of the Institute will be transacted by the Council.

THE workmen engaged at Messrs. Lakin's works at Stockton, near Leamington, have dug out a cinerary urn, of beautiful and artistic design. It is said that there is only one other example of the kind outside the South Kensington Museum. It is unfortunate that, in excavating the urn, the workmen broke one of the handles.

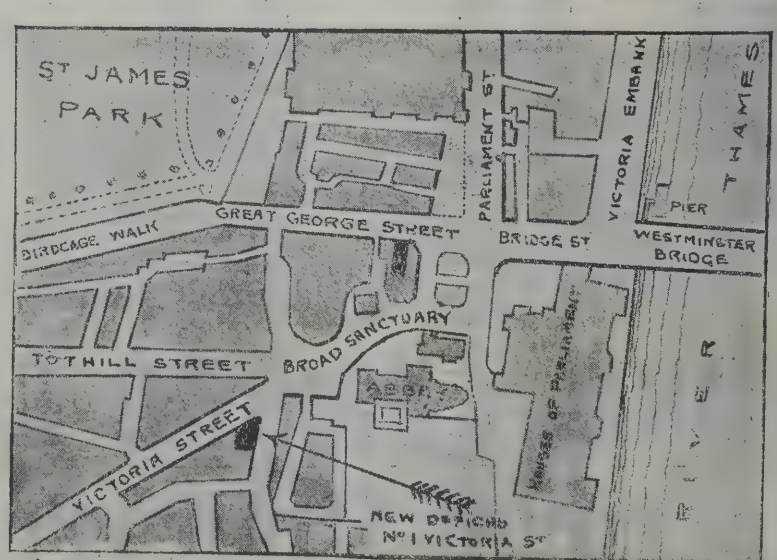
THE trustees of the Elder Bequest have decided to give to Free Trinity Church, Leith Walk, Leith, a legacy left by the late Mr. Thomas Elder amounting to 10,000*l.* It has been arranged that a new church shall be erected on the site at a cost of 6,000*l.*, that a manse should be built at a cost of 1,800*l.*,

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and that the balance of 2,200*l.* should go to the endowment of the church.

The Board of Works have offered to sell the Menai suspension bridge, which connects Anglesey and Carnarvonshire, for about 15,000*l.* The gross rent of the structure is stated to be 1,700*l.*, there being an annual profit of something like 400*l.* after paying all expenses. The proposal was made to the Menai Bridge District Council, and was referred to the Anglesey and Carnarvonshire County Councils for consideration.

A start has been made towards pulling down business premises having frontages in Cheapside and St. Paul's Churchyard, with a view to the widening of the western entrance to Cheapside. In rebuilding the street-line will be placed back several feet. The improvement scheme also provides for the widening of the roadway at the junction of Newgate Street and Cheapside.

The Lord Bishop of Liverpool, Dr. Ryle, has written to the finance committee suggesting that the Corporation should consider the advisability of allowing the tower and spire of St. George's Church to remain standing. The surveyor and building surveyor have been instructed to report upon the work necessary to be carried out for retaining the tower and spire if the Council decide to adopt his lordship's suggestion.

The British Fire Prevention Committee, the establishment of which was the outcome of the Paris charity bazaar and Cripplegate fires, has now become a fully incorporated scientific society under the special sanction of the Board of Trade. It will be known as such from the 1st inst. The rapid development of the committee is mainly due to the energy of its executive, led by Mr. Edwin O. Sachs, and to the influence of its Council. Its scope is again being extended, another important section, dealing particularly with the safety of factories and workshops, being formed.

Two new blocks, an extension of the Royal Hospital, were opened at Portsmouth on Monday last by the Duke and Duchess of York. The new blocks are the local memorial of the Queen's Diamond Jubilee, and they have been erected at a cost of over 18,000*l.*, towards which more than 15,800*l.* was raised in Portsmouth and the neighbourhood during 1897. One of the blocks will be devoted to female patients, and the other to males, children being located in the old building. Thirty-seven additional beds will be provided, entailing for their maintenance, after the wards have been furnished, an annual expenditure of 1,700*l.*

The Old Manor House at Hythe has recently changed hands. The interior of the house presents many features of great interest. The terminal newel of the principal staircase is surmounted by a lion rampant supporting a shield, designed by Sir Edwin Landseer, and carved in oak, whilst the flight is illuminated by a magnificent lamp of ormolu with glass panels, which formerly hung in the Palace of the Tuileries. In the library is a large open fireplace, with an Elizabethan chimney-piece curiously carved with the words "Drede God and honour the King." Amongst the contents of the house, which are to be disposed of under the hammer in the spring, is a grand piano made for George IV. when Prince Regent.

The Edinburgh Architectural Association visited on the 25th ult. the works of Messrs. James Milne & Sons, Limited, and were received by Messrs. Milne, Lumsden & Macfie, the managing directors, who conducted the party in sections over the works, and afterwards entertained them to luncheon. Holyrood Palace was next visited, and over it they were conducted by Mr. W. W. Robertson. By special permission of Her Majesty the private apartments were open on the occasion, and over these they were shown by Mr. Robertson and by Mr. Sands, of the Lord Chamberlain's department. The secretary was requested to convey to Her Majesty, by Sir Spencer Ponsonby Fane, the thanks of the members for permission to make this interesting visit.

The annual meeting of the Temperance Permanent Building Society was held at the Memorial Hall, Farringdon Street, on the 22nd ult., Mr. James Pousty presiding. In proposing the adoption of the report, he said in 1892 the advances were 189,288*l.*; in 1898 they amounted to 301,276*l.*, and the mortgage securities had increased to 1,011,021*l.* The reserve fund had during that period risen from 46,924*l.* to 67,132*l.*, and was now over 10 per cent. of the share capital. The exceptional strength of the Society lay largely in the circumstance that over 90 per cent. of the mortgages were for sums not exceeding 500*l.*; thus, while others talked, they were quietly enabling multitudes to secure an old-age pension that would not die with them. The resolution was seconded by Mr. J. Bamford Slack and adopted.

At a meeting of the Paisley Police Commissioners on Monday last the clerk submitted the minute of a meeting of the committee appointed in connection with the proposed refuse destructor. The minute bore that the committee recommended that the commissioners should now take steps for

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3 ft. 6 in., £5 4 0.

securing a site for the erection of a refuse destructor on the lands of Gockston, and that they contract with the Horsfall Company, Limited, for the erection of the works. Bailie Wilson moved that the minute be approved of. He said the committee, after mature deliberation, had arrived at the conclusion that there was no other way open to them for the destruction of town's refuse than by erecting a destroyer. Several questions were asked as to the site of the destructor, after which the recommendation was agreed to.

APROPOS of the fact that the Great Western Railway Company intend to carry out extensive alterations at Stourbridge Junction, and to erect a station at Chawnhill to supersede the present one, the clerk to the Stourbridge Council (Mr. W. W. Goddard) was instructed at a recent meeting of that body to write to the general manager of the railway company on the subject of the commencement of the work, and in reply to his inquiries has received a letter in which Mr. Wilkinson says :—"In reply to your inquiry, I have to state that a plan for constructing a passenger station on modern lines at the Chawnhill site, and for remodelling the goods yard, is being developed ; and I hope to be able to submit it to my board at an early date. It will, no doubt, in the circumstances, be a matter of interest to your Council to learn that at a recent meeting the directors authorised the removal of a large quantity of spoil to Stourbridge Junction for the levelling up of the ground preparatory to the carrying out of the alterations in contemplation."

IN his annual report the building inspector for York states that in the west division of the city there has, during 1898, been a small increase in the total number of dwelling-houses completed, but the number of better-class dwelling-houses far exceeds that of previous years. There has been a good demand both for purchase and occupation The districts where the better-class dwellings have been built are Scarcroft and Holgate. Of the cottage class a large number have been build in the Leeman Road district. Upon the new estate recently opened out on Bishopthorpe Road great activity is being displayed, and the demand for the smaller class of houses is great. The North-Eastern Railway Company have built large additions to the workshops at Holgate, which will provide room for the employment of several hundred additional workmen. On the east side of the city 265 dwelling-houses, mostly of the small and middle class, have been built on the Bootham, Clifton, Burton Stone Lane, Wigginton Road, Haxby Road, Heworth and Fulford Road building estates. Plans have been approved for new streets on Fulford Road, Hull Roa Haxby Road, Huntington Road, Heworth, Park Grove a Burton Stone Lane. Many large additions and alteratio have also been made to business and other premises.

TRADE NOTES.

THE new intermediate schools, Builth, are being warm and ventilated by means of Shorland's patent Manches grates.

IN the ventilation of Glengall Asylum, Ayr, now in cour of completion (Mr. Allan Stevenson, architect), "Cousland Improved Climax" patent direct-acting invisible chimn terminal ventilators and noiseless mica flap ventilators ha been used, supplied by the Climax Ventilating and Heati Company, Limited, 93 Hope Street, Glasgow.

A NEW illuminated turret striking clock, showing the ti upon four external dials 4 feet 6 inches each in diameter, a lighted by electricity, has just been fixed in the tower of t West Yorks Asylum, Wakefield, by Messrs. Wm. Potts & So church and turret clock makers, of Guildford Street and Coo ridge Street, Leeds, under the supervision of Mr. Vica Edwards, county surveyor, Wakefield. The clock strikes t hours on a bell of 6 cwt. of best bell metal. Messrs. Wm. Po & Sons are just finishing a large illuminated turret quart chime clock at Newcastle Asylum for Mr. Dyson, archite of Newcastle-upon-Tyne.

MR. PITTENDRIGH MACGILLIVRAY, A.R.S.A, has j completed in the clay a bust of Mr. William M'Ewan, M. which has been commissioned by the University of Edinbur in order to be placed in the grand hall.

AFTER years of contention as to whether Hackney shou be lighted by electricity through the medium of a company by parochial enterprise, the vestry in June last decided in favo of keeping the electric-lighting order in their own hand After seven months' consideration the committee have issued long report prepared by Mr. R. Hammond, and they recom mend that a scheme therein set out, which will cost, exclusi of charges for the site, 242,367*l.*, be adopted.

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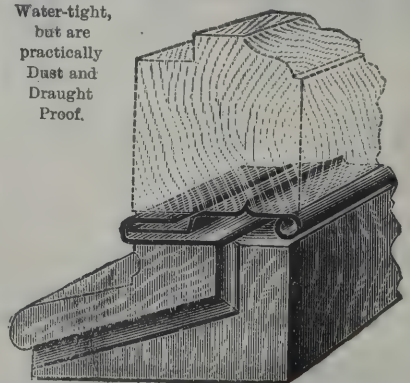


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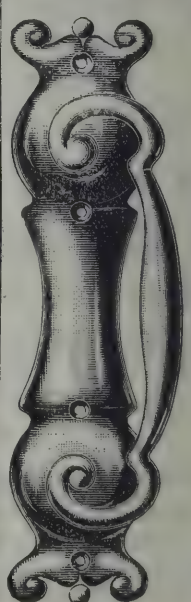
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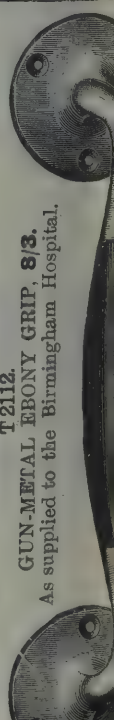


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ILLUSTRATIONS.

ATHEDRAL SERIES.—DURHAM: BISHOP'S THRONE, CHAPEL OF NINE ALTARS, LOOKING NORTH.

CREWE HALL.—THE GALLERY.

ED BRANCH HOUSE, LAURISTON ROAD, WIMBLEDON.—FRONT VIEW. GARDEN VIEW.

ELECTRIC NOTES.

HE Windsor Town Council has decided to light the rough by electricity instead of gas.

THE electricians of the Office of Works are just now sily occupied in illuminating Buckingham Palace. Hitherto ectricity has been used in the palace to a small extent, but fore the ensuing "season" is in full swing the whole of the ge edifice will be lighted.

THE electric-lighting committee reported at the monthly eeting of the Paisley Town Council that they had sent a plan, epared by Mr. Teague, of ground proposed to be acquired r extension of works, to the solicitors of the Paisley and arrhead District Railway Company, with the view of an rangement being come to for acquiring part of the field ljoining the works which has been scheduled by them under eir Act, but that they had as yet given no indication of their ews. The clerk was instructed to press the matter on the tention of the railway company. It was further reported by e committee that they had received a statement from Mr. eague, showing extensions of plant required, estimated to cost 750*l.*

THE Leeds lighting committee have decided to apply to e Government authorities for power to borrow 150,000*l.* to tend the electric mains in the city, enlarge the present nerating station in Aire Street and to acquire additional achinery. This sum, it is expected, will be adequate to meet e more pressing requirements for the next couple of years. t present new mains are being laid down through Hunslet as r as the Great Northern goods station, and from these it is expected that the majority of the large workshops in Hunslet will procure electricity for lighting purposes. In which direction the committee intend to further extend their mains has not yet been settled. A look at the map, however, with the present mains marked thereon, reveals abundant scope for enterprise. To anything like cater for the wants of the citizens, the mains ought at least to be treble in number. Ald. Wigram presided at the meeting.

MR. H. H. LAW recently held a Local Government Board inquiry at Doncaster Guildhall in connection with an application by the Corporation to borrow 30,000*l.* for the purpose of carrying out the works for electric lighting. The town clerk explained that the undertaking had the full approval of the burgesses. The proposal originated with a memorial from the burgesses that the Corporation should undertake the supply rather than allow the work to fall into the hands of a public company, and this feeling was emphasised when an extensively signed memorial, representing the largest ratepayers in the town, was presented against the scheme threatened by the company who proposed to supply a large area. The loan was asked for forty-five years. Of the amount (30,000*l.*), 5,000*l.* had been estimated as the cost of the buildings There was a compulsory area to be supplied, but there would be power to supply outside of this compulsory area. In addition, it was proposed to have a light railway, and it was contemplated to drive the trams through these works. Mr. Crabtree (borough surveyor) explained the situation and the nature of the buildings, &c. He explained that the workings would be on the three-wire system, and that of the full sum required it was estimated that 20,000*l.* would be absorbed by the compulsory area. It was explained that the amount 30,000*l.* was an estimate not based on tenders. On the conclusion of the inquiry the Mayor thanked the inspector, who went to view the site of the works.

AT a meeting of the electric lighting committee of Edinburgh Town Council on Tuesday last, it was agreed to recommend the acceptance of the following estimates for the M'Donald Road station:—Mason and joiner work, Mr. James Kinnear, Edinburgh, 25,000*l.*; storage batteries, Messrs. Pritchetts & Gold, Feltham, London, 6,665*l.*; overhead travelling crane, Messrs. Carrick & Ritchie, Edinburgh, 545*l.* It was agreed to adhere to the former recommendation of the committee in favour of the construction of a subway from M'Donald Road up Leith Walk to Picardy Place, at a probable cost of 11,000*l.* The question of joining the arrears of lamps

O ARCHITECTS, SURVEYORS, &c.

The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent") having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

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applied for was considered, and the feeling was that the electric light department being now in a position to take on all consumers desirous of being connected, and as the new station at M'Donald Road would be ready in October, there should be no difficulty in keeping up full pressure during the whole of next season. The committee agreed to recommend the Council to put down three additional boilers at Dewar Place on the ground lately acquired from the North British Railway Company.

WARINGS' NEW BOOK.

"RECENT CONTRACTS" is the name of the new work of art—there is no other designation suitable to it—just issued by Messrs. Warings, 175 Oxford Street. It is a veritable *édition de luxe*, exquisitely printed in two colours, and profusely illustrated with views of interiors of several among the numerous mansions, theatres, hotels, municipal and other public buildings, yachts, &c, which have recently been arranged and furnished by this well-known firm, the views being accompanied by interesting and at the same time elaborately descriptive accounts printed in English and French. So numerous, so well drawn and so beautifully printed are the illustrations, that a study of the book is quite an education in taste, and the greatest credit is due to everyone connected with the production of such a handsome result.

NEW CATALOGUE.

THE "B. & S." Folding Gate Company, of 20 John Street, Adelphi, have just brought out a profusely illustrated catalogue of the specialties the excellence of which has gained for the firm a widespread reputation. These comprise, as most of our readers are aware, artistic grilles for all purposes, such as bank and office enclosures, elevator and staircase guards, panels for all kinds of purpose, park grilles and gates, &c., in designs ranging from the simplest to the most elaborate, but all alike exhibiting excellent taste in their conception and carrying out, a quality which is also prominent in the balustrades and hand-rails, of which numerous specimens are given, and many of which have been carried out in the firm's electro-bronze finish, which is both highly artistic and at the same time particularly durable. The firm strikes out quite a new line in the designs for electric light fittings, many of which, equally original and elegant, are such as should gain a large amount of approval.

"RIPOLIN."

"RIPOLIN" is the name given to an enamel paint wh
although only recently introduced to the public, has been
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eminently satisfactory from the points of view of wear
durability, and certainly the samples submitted to us le
nothing to desire on the score either of colour, elasti
or finish (whether gloss or matt). It is supplied in sixty-
different shades of colour, and other shades can easily
obtained by mixing. Suitable both for indoor and out
work, it dries in about eight hours, does not become detache
scale off, and has proved itself perfectly durable in tro
climates; therefore it may be considered as an excellent
for outdoor work, but it also merits preference for painting
interior parts of buildings such as panels, doors, ceili
window-frames and furniture, &c.

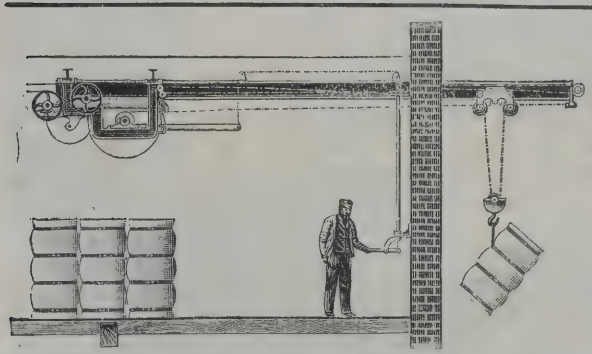
The same company (Ripolin, Limited, 110 Fench
Street) are also proprietors of "Rieps" anti-fouling and
corrosive compositions, which have been used by the D
steamship companies and several French and English
panies, viz.:—Royal Dutch Marine, the "Nederland" S
Navigation Company, the "Zeeland" Steam Navigation C
pany, the "Rotterdamsche Lloyd," the Royal Packet Boat C
pany (these steamers never leave the bad fouling waters o
Indian Archipelago), the Royal West Indian Mail Service
Royal Netherland Steamboat Company, British African St
ship Navigation Company, the Ocean Steamship Comp
La Compagnie Générale Transatlantique, Les Charg
Réunis, La Société Navale de l'Ouest, &c.

NATIONAL REGISTRATION OF PLUMBERS

ALDERMAN HUGH BELL, J.P., presided at the annual me
of the North of England District Council, held at Mid
brough on the 23rd ult. There was a large attendanc
plumbers and others interested in sanitation, including
Mayor of Stockton, Professor Phillips Bedson, M.A., D
Alderman Richard Hind, master of the Plumbers' Comp
Mr. Waynman Dixon, and the honorary secretary, Mr. C
Williams.

The secretary read the annual report, which stated
during the year eight new technical classes had been establi
in the north of England, but that only 10 or 15 per cen
those who entered for examination succeeded in satisfying
examiners in both the practical and theoretical tests.

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mittee regarded with satisfaction the action of the Durham nty Council in awarding a scholarship to Mr. T. W. Agar, West Hartlepool, to enable him to attend the classes of anced instruction for plumbers held by the company at g's College, London.

It was proposed by Alderman Hind, seconded by Mr. ynman Dixon, and carried, "That this meeting, recognising the qualification of medical officers of health and the lification and certification of sanitary inspectors have been vided for under the Public Health (London) Act, 1891, is of nion that it is requisite for such statutory provisions to be nded to secure the adequate qualification, certification and stration of qualified plumbers, upon the efficiency of whose k the healthiness of a house virtually depends."

Professor Bedson then delivered a most interesting and ructive lecture on "Dust, and its Relation to Sanitation." lecture was made additionally interesting by means of elight illustrations and experiments.

GLASGOW BUILDING TRADES EXCHANGE.

the annual dinner of the members of the Glasgow Building des Exchange, which was held in the Windsor Hotel, onel Robert J. Bennett presided, and was supported by srs. Andrew Gray, Alexander Muir and William Anderson. William Anderson proposed "The Navy, Army and erve Forces." Mr. Gray replied. Mr. James Goldie then e "The City of Glasgow." Bailie Carswell replied. Mr. ker, Newcastle, proposed "The Glasgow Building Trades hange." He mentioned that, following the example of sgow, a Building Trades Exchange had been formed the Tyneside burgh, that there were between 170 180 members, and that they had been able to do e good work in connection with a city improvement eme. The chairman, in replying, said that, owing he absence of the president, Sir William Arrol, who attending to his Parliamentary duties, he had the honour preside for the second time at the annual dinner. Sir es Bell, Lord Dean of Guild, who was unable to be present his occasion, when Lord Provost of Glasgow presided over opening meeting, and he could never forget the closing ds of his inaugural address. He was kind enough to say such a body as they claimed to be, with the high objects set forth in the memorandum of association, could not fail to be successful, and so long as they kept to their high ideal of construction and building they had a right to expect the support of not only the architects, surveyors and clients, but of the whole community. The exchange was barely five years in existence, they were entirely free of debt, and both financially and numerically stronger than they had been at any time of their existence. Besides, the exchange prevented them living in cliques, isolated from each other, it had enabled them to show individually a little of that spirit of unity that brought men together, that made them march shoulder to shoulder, and led them to victory. They did not run the exchange for sentiment. It was a business enterprise, managed and conducted on business principles. Brains and skill were what they claimed for its members, combined with honesty of purpose in carrying out their contracts. The exhibition committee in his opinion wisely sent three delegates in the beginning of the year to the United States to see what they could learn from the past experience of the great Chicago Exhibition. He thought it would be well if the Municipality of Glasgow were in closer touch with the architects, surveyors and the Builders' Exchange in erecting all public buildings. A better understanding would be brought about, and in these days of fierce competition and Employers' Liabilities Bill clauses adjusted, the real meaning of the contract could be embodied in specifications that would be far more equitable to both client and contractor. There were a thousand other matters. There was no lack of work for them—wrongs to be righted, crooked paths to be made straight and misunderstandings to be cleared away. That, however, was not the time or the place to enter in detail upon such matters. He only wished to impress upon them that they must be always up and doing, advancing on the broad lines of progress, growing in strength with every difficulty they encountered. They must have the interest and active co-operation of every individual member.

DOCK SHEDS.

A MEETING of the Mersey Docks and Harbour Board was held on February 23 for the purpose of considering the proposed outlay on docks and sheds. The works committee recommended that the south end sheds should be contracted for as designed by the engineer; that was to say, they should be two-storey sheds, which it would be possible to raise to

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E LARGEST MANUFACTURERS OF WOOD CHIMNEY-PIECES IN THE KINGDOM.
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three or four storeys at some future time should it be thought expedient to do so. The contract was made in the first instance for two-storey sheds only. As to the north end, the view of the committee was that at the moment it was not necessary to come to a final decision, but that meanwhile the engineer should prepare the foundations at the Huskisson Branch Dock for sheds of three storeys and at the Sandon Dock for sheds of four storeys. The proposed new sheds at the north and south docks would on their different floors give an additional 32 acres of shed space, and when it was remembered that they could put on to an acre over 5,000 tons of grain or 5,000 bales of cotton, the conclusion was arrived at that 160,000 bales of cotton or 160,000 tons of grain might at one time lie on the quays in question. In this way those proposed additions to the present dock estate could in thirteen weeks take all the cotton that came to Liverpool in a year, and in another thirteen weeks all the grain that came to the port, leaving twenty-six weeks in the year during which they might remain idle.

Mr. Barrow said they already had a very fine example of the excellent work done by two-storey sheds with a crane on the roof. The engineer had given them plans of a two-storey shed with a flat roof, on which a crane was to travel about, and had suggested that they might bring merchandise from a ship's deck on to the flat roof and store it there. The scheme looked ingenious, but he doubted whether it would stand the test of practice. He would like to see one shed constructed in this way as an experiment, but he questioned the wisdom of going beyond the present two-storey sheds, which worked so well, until they had had some little experience of the proposed new arrangement.

Mr. W. Adamson felt that to provide sheds differing from the existing two-storey sheds at Toxteth would add very materially to the difficulties of the port. If they were going to have two-storey sheds with a flat roof, how was the second storey to be lighted? He was told that there would be some glass put in, but what strength of glass would bear the weight that was suggested to be put on the flat roof? As to the importance of light he might mention that during the past fortnight a steamer arrived at the south end with 33,710 packages. There were 119 different marks on fifty-six bills of lading, and how, he asked, could they select those marks if there was a flat roof with no light getting into the second storey? It would be an utter impossibility.

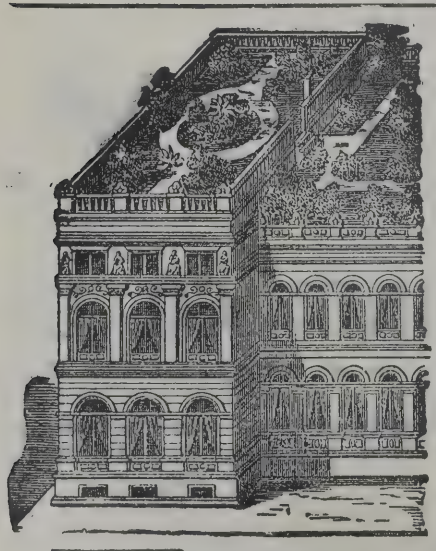
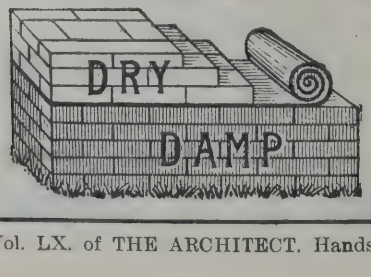
Mr. Walter Glynn said he could not see how they were going to get the goods away from three or four-storey sh There would be a block in the matter of cartage, and t would be unable to get the goods away in anything like de time. The two-storey sheds had been a great success, and had always been in favour of them. If they went beyond he thought they would incur a cost from the shed which t would find would not pay them in the end.

Mr. H. R. Robertson said he was sorry the works commi did not recommend three-storey sheds He had no doubt double-storey flat-roofed shed would prove very efficient, bu the same time he thought a three-storey shed would be m more useful. This matter had been discussed by the tr committee, and the members were in favour of the three-st shed; in fact, some of them favoured a four-storey shed on north side of the Sandon branch dock. He thought it w be wise to make an experiment with a three-storey shed at point. One advantage of a three-storey shed would be with the large size of vessels now in vogue and the large car they delivered, more facilities would be given for sorting getting quickly rid of the cargo. As chairman of the tr committee he did not think he should make these rem without saying that their superintendent did not believe double-storey sheds would be sufficient for all their req ments Notwithstanding that he (Mr. Robertson) thoug third floor would give great facilities for sorting cargo, an would rather see a third storey than a flat roof. Howeve preferred the flat roof to continuing the old double-storey s

Mr. Woodward favoured the idea of having one flat-r double-storey shed as an experiment. There was nothi prevent them roofing it over afterwards if they found it w failure.

Mr. T. Rome said he was in favour of trying a four-s shed. As to the proposed shed on the south side of the Sa Dock there was no necessity at present to decide what h it should be, and he thought the works committee might well be asked, before definitely fixing the type of shed at spot, to consider whether or not some design of four-s shed or three-storey shed might be adopted. While he tho that the idea of the flat-roofed shed was very ingeniou considered it was not quite practicable. By going on wi trying anything but double-storey sheds they were mak great mistake, and he thought the increase in the amou goods requiring to be handled was a strong argument in fa of the view he held, which was that they ought to increas accommodation on that dock quay.

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Mr. Bibby said that, so far as he could see, there was no estion of light involved in the erection of double-storey sheds th a flat roof.

Mr. W. P. Sinclair said he should like to know the differ- ce in the cost between a two-storey shed of the ordinary type, double-storey shed with a flat roof and a three-storey shed. e thought they must put a four-storey shed out of their mind the present. As one having some experience in dealing h large packages of heavy goods, he thought that a three- rey shed and especially a four-storey shed would not be so eful as might be imagined for goods such as those huge xes of bacon and other articles which were brought in such antities by cargo steamers to that port.

The Chairman said there appeared to be considerable riety of opinion as to the class of sheds which should be ected. There was no immediate necessity for making up eir minds except in regard to the foundations. If they wanted er awhile to raise their two-storey shed to three or four reys they must have foundations sufficiently strong to permit it being done, and as they were going to commence immedi- ly the engineer must be instructed as to the nature of the ndations which he was to put in. It was all very well to fill ge sheds, but the stuff must be taken out again, and they ght have to extend the time limit for consignees to remove ods beyond the seventy-two hours at which it was fixed at sent. If they extended that time limit they were going rilously near making these sheds into warehouses, and that s what he was afraid of. He thought there were a great ny operations on the quay at present which ought to be per- med in the warehouse, and for anything they might do to apen the cost of transit to the warehouse they should get a *id pro quo* in getting their goods removed and their vessels charged without the bustle and hurry and the mistakes and inders which were necessarily connected with the present te of matters. For all these reasons he should be rather in our of sending the proposal as to double-storeyed flat-roofed eds back to the committee for reconsideration.

Mr. Hughes, replying to the question of Mr. Sinclair, said understood the cost per superficial yard was much the same the various kinds of sheds. That was to say, a double- rey shed cost twice as much as a single-storey shed, and a ir-storey shed would cost four times as much. If a com- etely equipped three-storey shed cost, say, 7*l.* 10*s.* a yard, a uble-storey shed, with flat roof, would cost 6*l.* 15*s.*

The recommendations were adopted.

PORTLAND CEMENT.

THE following conditions are enforced by the Russian Government in selecting Portland cement :—

1. Casks of cement furnished for building purposes are to be of uniform weight, say, 180 kilos gross and 170 kilos net. That upon each cask be plainly stamped the trade mark of the factory and the weight, both gross and net. That the loss of cement from spilling and for difference in filling casks should not exceed 2 per cent.

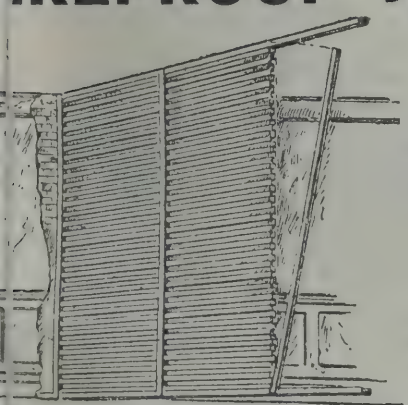
2. Cement intended for building purposes should always be of the slow-setting kind, for such cements are more easily worked, are more reliable and possess greater power of adhesion. Cement is considered slow setting when it does not set before the expiration of three-fourths of an hour after mixing the paste. Portland cement hardens more slowly as the temperature falls; therefore, to avoid misunderstandings, all tests should be conducted in a room having a uniform temperature of 15 to 18 deg. Centigrade, and only water of about the same temperature should be used. During the process of setting slow-hardening cements generate but little heat, while with the quick setting a considerable rise of temperature may ensue. To ascertain the time of setting, a cake of pure cement, prepared upon a glass plate, is taken. After the lapse of the above-mentioned time this cake must have acquired such a degree of hardness that the passage of a finger-nail gently grating it should leave no trace and no water ooze out when the surface of the cake is lightly rubbed.

3. A cement cake prepared upon a glass plate and immersed in water some time after setting should, after remaining under water twenty-eight days, show no cracks or warping on its edge.

4. Portland cement must be milled into as fine a powder as possible. After passing through a sieve of 900 openings to the square centimetre there should in no case remain upon the sieve a residue exceeding 20 per cent.

5. The adhesive power of Portland cement is determined by submitting to tests of rupture a mixture of cement and sand, seven and twenty-eight days after making the mortar, and also the pure cement after seven days. The tests must all be made with the same apparatus, with samples of similar section, in an identical manner. For normal tests normal sand is employed, prepared from natural quartz sand, which is passed through a series of sieves and washed. The section of samples at the point submitted to rupture must be 5 square centimetres. In

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making samples, all their component parts must be taken by weight.

6. A mixture of one part of cement to three of normal sand twenty-eight days after setting must bear, as its minimum power of resistance to rupture, a strain of 8 kilograms to the square centimetre. Normal sand used in massing samples is prepared thus :—A quantity of natural sand is passed through sieves of 64, 121 and 225 meshes to the square centimetre. Next, the portion which shall have remained upon the sieve of 64 meshes, and that passed through the sieve of 225 meshes, are thrown away, and the sand remaining on sieves of 121 and 225 meshes is mixed in equal parts; this mixture constitutes normal sand. To make cement paste or mortar, water is added in the proportion of 50 per cent. by weight of pure cement, or 12½ per cent. by weight of the dry mixture of cement and sand. This rule is to be applied if the manufacturer whose cement is being tested does beforehand state what proportion of water is best used with his cement. To attain all possible uniformity of quality, in cases where cement of the same brand is received in several lots, tests of pure cement are made.

In choosing cement for construction preference is given to that factory whose cement, all other qualities being equal, gives the greatest resistance to rupture after seven days tested pure. Pure cement after seven days must, when tested by rupture, bear a strain of no less than 21 to 25 kilograms on the square centimetre.

In preparing samples out of pure cement, water in proportion of one-third of the weight of cement is added, *i.e.* when the process by absorption is used. Samples intended for testing must remain exposed to the open air during the first twenty-four hours after they are made, and then be kept in water till the moment of being tested. At each stage (seven and twenty-eight days) of the experiment, ten briquettes must be broken when testing cement of an unknown firm or brand for the first time; for cement of a known brand at least five briquettes are necessary. When the normality of a cement is determined in a laboratory then simultaneously with the test after twenty-eight days, a test of the mortar after seven days must also be made, and the ratio of the two determined. It is necessary to know this ratio when making quick control tests. Mortar consisting of one part cement and three parts of normal sand must have a tensile strength after twenty-eight days of 8 kilograms on the square centimetre, or, after seven days, of not less than 5 kilograms to the square centimetre.

7. All the tests enumerated in the preceding rules determine the normality of a cement of a given brand. For cement of a known brand, in order to save time (especially when tests are necessary at the location of constructions), control tests are allowed to determine (*a*) the time of setting; (*b*) the property of briquettes made from pure cement to remain free from cracks and warping during seven days; (*c*) the fineness of the grain; (*d*) the resistance to rupture after seven days of pure cements and mixtures with sand. The resistance of a mortar composed of 1 part of cement to three parts of normal sand, seven days after being mixed, must in no case be less than 6 kilograms per square centimetre. Should the cement respond to all requirements from *a* to *d*, excepting *d*, then the tests may be adjourned for twenty-eight days, when the cement must undergo all the tests provided for in rule 6.

LABOURERS' COTTAGES.

A correspondent of the *Manchester Guardian* writes :—

During the past few years I have, off and on, been making inquiries into the question of English cottages in country districts, and latterly I have given considerable attention to it. A few observations therefore may perhaps be permitted in support of the contention that, except on the larger agricultural properties, labourers' cottages are anything but what they ought to be. I start with the assertion that such cottages should possess three bedrooms upstairs (as on the Duke of Westminster's estate, for example), two at least of which should have fireplaces; that downstairs there should be a good living room (or kitchen), a second room as a "best" one, and a scullery, unless the last is in one of the outhouses (which it sometimes may be to advantage); that every window in the house should be made to open; that there should be not less, if possible, than a quarter of an acre of garden ground to each cottage; and that for offices or outbuildings there should be a washhouse (with copper and grate), a coalhouse and a closet, fitted preferably with an earth pail. Now let us describe a few cases which are fairly typical of the inferior character of country labourers' dwellings. There are many even worse. In the little village which I have in mind, and which is not a hundred miles from Manchester, several of the cottages are of two to three rooms in all. Each room averages not more than 10 feet in length by the same width, the ceilings being extremely low. As one looks at these cottages from the street (it is an open village, *i.e.* a village in which the houses are owned by several different

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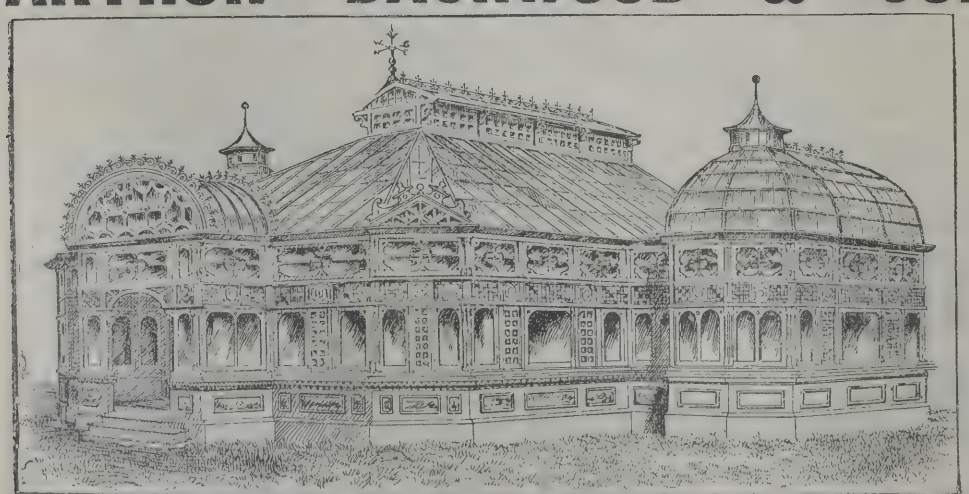
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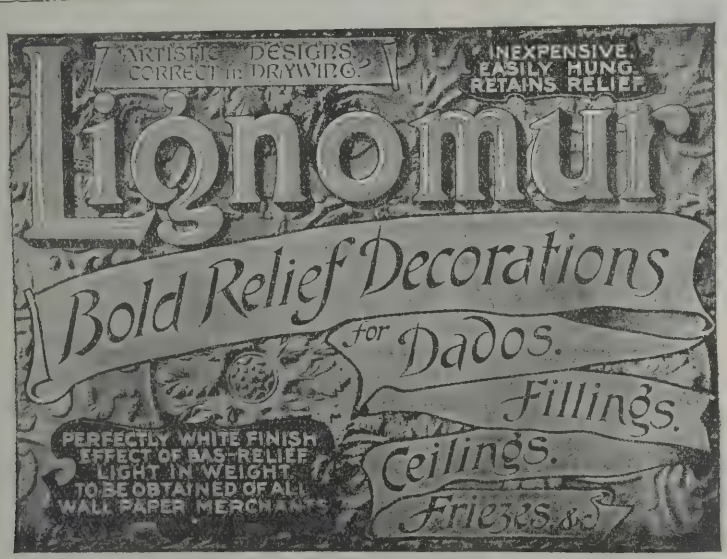
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persons) he perceives a front door which is not as high as any ordinary erect person, whilst the woodwork of it is warped with age, is unpainted, and fails to keep out draughts. The front window is some 2 feet 6 inches high by 1 foot 6 inches in width. It does not open. The back room downstairs is, if anything, smaller than the front one, and possesses no better door or window. There is scarcely space in either room in which an ordinary family can turn when they are all at home; and at meal times it is quite impossible for all to sit down together at table. There is no arrangement downstairs (either in or out of doors) for washing the clothes, such as a copper; nor is there a pantry or larder, but an apology for the same in an isolated shelf or two. In the rear of the house is a small and filthy privy, common to several households. Slops and other refuse are thrown out at the back, and as there is (except for an occasional cesspool close to the back door) absolutely no drainage system, all matter which should drain away artificially must mainly drain away by percolating through the soil. At the back, too, is no garden on which to use the refuse, but simply a dank, wet piece of ground about as big as that on which the house stands. Upstairs there are sometimes one and sometimes two very small rooms. The one window in each is smaller than those downstairs. The ceiling is extraordinarily low, and before morning the atmosphere, in spite of the draughty window and ill-kept roof, is simply abominable. Whole families live in these dwellings, and there are always, it seems to me, ill-health and fevers in the place. In Lincolnshire and East Yorkshire ladders are frequently used in place of staircases. In Derbyshire, Staffordshire and Lincolnshire there are large numbers of four-roomed cottages. In these cases one of the two bedrooms is always very small, and, apart from all questions of drainage, it is clear that there is not enough decent accommodation for a family of five to eight persons (often more). In other cases (in Bedfordshire, for instance) there are several two-roomed dwellings. The living-room is less than 12 feet square, and there is a bedroom over it of the same size. Large families occupy these cottages. In certain other villages are cottages standing a little way back from the street which, though inhabited, are utterly unfit for habitation; the people who live in them look as wretched as the houses, and, in short, the districts remind one of the worst of the congested districts of Ireland. In two other villages near the former matters are even worse, for the dwellings are but hovels, having no back-way, and with the privies literally in the street.

If the dwellings described are typical, surely something needs to be done to alter such a state of things, for it must be remembered that where these dwellings exist there is always more or less disease, and frequently heavy mortality from diphtheria and fevers.

SMOKE AND FOG.

In the course of a Royal Institution lecture on "Coherers," Professor Oliver Lodge made an experiment which may have an important bearing in the abatement of the smoke nuisance. He filled a bell-jar with magnesium smoke. Ordinarily these thick fumes would take a long time to disperse. Dr. Lodge passed a charge of electricity through the jar, and the smoke began instantly to clear, the smoke particles uniting and falling in the form of a white snow of magnesia. The word used to describe this action of the smoke particles is electric "cohesion" The explanation of it, Dr. Lodge said, is beyond our scientific knowledge, and it is one of those great problems of electricity which we hope that Lord Kelvin may solve. It is perhaps enough to say at this point that it is this quality of electric cohesion which makes Hertzian wireless telegraphy possible—by the use of sensitive electric devices called "coherers," which, like the receiver of a telephone, serve to indicate certain forms of electric waves. But Dr. Lodge incidentally referred to a possible extension on a large scale of his magnesium smoke experiment. "Some people," said he, "may imagine that this experiment suggests a means of dispersing London fog. An adaptation of some such method might be suitable for the dispersion of real fog, of sea fog, of fog arising from a moisture-charged atmosphere. A Scotch mist can be turned into rain by a suitable discharge of electricity, and ordinary rain can be changed into the large drops of a thunder shower by the electric discharge of the lightning flash. The reason for the size of the drops is that owing to the incident of electric 'cohesion' the drops are attached to one another and form conglomerate drops. But I don't think electricity could prevent London fog. The only way to prevent a London fog is not to cause it. And the way not to cause it is not to burn coal fires, like savages, in open grates. The day will come when it will be forbidden to import crude coal into London. I confess I should like to see the experiment tried of making gas at the great coal fields, and of



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conveying it to the town in huge pipes and conduits. The experiment, of course, could not be made with respect to London; it would have to be conducted on too large a scale; it might be tried with a small town. It would have to come to that some day. People say that they can't bear 'gas stoves.' But as a matter of fact all fires are gas stoves. People make the gas themselves, and make it badly. No doubt, however, the gas stove of the inevitable future will be a very different contrivance from that of to-day."

THE WORKMEN'S COMPENSATION ACT.

AT the Sheffield County Court Judge Waddy, on learning that three claims under the Workmen's Compensation Act were down for hearing, said he entertained a very strong view indeed that this Act was doing damage to the unfortunate workman, instead of doing good. He should be very glad if the solicitors practising in the Court would tell him whether their own practice confirmed this opinion, because if it did he ought to make representations. Were they turning back cases in consequence of the somewhat peculiar restrictions of the Act, such as those as to the height of chimneys, the question of scaffolding, and so on? Two of the solicitors in Court said that for one case brought before his Honour under the Act two were turned away, and the judge replied that the Act did absolutely nothing for working men which was not done by the old Employers' Liability Act and the common law, and working men were being driven back to them because the new Act was so full of restrictions.

At the annual meeting of the Leicester and Leicestershire Trade Protection Society—which represents many thousands of the manufacturers and traders—special allusion was made to the failure of the Compensation Act. The committee reminded the members that it had been promised that the Act would simplify the law of employers' liability and decrease litigation. But already many cases had been brought before the courts, and some of them had been carried to appeal. The result showed that the meaning of the Act was in some respects not as clearly understood as it was supposed to be, and that more difficulties were likely to arise in its interpretation than were experienced in regard to former Act on the subject. Mr. Alderman Wood, the president of the Harborough Division Liberal Association, in moving the adoption of the report, complained that the Act was creating a great deal of work for the lawyers and the law courts, and pointed out that an early amendment of the Act was necessary.

MUNICIPAL TRADING.

THE following memorial has been addressed by the Council of the Society of Arts to the Home Secretary:—

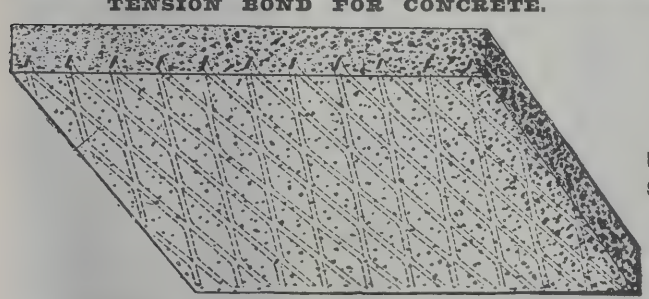
"Sir,—The Society for the Encouragement of Arts, Manufactures and Commerce have been giving very careful consideration to the increasing tendency of municipal and local authorities to embark in trading enterprises which may be in competition with, or to the exclusion of, private enterprise, and they have had forcibly impressed upon them the fact that as yet no limitations have been defined as to what enterprises should in the general interests of the nation be undertaken by municipalities and local authorities and what ought to be left to private effort.

"They therefore venture to approach you in the hope that you may see fit to advise Her Majesty to appoint a Royal Commission to consider the whole subject, and to lay down the principles and limitations on which Parliamentary powers should be granted to municipal and local authorities. They further venture to submit that until such Royal Commission has investigated the subject and reported thereon, no further powers for trading purposes ought to be granted to such bodies.

"We have the honour to be, Sir, your obedient servants,
"J. WOLFE BARRY, Chairman to the Council.
"HENRY TRUEMAN WOOD, Secretary to the Society."

At the instance of the Liberty and Property Defence League (7 Victoria Street, S.W.) the following petition to both Houses of Parliament has been signed by railway, tramway, gas, engineering, electric lighting, water, &c., companies, by chambers of commerce, and by associations of employers, traders, property owners and ratepayers throughout the United Kingdom:—"That, inasmuch as numerous local Bills are now before Parliament containing further and novel provisions for municipal trading, to the risk of ratepayers, the injury of traders, the checking of private enterprise and the arresting of national progress, it is desirable, before such provisions are sanctioned by the Legislature, that a committee of both Houses, or a Royal or other Commission, be appointed to define the extent to which municipal trading should be sanctioned by

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Parliament, and that meantime all provisions in local Bills for the extension of municipal trading should be suspended until such committee or Commission has reported thereon. And your petitioners pray that your honourable House may be pleased to appoint a special committee, or to obtain the appointment of a Royal or other Commission to define the extent to which municipal trading should be sanctioned by Parliament, and that your honourable House will meantime postpone the consideration of all provisions in local Bills for the extension of municipal trading until such committee or Commission has reported thereon."

BUILDING IN NAPLES.

It will be remembered that after the cholera epidemic of 1884 the enthusiasm of the public in Naples was aroused, says the British consul, by Signor Depretis, the Prime Minister of the day, by the celebrated phrase "Naples must be disembowelled." The Central Government granted 100,000,000 lire (4,000,000*l.*) towards the public works required. Sundry private building societies set to work, and an enormous number of large houses to be let in flats were constructed. The city was so overcrowded that there was no doubt a great deal of room for expansion, and things went well for a time, no great difference being observable in the rents of houses or in the demand for them. An important factor was, of course, the large number of houses pulled down for street improvements, which dislodged many thousands of the poorest inhabitants of the city. Speculators were consequently encouraged until the building became overdone. They then offered their new houses for one year only at very low rents, in order to tempt the public. This policy combined with the crash in the building speculations in Rome brought down the largest of the building societies, the preposterous rents of old houses fell, house owners complained bitterly, and numbers of houses both new and old remained alike untenanted and unsaleable. Although the crisis is far from being over, there are signs of a recovery, and many new houses are being built in the better parts of the town. The large area reclaimed from the sea at Santa Lucia is still undisposed of, the first concessionnaires having forfeited their caution money rather than handle a dangerous speculation.

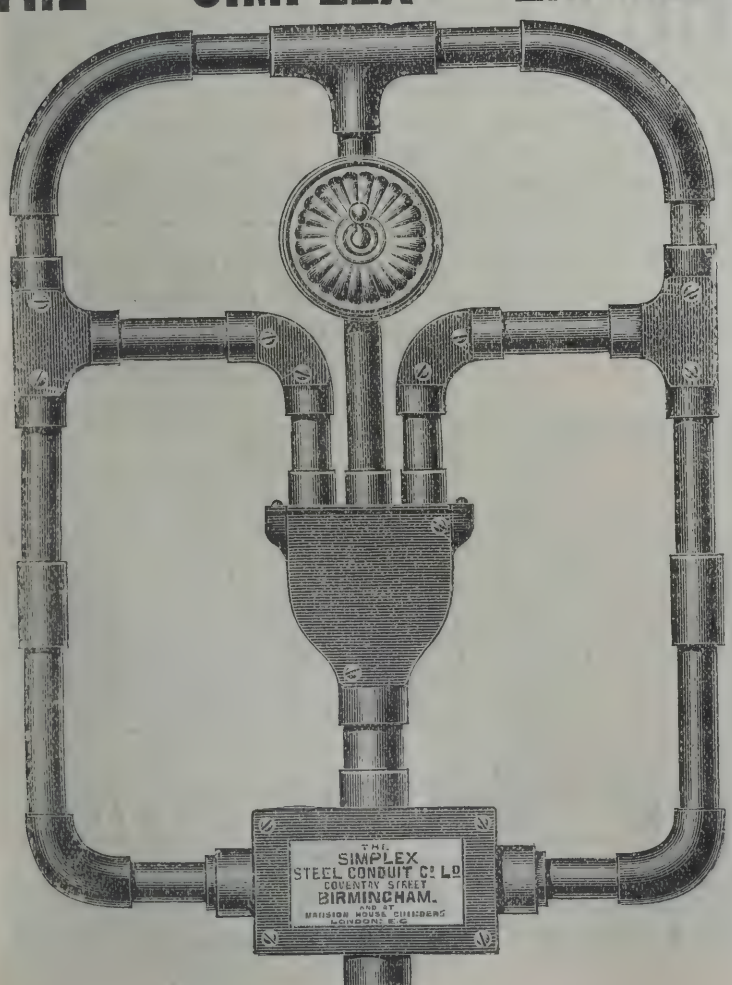
A very brisk trade has been done in sanitary appliances and drain pipes, and in exporting these from England it will be wise of the trade to remember that, as we have no frost to contend with here and an abundant water supply, the cheaper kinds of syphon closets are more readily saleable than the more expensive ones. The pressure exerted by the public opinion of British travellers in these matters has caused a great awakening in Naples to the importance of sanitary matters, and all the chief hotels here are fitted with the very best apparatus. The same thing may be said of many private houses. In a recent case a gentleman here imported direct fourteen of the best English closets on the flush principle for his own house, besides many lavatories, urinals and several of Crapper's well-known ventilators for his sewers. Whatever may be the case in other articles of commerce, there can be no doubt that Great Britain is the pioneer in sanitary appliances, and that the foreign imitations of our apparatus are nearly always failures. There is a great demand in Italy, which our manufacturers should hasten to meet, and it would be advisable to stamp upon the supply tanks the minimum number of feet (or better still of metres) which should intervene between the tank and the closet in order to secure adequate flushing. This depends no doubt partly upon the size of the tank, but in no case should the fall be less than 8 feet. The pipe leading to the supply cistern should also be large enough to fill the cistern in a minute and a half, instead of three minutes, which is the time usually employed.

SANITATION OF THEATRES.

A paper was recently read before the American Public Health Association by Mr. W. P. Gerhard on "Theatre Sanitation," from which the following observations are taken :—

Drainage.—In arranging for the drainage and sewerage of a theatre building the general rules as to size and material for the sewer lines, the grade to be given, &c., should be followed. As a rule, the area covered by a theatre is so large as to require at least two 6-inch sewer connections. Proper attention should be paid to proportioning the sizes of the rain-water conductors which drain the roof surfaces over the stage and the auditorium, which latter are at times very extensive. All areas and courts should be properly paved and drained. A difficulty in the way of drainage often arises from the considerable depth to which that portion of the stage house known as the under stage has to be carried. Owing to the requirements of stage traps and stage machinery, the level of the under stage

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is frequently located below the level of the sewer in the street. Any subsoil water accumulating in the sump must be removed by lifting same by means of either automatic cellar drainers worked by water pressure, or steam ejectors, or electric centrifugal pumps. Often the entire subcellar is constructed perfectly watertight, like the cellar of a warehouse situated below tide or subsoil water level. This not only keeps out the subsoil water and prevents dampness, which is undesirable for the stage house, as it would tend to ruin the stage flooring, the stage properties and the actors and supers' costumes, but it also prevents ground air from rising upwards, and tends to keep the air of the stage pure and wholesome.

Plumbing.—In recently built theatres of cities where plumbing rules and regulations are enforced, the soil pipes and waste lines are carried full size up to the roof and the fixtures are separately trapped. Generally, however, the plumbing is of the plainest kind, and without any attempt at elaboration. On the other hand, the plumbing of theatres in smaller towns exhibits often the worst defects imaginable, the entire work being carried out in a slipshod manner, the water-closets of dressing-rooms being generally set on dead ends of drain lines, having no soil pipe extension to the roof and often being a part of the dressing-rooms, partitioned off only by thin board partitions. Basins and sinks are often in direct connection with the sewer, traps being considered a superfluous and altogether too expensive refinement for such a building. In dark corners dissued closets or sinks are at times discovered. Drains are laid in a haphazard manner, often sloping the wrong way. Tile drains and cement pipes are used where extra heavy cast-iron sewer pipes should be run; all manner of faulty joints are discovered, and in many cases the sewage drips on to the floor and becomes the cause of the annoying odours which so often greet the audience when the curtain rises. Pan-closets and ill-flushed hopper-closets are used, and the apartments in which they are arranged are found to be in an indescribably filthy condition.

It goes without saying that the plumbing of theatres should be planned and arranged with the same care as that of other public buildings. There should be toilet-rooms for each tier in the auditorium, entirely separate retiring-rooms being provided for men and women. Sufficient accommodation should be provided in that part of the stage house which contains the dressing-rooms for actors and actresses. In addition, there should be in the basement well-arranged and ventilated toilet-rooms for the stage hands, employés and the supers. The office of the theatre manager often has a separate toilet-room, and there is in larger houses a toilet-room adjoining the star's dressing-room. Near the engine and pump-room a toilet-room for the engineer and his help should be provided, and if there is in the front part of the house a smoking-room or refreshment-room, a men's toilet-room is arranged with urinals and lavatories.

Handsome, nickel-plated work with fittings does not seem called for in a theatre, except possibly in the toilet-rooms of the parquet and dress circle, or for the occupiers of the boxes in large opera houses; but, nevertheless, the entire arrangement should be in every way sanitary, and the best workmanship is required. Woodwork should be avoided for well-known reasons. The floors and walls should be rendered waterproof and non-absorbent; partitions between water-closets and urinal-stalls should consist of marble, slate or soapstone. Every toilet-room should have a window to the outer air, and in addition artificial ventilation by exhaust flues should be provided.

The closets should be of glazed earthen or vitreous ware, which will not craze. The type known as washdown closet is particularly adapted for the theatre, and the flush for the same should always come from a special copper-lined flushing cistern, though an automatic seat-flush may often be preferable, owing to the careless manner in which the public, as well as stage hands, use such places.

For the same reason it may be preferable to have porcelain urinal bowls with self-acting intermittent flush-tanks. In theatres in which spectacular plays or ballets are performed, requiring a large number of female supers and dancers, self-flushing urinettes or pedestal urinals for women may with advantage be provided, as the same require for connection to the sewer a 2-inch waste-line, whereas the water-closet requires a 4-inch soil-pipe.

All stage dressing-rooms should be fitted with small corner or wall lavatories, which must have both hot and cold water faucets, and each of which should be safely trapped, while the waste line should be extended to the roof for ventilation.

There should be a few slop sinks, both near the stage and in the public toilet-rooms, as they are required by the women scrubbing the floors for the emptying of wash water and to draw clean water.

Water Supply.—Theatre buildings require a very ample and large supply of water. There should be two entirely distinct systems of supply, one for fire protection, while the

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The water supply for fire-extinguishing purposes embraces large suction tanks in the basement, roof tanks to supply the automatic sprinkler system, a powerful fire pump in the engine-room supplying the fire standpipes and fire valves, &c. This system has been elaborately described by Mr. Gerhard in his book on "Theatre Fires and Panics," to which those interested are referred for further details.

The house supply should be entirely separate, and where the street pressure is insufficient to supply the plumbing fixtures in the upper parts of the theatre, special house tanks should be provided on the roof over the stage. It will readily be seen that it would be inadvisable to use the sprinkler tank for such purpose, as it might be found empty when water is wanted for fire-extinguishing purposes. The rules of the National Board of Fire Underwriters wisely specify that no branch for sinks or for drawing water for any purpose whatsoever should be taken from the sprinkler-tanks. Sometimes house-tanks placed above the highest plumbing fixtures, for instance, on one of the upper flies or in the rigging loft, fill at night by pressure from the street mains; in the majority of cases, however, it is necessary to pump the water to the tank, which is accomplished by means of direct-acting steam pumps, or by electric pumps, or hot-air engines, or even windmills placed on the roof.

The house-water service comprises, further, a hot-water tank, because the players and supers require in their dressing-rooms hot water in abundance at the basins and wash-sinks to remove face-paint, &c. Hot water is likewise required at the slop-sinks for the use of the scrub-women.

Ventilation.—When new theatre buildings are to be erected architects should always associate with them an expert in heating and ventilation, which two problems always go together. It is necessary that every part of a theatre should be ventilated; not only the auditorium, but likewise the stage, the dressing-rooms, the under-stage, the engine-room, the vault where the gas-meters stand, and, finally, the numerous toilet and retiring-rooms in both parts of a theatre.

In designing a system it should be borne in mind that ventilation means not merely the removal of foul air, but simultaneously the introduction of a sufficient quantity of pure air, drawn from a suitable source out-of-doors, suitably filtered and warmed in winter time, suitably sprayed or cooled with ice in summer time, and introduced at all times without any unpleasant air currents or draughts. It is manifestly insufficient, then, to merely provide in the auditorium a few outlet flues and ventilating registers of restricted size for the removal of foul air, and to rely upon fresh air being drawn in through accidental openings or cracks or crevices, or from the level of the stage. In all cases both inlet and outlet flues of generous size should be arranged, and care should be taken that the same are in no way obstructed. There should be a supply of fresh air to each and every person in the audience equal to at least 30 cubic feet per minute, or 1,800 cubic feet per hour.

The fresh air may be introduced at the top of the house, through the ceiling, and made to move downward in a steady and uniform current, until it reaches the lungs of the spectators, and then removed at or near the floor line; or else air may be introduced at or near the bottom and exhausted at the ceiling of the hall. To a certain extent, either one of the systems may be successfully planned and arranged; the plan and subdivision of the theatre building, the details of construction and local conditions will generally decide the question. Where a theatre is lighted with electric lights the downward system of ventilation will show better results than where gas lights are used.

A good system of ventilation should effect a complete change of air three or four times an hour, and this change of air is required not only in the auditorium, but also for the foyers, the stage, the dressing-rooms and toilets.

The question of ventilation should always be treated in connection with the question of safety from fire. To depend, for example, for the ventilation of the stage upon a strong current of air from the stage toward the auditorium would be a grave mistake. For, with such an arrangement, in case of a fire on the stage—and it is proved by statistics that the majority of theatre fires have their origin on the stage—the smoke from the burning scene decorations, &c., would be drawn into the upper part of the auditorium and suffocate numberless persons in the gallery before they could make their escape from the burning building. On the contrary, the aim should be to create in such cases a strong current from the auditorium in the direction toward the stage. Doubtless this can be efficiently accomplished, and one way of doing it is to provide large ventilators in the roof over the stage.

There should be adequate actors' dressing-room accommodation, and these likewise require to be efficiently ventilated, preferably by windows to the outer air, or by special vent shafts where windows are out of the question. Finally, all toilet-rooms require a constant change of air and an abundant

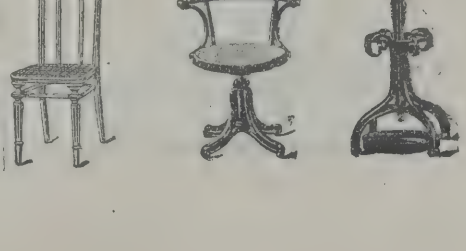
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supply of fresh air to keep them sweet and wholesome. Special stress should be laid upon the necessity of arranging for a current of air from the halls into the toilet-rooms, and not *vice versâ*; for otherwise, however good the system of ventilation may work, unpleasant odours from the water-closets and urinals will penetrate other parts of the theatre.

The boiler and engine-rooms should also have plenty of fresh air, and all building regulations provide that the vaults where gas meters are set must have suitable ventilation to prevent explosions of gas.

THE NEW HIPPODROME.

A HANDSOME building is now nearing completion at the juncture of the Charing Cross Road with Cranbourn Street. It is the new Hippodrome which has been erected from the designs of Mr. Frank Matcham, and is designed to seat about 2,000 people, approximately as large an audience as the Lyceum Theatre will hold, but, of course, so much space having to be set aside for the track and stage, the interior will be vastly more imposing. In the seating arrangements the plan is original. They will differ from those adopted in Paris. For instance, at the Nouveau Cirque there are six rows of fauteuils round the ring and fifty-six loges, or open boxes, each seating five persons, radiating from the circumference, above them being the "galerie promenoir." There is also a promenade, with a gallery, however, over it, at the Cirque of the Champs Elysées; but the Winter Circus has, with the exception of the loges over the entrance from the stables and the seats in a "tribune," all the accommodation in concentric rings, the lowest-priced admissions being those farthest distant from the "piste." Mr. Matcham appears to have retained the best features of each plan, but there will be no promenade. The stalls, or best seats, will surround the ring, except on the side occupied by the stage; around these and the fauteuils will be the boxes, on each side of the royal box; above these will be a large pit circle, *i.e.* a circle for "pittites"; over that again will be the "gallery."

Architecturally the hippodrome will be a conspicuous ornament to the Charing Cross Road. Here an immense tower is to be placed, with a skeleton iron cupola, surmounted by a chariot and horses in metal. Very shortly, the scaffolding being in course of removal, an idea will be gained of the principal elevation. The whole site covers the block comprised within Cranbourn Street, Charing Cross Road, Ryders Court and Little Newport Street, which is being considerably widened, and the hippodrome replaces a collection of hovels, and will, together with the two fine hotels that are completing in Leicester Square, greatly beautify the district. Stables for horses will be in the basement.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS

3150. Philip Parsons, for "Improvements in apparatus for purifying air and steam in ventilating and humidifying mills and other buildings."

3205. John Saunders, for "Improvements in the manufacture of bricks, tiles, slates and the like."

3210. Michael John Curtin, for "An improved plug or wedge for fixing flashing of buildings and other structures."

3259. William Boyce, for "Improvements in chimney-pots."

3263. James Robert Cooper, for "Improvements in plaster or cement slabs or incised designs for ceilings, walls and the like."

3294. Ellis P. Raymond, for "Improvements in brick and tile cutting tables."

3295. Ellis P. Raymond and Charles W. Raymond, for "Improvements in brick and tile presses."

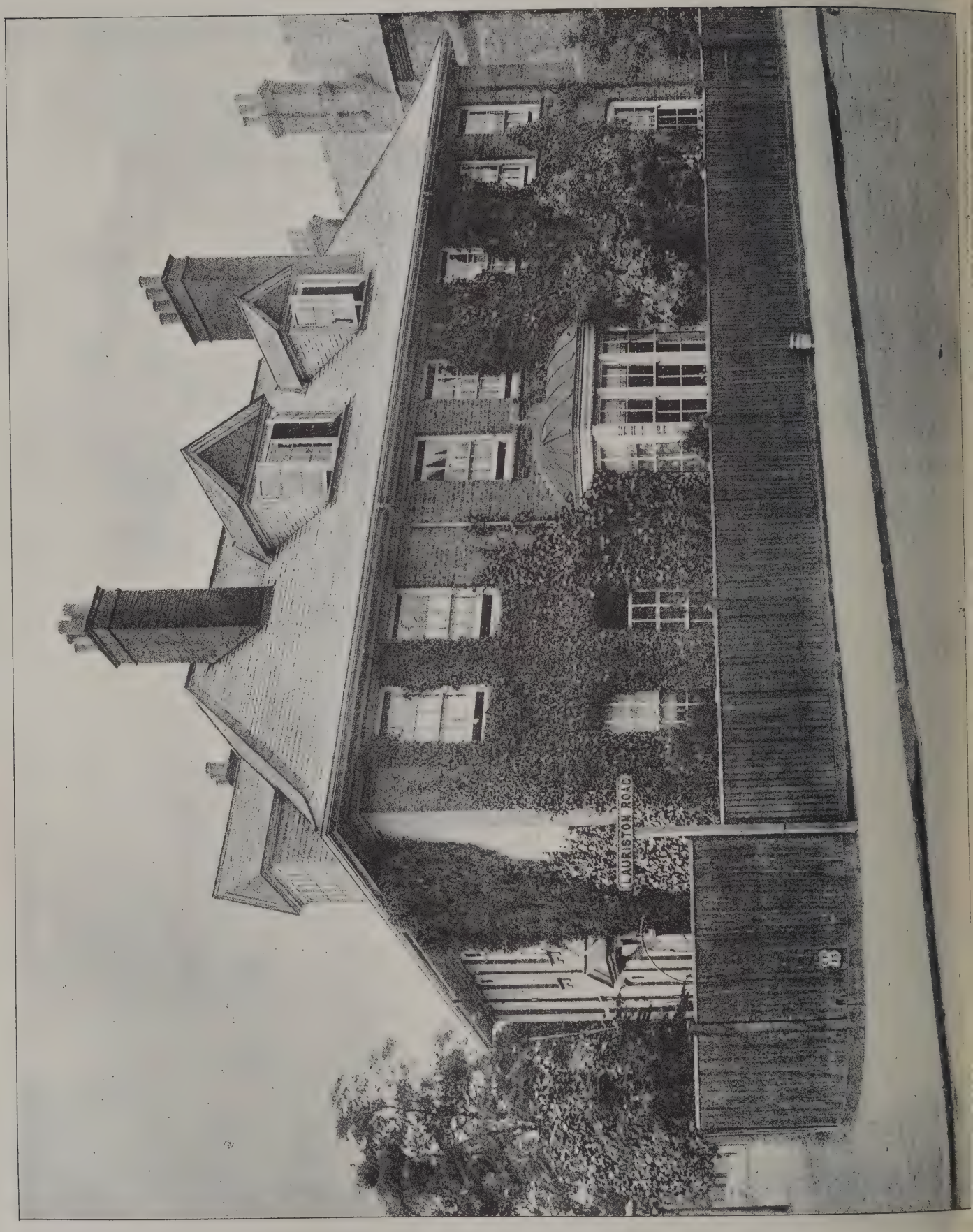
3348. Benjamin Robinson, for "Improvements in machines for making sanitary pipes, chimney-pots and the like."

3353. Peter Drummond Wighton and John Scobbie, for "Improvements in and relating to roadways, hall floors and the like."

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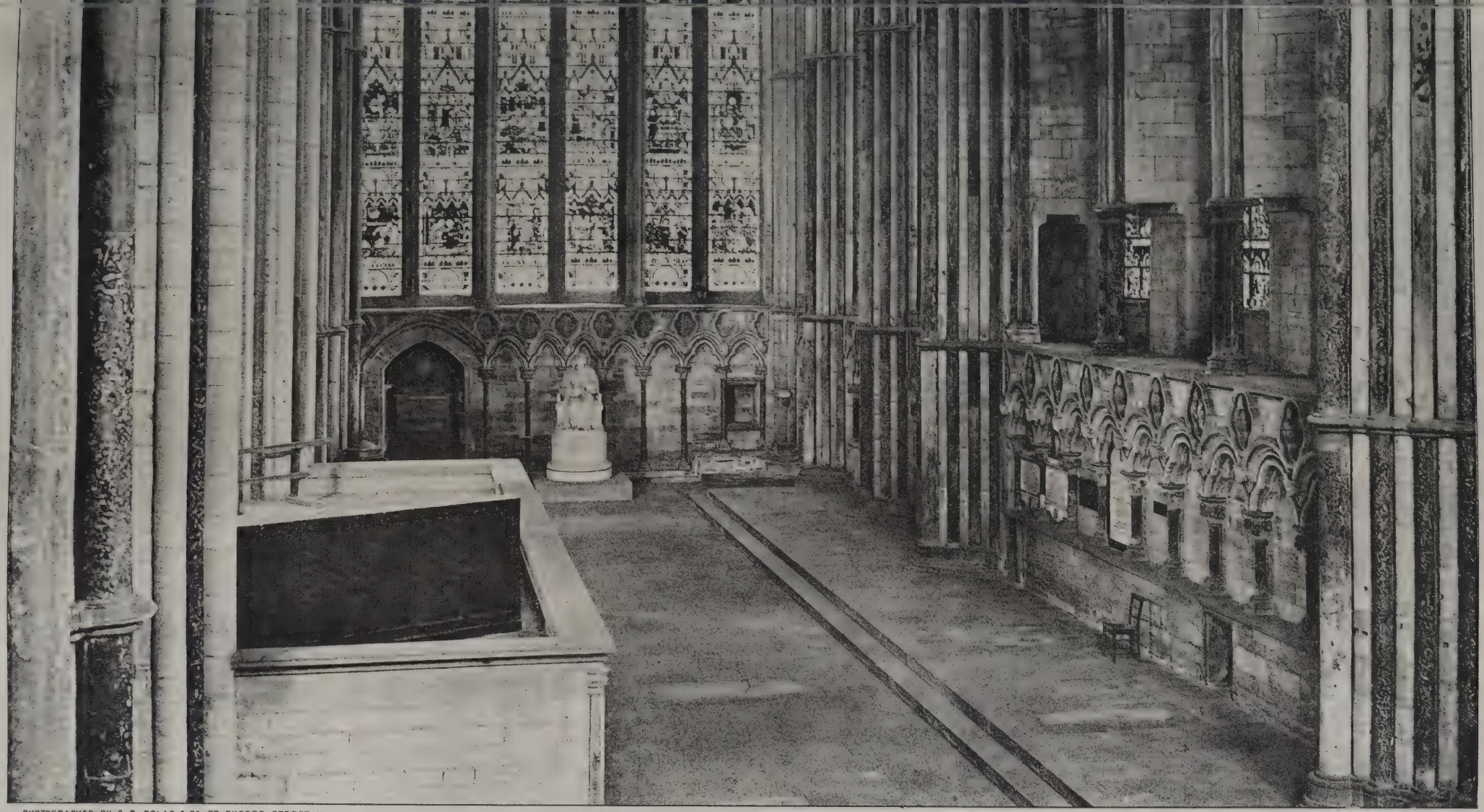
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CATHEDRAL SERIES, No. 208.—DURHAM: CHAPEL OF NINE ALTARS, LOOKING NORTH

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CATHEDRAL SERIES, No. 207.—DURHAM: BISHOP'S THRONE.



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GARDEN VIEW: "RED BRANCH HOUSE," LAURISTON ROAD, WIMBLEDON.

WALTER E. HEWITT, A.R.I.B.A., Architect.

The Architect.

THE WEEK.

THE late EDWARD GODWIN wrote a series of articles for *The Architect* on "The Architecture and Costume of Shakespeare's Plays," forming the most complete work on the subjects which exists. For the costumes of the Venetians who appear in "Othello," as for those in the "Merchant of Venice," he followed the drawings of VECELLIO, supplemented by the paintings of TINTORET, BASSANO, ZELOTTI and PAUL VERONESE. For the costumes of Cyprus, where the action of "Othello" mainly takes place, he suggested that they should resemble those of Greeks or Persians rather than those worn by Western Europeans. We know that GODWIN'S recommendations have had their effect on managers who have attempted Shakespearean revivals, and indirectly they have been useful abroad. It may therefore be interesting to note how "Othello" has been costumed for the version of the tragedy which is now being played at the Comédie-Française. All the dresses were designed by M. CHAINEUX. He assumes that the incidents occurred between 1505 and 1515, while GODWIN concluded that the time was in the spring of 1570, in the period when MUSTAPHA was about to attack Cyprus. M. CHAINEUX, therefore, has had recourse to earlier artists; CARPACCIO furnished the principal types, but in addition use was made of PERUGINO, PINTURICCHIO, SIGNORELLI, SODOMA, and, what is more remarkable, both DA VINCI and RAPHAEL were utilised. But, like GODWIN, he employed VECELLIO'S plates for the doge, senators, patricians of Venice, as well as for the Levantines, Dalmatians, Uscogues, Cyprians, &c., who are introduced in Act II. In England OTHELLO has appeared as a Renaissance noble, a nondescript Eastern and as a modern Arab. For M. MOUNET-SULLY'S raiment very many books of travel were consulted. The casque he wears on his landing at Cyprus is a copy of BOABDIL'S, which is still preserved in Madrid. But archæological research was not confined to costume. The fight between the drunken CASSIO and MONTANO is exactly in accordance with the rules of such old swordersas MAROZZO, BOLOGNA and St. DIDIER.

IF the Workmen's Compensation Act is to remain in force (and to the workmen it should be by this time as obnoxious as it was from the first to employers) a special dictionary of the English language will have to be prepared for the use of litigants. Who could have supposed that a mortar-mill can be transformed into a factory? Yet that is evidently the belief of the Court of Appeal. Hitherto a factory was supposed to be a building of some kind, it might be only a workshop, but when once a piece of machinery becomes a factory there is no knowing what results will follow in a legal sense. Workmen should be protected against dangerous machinery, but there are Acts enough in operation for that purpose, and there was no need to pass a special Act. Parliament did not anticipate that a mortar mill was to be considered a factory, and decisions should be given according to the common meanings of words which were in use whenever an Act was passed. In another case the question arose whether a wharf was a factory. The County Court judge decided in the negative; but the firm who would have to pay compensation decided on an appeal, but they asked for security that the costs would be paid. In opposition it was shown that under the Employers' Liability Act there was no necessity for such a security, and it was argued that, under the Workmen's Compensation Act, a similar arrangement would hold. But the Court of Appeal held that as the ordinary rule of the Court was that whenever the respondent proved that the appellant was a person from whom costs were not likely to be obtained, the Court would order security for costs. If the appellant happened to be in a position to appeal *in formâ pauperis*, security need not be given; but in that case the opinion was required that the case was a proper one for appeal. The decision will be unsatisfactory to claimants who have not the funds of a trade society at disposal, but unless something is done in carrying out the conditions of the Act the litigation will be endless.

THE announcement that the Town Council of Perth have offered 600*l.* for the "fair maid's" house will give rise to a desire that the negotiations will be successful. There is some truth of course in the legend which Sir WALTER SCOTT has immortalised, but the attraction of the house depends on its romantic rather than its archæological interest. SCOTT says that CATHARINE GLOVER, the reigning beauty of Perth, lived with her father in the Couvrefew, or Curfew Street. We are told that the street or row must, about the time of the story, have formed part of the suburbs, and that "the shops, as well as houses of the glovers, were then, as the name implies, chiefly in the Skinnergate; but the charters in possession of the incorporation show that the members had considerable property in or adjacent to the Curfew Row, consisting not only of fields and gardens but of dwelling-houses." The glovers were among the most esteemed of the Perth craftsmen and deservedly so, for on their seventeenth-century banner they had inscribed these words:—"The perfect honour of a craft or beauty of a trade is not in wealthe, but in moral worth, whereby virtue gains renowne." If the house was never inhabited by the lady-love of HARRY THE SMITH, there can be little doubt that it is ancient; moreover, the associations have so long surrounded it no logic will convince people that it is not the "fair maid's" house. It would be a loss to visitors from England and America if it should be demolished and a modern building substituted for it.

THE report of the committee of the London Chamber of Commerce on Secret Commissions will, no doubt, aid those who are endeavouring to obtain an Act dealing with the subject. But it is an evil which will be difficult to control. It is generally supposed that in connection with building illicit commissions are very common, but in the statements on which the report of the Chamber of Commerce is based there is no evidence to confirm that theory. For instance, it is alleged that "secret commissions are given by chemists to medical men on their prescriptions supplied to patients, in some cases amounting to from 25 to 50 per cent. on the price charged by the dispensing chemist." Happily no charge of that kind is made against architects. It is true that a firm who were correspondents of Sir EDWARD FRY stated:—"We have met with serious difficulties in connection with some architects, who will demand a commission from the manufacturers whose machinery is used in cases where they prepare the plans, and who get paid for the same by the owners of the property." But, as we pointed out at the time, architects do not usually give orders for machinery, and the cases in question must be exceptional, and particulars of them should be furnished. At all events, the London Chamber of Commerce have been unable to adduce instances in which architects were culprits. But they have rendered excellent service by endeavouring to throw a light on nefarious practices which are familiar to those classes of people who cannot trust for success to legitimate efforts.

ON Thursday next the jury will be constituted that is to judge the suitability of the pictures offered for the International Exhibition of 1900 in Paris. Ten years ago when the last exhibition was held there was only one society of French artists. As there are now two, the former arrangements cannot be followed. The Minister of Fine Arts has decided that the number of jurymen will be fifty six. The fourteen members of the section of painting in the Académie des Beaux-Arts have, as a matter of course, to be appointed. The two rival societies will each be represented by fourteen members. Finally, the Minister of Fine Arts, with the aid of his department, will select fourteen. In a French exhibition the award of medals and distinctions is generally considered as inevitable. But when the National Society was constituted, one of the resolutions was that the bestowal of rewards was to be avoided in connection with the annual exhibitions. The members will not therefore accept any medals from the Exhibition of 1900, although the majority of artists who are represented by works in the galleries are likely to adhere to the old arrangements.

REMBRANDT AT THE BRITISH MUSEUM.

IT was a surprise to LOUIS VIARDOT when in visiting England in 1843 he discovered that REMBRANDT was esteemed not less highly than POUSSIN, CLAUDE and MURILLO. If the excellent author of "Les Musées" could have lived long enough to see London in 1899 he would be still more amazed at finding two official exhibitions devoted to REMBRANDT, and, with a very few exceptions, each made up of examples of the master's works which were derived from English collections. The splendid drawings and etchings on view in the British Museum, which are transferred for the occasion from the Department of Prints and Drawings, is a testimony to the provident care of the Trustees, the liberality of donors and the anxiety of the officers who were the custodians. In Mr. CARPENTER'S days it needed uncommon courage to solicit the favour of studying prints and drawings, and before and after his reign the portfolios and cases were guarded as if the contents were too precious to be seen by any but an exalted few. Inconvenience may have arisen, for it is hard that a British citizen should be deprived of any of his privileges, yet we are afraid few people will sympathise with the victims when they see prints which remain as brilliant as if they were pulled from the press a few days ago. Pencil strokes which REMBRANDT may have applied as an experiment before altering a plate 250 years ago still retain, as it were, the expression of haste, and reveal momentary efforts to attain effect. There is so much of what under ordinary conditions would be evanescent that we seem to be gazing at studio secrets, at records of trials, at struggles which come from a conflict of ideas rather than at the wares of print-sellers. That at least has been our experience, and consequently we have found an attraction in the Museum exhibition which is not always afforded by the sight of REMBRANDT'S etchings in various states. At Bloomsbury we are brought nearer to the great artist, and in many cases can easily imagine what he said to his pupils and friends or to himself when he contemplated changes or encountered failures.

We cannot suppose his expressions were those of a meek and resigned philosopher when the first version of the *Descent from the Cross* failed in the biting through the inefficiency of the protecting coat of varnish, and had to be abandoned. REMBRANDT was to be excused if he used strong language, and it is to be hoped he has had as pitying an angel to record the offence as attended on Uncle TOBY a century afterwards. The plate is a sad spectacle, and regret for the catastrophe is increased when we perceive it would be superior to the second version. In one impression of the *Angel appearing to the Shepherds* Indian ink has been used to impart more shadow, while a copy of the *Chist before Pilate* is boldly touched up in oil colours, suggesting the haste of the master to express a thought in the readiest material which came to his hand. The removal of the whole of the figures, amounting to about a dozen men, women and children, that in four states of the plate appeared in front of the tribune in the *Christ presented to the People* is also, we suppose, to be taken as evidence of an angry mood. If REMBRANDT thought only of artistic effect he could gain his end without so great a sacrifice.

When we see such changes the question arises whether they do not help us to understand the origin of the etchings. Apparently all, or nearly all, were executed by REMBRANDT for his own satisfaction. Like lyrics, they expressed his moods, and they were dashed off while the inspiration was glowing. Elaborate plates, like the *Christ presented to the People*, the *Three Crosses*, the *Christ Healing the Sick* ("the Hundred guilder piece"), the *Resurrection of Lazarus*, were, we suppose, speculations like the modern etchings which are seen in so many shop windows. The portrait of COPPENOL, the writing-master, was probably a commission, and was intended to be used as an advertisement of the bullet-headed caligraphist who possessed so many styles of lettering at command. EPHRAIM BONUS may also have wished to bestow a portrait of himself and his big ring on the patients who promptly paid him his fees, and for that purpose employed REMBRANDT. JAN SIX looks too refined a gentleman to obtrude a likeness on his neighbours for the purpose of securing their votes. But after allowing for all the works which can be considered as ordered for purposes of business, we still have a majority which apparently came into existence for the gratification of the man who produced them.

An artist inspired by commerce alone would not waste his labour on unsuitable plates. In a *Virgin and Child* (179) the catalogue tells us, "The head seen upside down near the VIRGIN'S right knee indicates where a different design had been begun and abandoned." REMBRANDT in such cases would be piqued to overcome a difficulty offered by the material, just as MICHEL ANGELO was when he made the *David* out of a block of marble which another sculptor had operated on. In No. 229 we meet with a beggar man, woman and child along with a portrait of the artist. On another plate there are or were five heads. The large number of portraits of himself may also be taken as evidence that REMBRANDT was not always thinking of the market. To use WILKIE'S words when he posed himself as a model of the nude, and copied the reflection in a glass, they were "cawpital practeese," and, moreover, the heads amused some of REMBRANDT'S cronies. He used as many dresses and appointments as if he were an actor in a variety performance of his own composition. His head was always available, and he was indifferent to preserving it in a state of dignity. REMBRANDT'S mother was another model he was glad to employ, but he was always careful to suggest she was worthy of respect, and it was reverentially he also drew his father's likeness. It is well to bear these circumstances in mind when studying REMBRANDT'S etchings. In using a copper plate he was generally his own master, and could be as spontaneous or as wilful as he pleased.

In arranging his etchings several divisions can be adopted. Mr. SIDNEY COLVIN has chosen the simplest and most satisfactory, for he has endeavoured to follow a chronological order throughout. Connoisseurs will of course say there are so many undated examples that order must be hazardous, but as we see it carried out in the Museum gallery it is confirmed by the evidence of increased power which is apparent. If a work of art in a mysterious way impresses us with the spirit in which it was produced, there are few collections which impart so much delight as those of REMBRANDT. There could hardly be a more marked contrast than is presented between his etchings and the few modern English examples which Mr. COLVIN has introduced to illustrate processes. The latter are excellent, but the apprehension of criticism is seen in every line. The artists were not at liberty, and consequently each stroke appears as if doomed to demonstrate its right to existence. REMBRANDT, on the contrary was as it were always at play. The unfinished etchings reveal in some measure his mode of production, but in general it is impossible to tell where he began. As BASAN, the engraver, said, "REMBRANDT'S etching-needle was free and vagabond, every stroke was made to tell, and the picturesque disorder he affected to expend over a plate is the principal cause of the warmth, the harmony, the seduction of his prints." It is often difficult to say what was his intention. Sometimes it was manifestly the contrast between light and darkness, and he illuminated a crowd of figures regardless of their relative importance, or concentrated the light on one among them according to his pleasure. On the other hand, there are etchings so dark the figures are almost invisible and the subject has to be taken on trust. But as he was lord of his own actions it cannot be denied that his unbounded liberty occasionally became mere license. In spite of all that is said to the contrary, we consider the straight lines which traverse the *Three Trees* as no more than a freak, a daring freak, to show how interesting a landscape he could make in spite of obstacles however unnatural. The countless lines, which are nearly straight, that cover a large section of the *Three Crosses*, form a *tour de main*, for a machine could not produce them more accurately, but they are out of keeping with the character of the work in other parts of the plate. The aim was to diminish what would be an excess of white light, but that could be regulated by REMBRANDT with less mechanical aid if he had desired.

So many of the etchings represent simple subjects, it is easy to conclude that REMBRANDT did not differ from his countrymen who devoted themselves to representing peasant life. It is not accepted that in conception his *Raising of*

Lazarus (final state) is grander than the joint work of MICHEL ANGELO and SEBASTIAN DEL PIOMBO. The contrasts of character in the numerous groups seen in the plate *Christ Healing the Sick* are amazing. But there are simple scenes which are remarkable for subtlety. GOETHE'S essay on "Rembrandt der Denker" was inspired solely by the etching *The Good Samaritan*, of which copies in two states (No. 93) are in the exhibition. It represents the wounded man being carried from the mule into a house or inn, the Samaritan paying all charges in advance to the host. GOETHE praises the delicacy of the execution, but what struck him most was the conflict of emotions suggested by the figure of the invalid, who, recognising among the people in the background and at a window some members of the band by whom he was waylaid and attacked, is afraid to enter a place where they are found and yet is too helpless to resist. In size the plate is small, yet to GOETHE it was a "wichtige Blatt," and to observers who possessed equal insight and culture many of REMBRANDT'S etchings would be no less eloquent.

It has also been doubted whether REMBRANDT was competent to realise the beauty of the human figure. As a rule his men, women and children are overburdened with clothes of the artist's devising, and which are not of any use in exemplifying the variations of costume. His Dianas and Eves and women bathing recall the story of the French painter who was compelled to employ no other model than his wife, without any regard to the effects of years. Neither SASKIA nor HENDRICKIE STOFFELS could compete in contours with the Medicean Venus, but REMBRANDT no doubt imagined he could transform unpromising materials. The etching, *Negress Lying Down*, in the exhibition (294) reveals more sensitiveness to beauty of line than is found in the rest of his works, and on that account its genuineness must always be doubted.

Mr. COLVIN has divided REMBRANDT'S work into three periods, viz. 1628-39, 1640-49, 1650-61. There are no landscapes belonging to the first period, but subsequently country scenes appear to have attracted him, and several etchings are in the exhibition which can be identified as transcripts of real landscapes. It is remarkable, however, that he does not appear to have made any of the scenes a subject for the display of his startling effects of light and shade.

One of the causes of REMBRANDT'S popularity is the clearness and definiteness of most of the plates, and by which they become most suitable subjects for reproduction. For several years Paris has produced selections from the etchings which are as enjoyable as the originals, although the cost is infinitely less. The success of the exhibition at the British Museum should inspire English publishers to undertake a similar enterprise.

The drawings by REMBRANDT are not so well known as the etchings. The Museum collection can supply nearly one hundred. They testify to the power possessed by the artist of realising a scene without the need of making several trials. Few painters were so happy in decisive strength, for REMBRANDT'S first glance was sufficient to reveal to him all that a subject could afford.

Several etchings by his contemporaries are also exhibited. CALLOT'S *Miseries of War* will probably be considered as the most attractive. They have an historic importance which cannot be claimed for REMBRANDT'S works. They show some of the pride, pomp and circumstance of war, but they also indicate how thin was the division between soldiers and marauders. The punishments inflicted were terrible. CALLOT was able to crowd an immense number of figures into one of his plates, and his work is therefore as effective as any descriptive volumes. Among the Dutch artists JAN LIVENS is the most remarkable. He and REMBRANDT were taught by LASTMAN, and each exercised an influence on the other. Altogether the exhibition is creditable to the Trustees of the Museum and to the officers who carried out the arrangements.

A Memorial of the late Mr. George A. Spottiswoode is to be placed in St. Paul's Cathedral by the members of the Lay Helpers' Association for the diocese of London, of which Mr. Spottiswoode was chairman for a period of twenty-two years.

SYSTEMS OF DISTRIBUTING AND GENERATING ELECTRICITY.

By F. J. WARDEN-STEVENS.

(*Continued from page* 141.)

Gas Power.

GAS is perhaps the most interesting form of motive power, and it is being adopted for electricity works to some extent. Its use is perhaps in the experimental stage at present, but some very good results are being obtained, although there have been a few failures.

The satisfactory running of gas engines depends to a large measure upon the quality of the gas used, as also does the cost of working. The obvious course to take in adopting gas-engines is to use ordinary illuminating gas, and this is satisfactory; in fact, it is the best, leaving out the question of expense. At Belfast this course has been adopted, and although the plant has worked very satisfactorily, gas-power is not being used for extensions in the plant, steam being substituted. This may be explained by the fact that the cost of fuel in 1897 was 1·3*d.* per unit, the usual cost in a works of the same size using steam-power being about ·5*d.* per unit. The reason of this high cost is on account of the gas being purchased from the gas-works at roughly the ordinary price for lighting, so the result is only what could be expected.

Other sources of gas supply, apart from the town mains, must therefore be considered, and the general course is to use "Producer" gas. There are several forms of apparatus for making this gas, which, it may be mentioned, is comparatively poor in quality and useless for ordinary illuminating purposes, but is a good heating agent and is inexpensive.

The "Dowson" producers are perhaps the best known, but there are several other types including the "Mond." Dowson gas may be described as representative of the class. The producer consists of an iron cylinder which is provided with a steam-jet producing an air-blast at the lower part, a small boiler generating the steam. A deep fire of anthracite coal is started in the generator, and the lower doors opening on to the fire-bars are then closed air-tight. Steam having been raised in the boiler to a pressure of about 40 lbs. per square inch, it is turned on through a nozzle which enters the generator below the fire; this nozzle passes in through a bell mouth through which a draught of air is drawn by the steam blast. The gas now arising from the anthracite fire passes out at the hopper at the top of the generator, and is here set alight and allowed to burn until the flame assumes a deep orange colour; at this stage it is fit to be passed into the holder, and the hopper is closed by means of a lever. The gas then passes into the cooler (a vessel of sheet-iron having a large surface exposed to the atmosphere), from there through the hydraulic box, which further cools the gas and acts as a check valve in case of back pressure, through the main valve to the holder. The scrubbers are merely iron vessels containing respectively broken coke and dry sawdust, space for the passage of the gas being provided by means of perforated iron partitions. The coolers and scrubbers are all arranged in the open air.

Dowson gas is practically carbon monoxide, which is highly explosive, and when ignited in the presence of air forms carbonic acid. The gas is highly poisonous, and great care has to be exercised in providing good ventilation, and in making sure that the pipes are tight. The gas-holders should be of considerable size, as the quality of the gas will fall if there is a sudden increase in the demand on the producer.

Coke may be used instead of anthracite coal, but it does not give such good results owing to its being porous and allowing air to escape through it unburnt. There is little heat really lost in the "Producer," the gas produced representing the heat which was originally in the coal.

In estimating the cost of producing this gas, it must be remembered that in addition to the cost of working, the fuel for raising steam in the boilers must be considered, and also the cost of recharging the coke and sawdust scrubbers.

Up to the present, it must be said that to obtain gas of

uniform quality much more care is necessary than is required to produce steam at uniform pressure.

It may be of interest here to state that at Leyton, a much smaller works than Belfast, where coal is probably more expensive, even in the first year of running the coal bill was only ·51*d.* per unit, as against 1·3*d.* at Belfast. The total works costs in the first year of running were only 1·87*d.* per unit, as against 2·63*d.* at Belfast in the third year of working. The Belfast works generated double the number of units, and should have given much better, rather than worse, results. These figures show the great effect of substituting "Producer" for ordinary coal gas.

Gas-engines.—The gas-engine is so well known that very little description is necessary. It is an internal combustion engine; the mixture of gas and air is drawn in on one stroke, is compressed on the return stroke, ignited and expands in the next outward stroke and the results of combustion are expelled in the return stroke. Thus only one useful stroke is obtained out of four—that is, two revolutions in the usual single-acting type of engine. It follows from this that the running cannot be uniform without the use of heavy flywheels. The impulses at each explosion are quite noticeable in the fluctuation of an electric lamp, unless a large storage battery is used and the flywheels are heavy. In order to reduce the fluctuations when slow-speed engines are adopted, the dynamos are driven by belts instead of being direct-coupled. The slip of the belt minimises the effect of the explosions on the fluctuations of the lamps.

High-speed gas-engines are used in order to increase the number and lessen the force of the explosions and also double-acting and double-cylinder engines are employed for the same purpose.

The efficiency of a gas-engine is much higher than that of a steam-engine for several reasons. In the first place the pressure is higher, and consequently the range of temperature is greater, and, as explained already, this tends to high efficiency. There is no loss from cylinder condensation, as is the case with steam, the effect of which is considerable. Were it not for the fact that if left to itself the gas would produce such heat as to burn the cylinder walls and valves, much higher efficiencies than those at present attained would result, but a water jacket has to be provided to keep down the heating of the cylinder.

Against the advantage of higher temperature range there has to be set the lower mechanical efficiency, one stroke only in four being effectual, and in some cases an unduly high temperature in the exhaust caused by insufficient expansion.

Gas-engines are difficult to start, and auxiliary engines have to be used in the larger sizes. In electricity works the dynamos are sometimes used as motors to start the engines, but this is not a very satisfactory method in general. Compressed air is occasionally used, it being forced into the cylinders in a somewhat similar way to the action in a steam-engine for a few strokes until speed is attained, when the gas is turned on. Small electric motors are sometimes used to start the engines, and in other cases a hand arrangement is adopted.

The governing of gas-engines is carried out in two ways: by reducing or increasing the charge of gas, or by entirely cutting off the supply of gas for a stroke occasionally if the speed increases above a certain limit. Extremely good governing has been obtained in practice by this latter method.

It is necessary to provide some arrangement for silencing the exhaust, and this can be accomplished to some extent by allowing the gases to pass through a gradually enlarging pipe on its way to the atmosphere. Unfortunately there are few, if any, devices which act to a sufficient extent, and the exhaust of gas-engines is always noisy, and is liable to cause trouble on account of nuisance.

It must be remembered that gas-engines, especially when used with "Producer" gas, require frequent cleaning and repairs, and will not run satisfactorily if dirty. The valves become choked with carbonised oil, formed by the oil being burnt by the high temperature employed. These are serious disadvantages, when it is remembered that the chief requisite for electricity works is reliability.

Gas-engines worked with "Producer" gas are undoubtedly more efficient than any steam-engines, and it is only the added complication and the greater liability to break down which has prevented their use to a greater extent.

Dynamos.

Continuous and alternating current dynamos are really one class of machine; the first is arranged to give continuous current, and the latter alternating. The nature of these currents has already been described.

Dynamos of all types for electricity supply works are now made in very large sizes; the latest have been made up to 1,500 kilowatts capacity—that is, equivalent to about 2,250 horse-power, or sufficient to light 50,000 8 candle-power lamps. On the other hand, dynamos are made as small as 10 kilowatts for electricity supply works.

The dynamo, both continuous and alternating, is a machine by which electric currents are generated by the action of a magnet on a coil or coils of conductors. If one pole of a magnet is plunged into the centre of a coil of wire, although there may be no actual contact between the magnet and coil, an electromotive force, *i.e.* electrical pressure, is induced in the coil, and if the circuit is closed a momentary current will flow in one direction. When the magnet is withdrawn the current flows in the other direction. The same effect can be obtained if a coil wound on part of a magnetic circuit is rotated so that the magnetic induction through it is being varied continuously, and this is the form in a dynamo or alternator.

Alternating Current Dynamos.—The alternator is the simpler of the two machines. There are many designs, but it is not intended here to go into particular types deeply. The types of alternators can be divided into three classes—1. Moving magnets and magnet coils, stationary armature and coils. 2. Moving armature and coils, stationary magnets and coils. 3. Armature and magnet coils stationary, but part of the iron magnetic circuit moving, which varies the magnetism through the armature coils.

The first type is mostly used; its great advantage is that the armature coils are stationary, and no high pressure conductors are exposed. If as in type (2) the armature rotates, the current must be collected by means of collector rings and brushes. This necessitates exposed high-pressure metal, and there is danger of shock. Further, the armature is the weakest part of the machine, and it is yet further weakened if the armature rotates. The most mechanical type is undoubtedly the last named, which is called the "inductor" alternator. In this type the only parts which move are the "inductors," which are plain masses of iron that can be evenly balanced. It must not be imagined that these are the only classifications of alternators. They may be classified also as those which have air cores to the armature and those having iron armature cores. The differences between these types are very marked. The air-core machines have very little "self-induction." The effect of self-induction is to act as resistance to the flow of the varying current. It is like the inertia of a mass of metal which causes a resistance to any change of speed, whether faster or slower. The effect that this has on the alternator is that if a machine has a large self-induction, there is a large drop of pressure as the current generated increases, and consequently either the speed must be increased to bring up the pressure, or the strength of the magnets. Another effect is that this self-induction automatically protects the machine from the bad effects of short circuits, as the maximum current the machine will give is limited by the self-induction. It can thus be seen that it is desirable to have an air-core machine because of the good regulation, but the iron-core machine is less easily damaged by short circuits on the mains, &c. The air-core machines are considerably more efficient than the iron core, as energy is expended in carrying the iron through the cycles of magnetism due to what is called "hysteresis." There is a definite amount of energy lost per pound of iron every time the current in the coil, and consequently the magnetism, is reversed, but this loss does not occur in air, hence the advantage in the latter type. Of course this advantage is discounted somewhat by the fact that more energy must be expended in sending the magnetism of the magnets through the air than through the iron core.

One characteristic of the usual type of alternator is that it is always multipolar, and is of large diameter compared with the length. The reason for this design is that

certain frequencies are required in alternating current working. Every time a magnetic pole passes a coil the current rises and falls, and as a rise and fall in current is half a complete period or cycle, the number of cycles per revolution is equal to half the number of magnetic poles. Thus the number of cycles or periods per second are equal to the number of magnetic poles multiplied by the number of revolutions per second divided by two.

This number varies for lighting from 50 to 150 per second. Taking the latter number, and remembering that a large dynamo direct coupled to an engine cannot run at more than about 400 revolutions per minute, it can be seen that to obtain a frequency of 150 alternations per second 30 poles are required to the magnetic circuit. In order to space these round an armature the latter must be of large diameter; but each magnet need not be very wide, and in consequence this dynamo would need to be of large diameter and narrow.

It will be seen later that continuous current machines usually consist of two magnetic poles, and the reason is that as the current is continuous, periodicity or frequency does not enter into calculations.

Every alternator must have a magnetic circuit, and because permanent magnets would, if powerful enough, be heavy and expensive, it is now the invariable practice to use electro-magnets. This necessitates a continuous current, which is usually provided from a small continuous current dynamo coupled either directly or by means of a belt to the alternator. The construction of continuous current machines will now be dealt with, and then the subject of the exciting circuits of alternators will be considered.

Continuous Current Dynamos.—The continuous current dynamo is exactly similar in principle to the alternating, with the addition of a commutator, which converts the alternating into the continuous current. There is practically only one general type of continuous machine, viz. the one in which the armature rotates and the magnets are stationary. It is possible to construct a machine on either of the three principles mentioned for alternators, but in all except the first method difficulties are experienced with the commutators and brushes.

Continuous current dynamos are usually two pole, and consist of one massive horseshoe shaped magnet with the armature rotating between the poles.

The voltage or pressure which any machine, either continuous or alternating current, will give, is proportional to the total number of magnetic lines of force all round the armature, the rate at which these lines are cut by any individual conductor on the armature and the number of conductors.

It may be well to explain what is meant by lines being cut by conductors. Every conductor around the circumference must have its axis nearly parallel to the axis of rotation of the armature, and is connected to another conductor, forming a loop. When this loop or coil is in such a position that all the magnetism passes through it, and the coil is moving in such a manner that the magnetism is decreasing, the conductor or coil is cutting lines of magnetic force, and also if the coil commences with no induction and moves so as to increase it, it is again cutting lines.

If two slip rings were connected to the two ends of the armature coil, alternating current could be collected. A commutator, however, is fixed to the shaft; this consists essentially of a tube split axially into two semicircular pieces, one connected to each end of the armature coil, the segments being, of course, insulated from each other. Two metal springs press on this split tube, on opposite sides, and are placed in such a position that when the current is at zero and reversing, the one half of the tube leaves the brush and the other half is connected. Thus, while the current in the armature is alternating, that in the outer circuit will be in one direction. With this elementary commutator the current would not be steady, but will rise and fall periodically, always keeping in one direction. These pulsations will occur twice in each revolution of the armature.

Suppose a dynamo to make 500 revolutions per minute, there would be 1,000 pulsations per minute, or 16 per second, which would be noticeable if used for lighting.

To obtain a practically steady current, the commutator consists of a large number of segments, each connected to a coil on the armature. By this means the pulsations are rendered more frequent but of less amount, and as a matter of fact the pulsations are inappreciable. Dynamos have usually from 50 to 100 segments on the commutator.

Details.—There is no need here to enter into the question of sparking on commutators; it is assumed that an engineer is in a position to insist on having dynamos which are practically sparkless. All first-class dynamos are practically as good as each other, and it is impossible to recommend one type more than others for use with continuous current systems. Given a strict specification and the power to enforce it, the least expensive should, as a rule, be obtained. The same, however, hardly applies to alternators. The most important points in connection with the construction of continuous or alternating current dynamos are mechanical strength and efficiency. A machine may be strong and inefficient or the reverse. Perhaps the latter is the greater fault of the two. Efficiency which is obtained by reducing air gaps and clearances between the armature and magnets, or by reducing the metal fixings of coils, is often met with, and is to be condemned. On the other hand, efficiency and mechanical strength obtained by almost wasteful expenditure of material and design are desirable in alternators.

In alternators the exciting circuit is supplied from a separate continuous current dynamo, often driven from the main shaft and sometimes from a separate engine, as previously stated, the latter being convenient when there are several alternators to excite. Exciters, connected one to each alternator, are very usual, as each machine is self-contained and switching gear for the exciting current is reduced to a minimum.

Continuous current dynamos are excited by two methods (1) by winding a fine wire coil of many turns and connecting it across the mains, or to the dynamo brushes, known as "shunt" winding; (2) by passing the main current through a thick wire coil around the magnets, on its way to the mains.

The former type is used for continuous current work for ordinary lighting systems, as by its use the pressure given by the dynamo if driven at constant speed will vary little with the output, the magnetism being constant. With the second type, called the "series," the magnetism increases with the current delivered, and consequently the pressure will increase as the current increases. This type is unsuitable for ordinary work, but it is used for exciting alternators to a large extent, as the current is kept fairly constant, and there is little chance of breakdown. Series-wound dynamos will not run in parallel, and this, again, unsuits them for use in electricity supply works.

Running in parallel means the use of two or more independent dynamos supplying one set of mains, and shunt wound machines will work easily in this manner. With continuous current dynamos all that is necessary is to run both machines until they give equal voltages, and then connect the two positive terminals together, and also the two negative terminals, when the load is shared between them.

With alternators, not only have the two pressures to be made equal, but the machines have to be running exactly in step—that is, the poles of the two machines must be passing the coils at exactly the same speed, and the coil and pole must be exactly similarly placed in each machine at the moment of connection. For instance, if in one of the machines the poles are exactly opposite the middle of the coils, then the poles must be exactly similarly placed in the other, otherwise there may be a short circuit on connecting the two together. Special apparatus has to be provided to indicate when these two conditions are satisfied, and the process of getting two alternators in step is called "synchronising."

(*To be concluded.*)

Mr. George Pearson died at his residence, Brickendonbury, near Hertford, on the 3rd inst., after an illness of several weeks' duration. Mr. Pearson was formerly head of the well-known firm of contractors, Messrs. S. Pearson & Son, of Westminster, a position which is now held by his eldest son, Sir Weetman Pearson, M.P. He was born in 1834.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Instftute was held on Monday evening last, at Conduit Street, W., Professor Aitchison, R.A., president, in the chair.

Mr. A. C. Dickie read a paper on

Some Early Christian Churches in Palestine.

The lecturer said that Jerusalem was rich in remains of early Christian churches, and he had selected for discussion three interesting types of plans which were comparatively unknown, viz. those of the church of St. John the Baptist (eleventh century), an Armenian mortuary chapel (sixth century), and the church of the Pool of Siloam (fifth century). Before dealing with these the lecturer briefly outlined the history and described the great cathedral church of the Holy Sepulchre, the most important and most interesting early Christian church in Jerusalem. Constantine, in the fourth century, built a basilica over the site of the discovery of the true cross by Queen Helena, and a rotunda over the Holy Sepulchre, which seems to have been separated from the basilica by a cloister. These were burned and destroyed by the Persians in 614, and partly restored by Modestus soon after, with the addition of a chapel over Calvary and a chapel to the Virgin Mary. Arculf (seventh century) gives a plan of the buildings, showing the rotunda isolated, and between it and the basilica the chapel over Calvary and the chapel of St. Mary. The buildings were again destroyed and restored in the ninth and tenth centuries, and totally destroyed in 1010 by the Khalif Hakem. Not long afterwards they were restored, and in the beginning of the twelfth century the restoration of the Crusaders made the church much as it is now seen from the housetops. The façade, with its domes and tower, and the Mohammedan minaret in the foreground, is the most charming group of the city; the rich tawny colour of the weathered stone and the lead and white domes set in bright sunlight against the intense blue Syrian sky is a picture to be remembered. The lecturer acknowledged his indebtedness for the facts given of the church to the careful researches of Mr. George Jeffrey, a fellow of the Institute. The church of St. John the Baptist lies on the way to the church of the Holy Sepulchre, in Christian Street, adjacent to the Pool of Hezekiah. Over the original church a modern one has been built, very nearly on the same plan, and the ancient building now takes the place of a crypt, the surface of the ground being at the level of the upper church floor. The lower church is reached by a rude flight of steps on the south side descending into a narthex, from which three doors enter the main building. The total length of the church north and south is 62 feet 9 inches, and width 24 feet 9 inches, which the later wall thickening has reduced to 16 feet 6 inches. The west wall of the narthex is 6 feet 10 inches thick. The floor of the eastern apse is raised 6 inches, and the original window is now formed into a recess. The present vaulting is Late Pointed, the centre bay having intersecting vaults and the flanking bays plain vaults. A close examination of the vaulting convinced the author that it had been constructed in the same way as the natives construct the vaults at the present day, viz. by a rude centring of timber, brushwood and earth, modelled to the form of the vault, and then completed in concrete of stones and lime thrown quickly over the centring and left to dry.

An Arab Effendi, when excavating the foundations for a new house, came upon one of the most beautiful Byzantine floor mosaics yet discovered. He preserved it by building a cell on the old foundations. The mosaic formed the floor of an Armenian mortuary chapel, a tiny rectangular cell 21 feet by 13, with an apse on the east end. The lecturer quoted Dr. Bliss's account of the discovery, and a note by Dr. A. S. Murray on the design of the mosaic.

Next to the church of the Holy Sepulchre, perhaps the most interesting is the church dedicated to the waters of Siloam in the middle of the fifth century. This long-lost ruin was discovered during the recent three years' excavation by the Palestine Exploration Fund under Dr. Bliss's direction. Having given a description of the Pool of Siloam and its present condition, and some account of Dr. Bliss's excavations, the lecturer went on to discuss the church itself. There is no record of any building attached to the pool prior to the time of the Empress Eudocia in the middle of the fifth century. The sacredness of its waters to the pilgrims who sought relief from their infirmities at its healing stream inspired the empress with the idea of building a place of worship over the pool. The plan adopted is unique. It consists of a nave and two aisles, measuring over all 86 feet by 52. In the centre of the nave are four piers, 4 feet 3 inches square, the supports of the Byzantine dome of a later restoration. The projecting choir is also of the period of this later work, as well as the thickening of the pier in the entrance colonnade to the north, inserted evidently to provide for the extra thrust of the dome arches. There is no entrance in the west, and access is gained from the north by a great stair of sixteen steps, 68 feet wide, descending through an arcade of seven arches almost the whole length of the aisle. The staircase is reached by three doors, entering from an atrium, the centre doorway being accentuated by the addition of a small portico. Between the doorways occur low stone benches set against the wall, used as seats. Ranged round the apse are five tiers of steps, with the centre raised at a higher elevation than the flanks for the seat of the bishop, as existing more or less complete at Torcello, illustrated by Fergusson. There is a small chapel in the east end of the north aisle, screened by a low screen of red marble 2 inches thick, let into the sill and walls, and coped with a moulded coping stopped by moulded stone gate-posts in the centre, the remains of which were found lying at this point. In considering the influences which had worked together to bring about the peculiarity of plan, the lecturer explained that the church was designed to fit into an existing scheme in the building of which no such extension was contemplated. At that time the pool was believed to be supplied by a spring, the builders being ignorant of the existence of the Siloam tunnel.

The position of the supposed spring to which the church was dedicated therefore fixed the position of the altar directly over the spot where the waters were believed to spring from, 27 feet below. This practically settled the eastern apse, and the west wall was fixed by the position of the rising scarp and city wall then existing, and forming the western butt of the great staircase, the necessity for incorporating the latter in the plan forcing the builders to draw the wall to within a few feet of the scarp, leaving a space only sufficient for a narrow passage and a western light to the church. It was desirable to have as much of the church as possible over the pool, and this was easily managed by carrying the south wall on the pool arcade and the aisle colonnade on the north wall of the pool. Thus the north was the only side available for the entrance to the church, and although the rapidly rising ground rendered this difficult, necessity demanded it, and the magnificent idea of a great staircase entering the north aisle through seven arches (almost its whole length) was the result. The traditional three doors were placed at the entrance to the staircase, and an atrium put in front.

Thus all the traditions of the early church plan were retained in a modified form—a most successful solution of an exceedingly difficult problem. An unsuccessful attempt was made to buy the site, with the intention of restoring the church and pool to its original state. Among the illustrations was a sketch restoration made by the lecturer founded upon the theories advanced in his paper. A careful study of the existing remains leaves little to conjecture, as the buildings practically stand for a height of 35 feet from the pool pavement to the ruined top of the church walls.

The Chairman said that, owing to the lateness of the hour, there would be no discussion. But he hoped that any of the members who cared to offer remarks on Mr. Dickie's paper would send them to the secretary.

A vote of thanks to Mr. Dickie was proposed by the hon. secretary and seconded by Mr. R. Phenè Spiers.

MADINGLEY CHURCH.

ON Monday Mr. G. J. Talbot, chancellor of Ely Diocese, completed at the Guildhall, Cambridge, the hearing of two petitions respecting Madingley Church. The first was presented by the Rev. T. A. Lacey, vicar, for a faculty confirming alterations that had been made in the church, and authorising certain alterations and additions proposed to be made hereafter; the second was by Mr. H. W. Hurrell, lord of the manor, for a faculty to remove a stone altar which had been placed in the chancel of the church. Mr. J. T. Micklethwaite, architect to the Dean and Chapter of Westminster, said the alterations had been made in the church according to his report. He designed the stone altar which took the place of the wooden table. There were stone altars in many parts of England. A stone altar was erected in Durham Cathedral a little before the Civil War. The altar in Westminster Abbey was a wooden table with a marble top. A screen would add to the beauty of Madingley Church. Mr. Hurrell said he gave up attending Madingley Church because he did not like the variety of things which were introduced in connection with the service. He objected to pictures and to a cross because it would lead to adoration. The Chancellor reserved his decision.

NOTTINGHAM ARCHITECTURAL SOCIETY.

DURING the past week the drawings which were recently awarded prizes by the Royal Institute of British Architects were, in accordance with an accepted annual custom, exhibited at the Nottingham Castle Museum and Art Gallery. The exhibition was organised by the Nottingham Architectural Society, and the works contained much of interest. They were hung in the Felix Joseph Gallery, and comprised drawings which were successful in competition for the Soane medallion,

the Royal Institute silver medal (measured drawings), the Pugin Studentship, the Tite prize, the Owen-Jones Studentship and the Grissell medal, together with "testimonies of study" from the final and intermediate examination. The Soane medallion was awarded with 100 guineas to Mr. W. A. Melton, for a design for a concert hall, and the Pugin Studentship, with 40*l.*, was won by Mr. J. H. Rutherford, who sent a collection of Gothic studies. Mr. Jas. B. Fulton secured the Tite prize by elaborate designs for a royal mausoleum, and Mr. Jas. Stewart the Owen-Jones Studentship and 100*l.* for a series of clever colour drawings. Among the other sketches were designs for a fruit and vegetable market and drawings of Chartres Cathedral, the mosaics at the Cappella Palatina, the north porch of St. Paul's Cathedral and Catharine College, Cambridge.

TESSERÆ.

Roman Architecture.

THE essence of good architecture of any kind is that its constructive system should be put boldly forward, that its decorative system should be such as in no way conceals or masks the construction, but makes the constructive features themselves ornamental. Both in Grecian and in Gothic architecture this rule is thoroughly and consistently carried out. In a Grecian building the entablature is the main feature of the construction, and it proclaims itself as such. In a Gothic building the pointed arch is the main feature of the construction, and it proclaims itself as such. In neither case is there any attempt at concealment or disguise of any kind. But how stands the case with Classical Roman architecture? Here we have a style in which the main feature of the construction is not made the main feature of the decoration. Here we have a style in which the great constructive features seem, as it were, ashamed of themselves, where they try to hide themselves behind a mask borrowed from a different system of construction. The architecture of classical Rome is, like the literature of classical Rome, imitative. Italy, the land to which the world practically owes the great discovery of the arched construction, may very likely have had a native architecture, as well as a native literature, in the days of the kings and the early consuls. But the architecture of classical Rome was a mere imitation of that of Greece. It was indeed but an imperfect imitation. The Roman architects were not so besotted as to cast away their own great invention of the arch, and to fall back on the less flexible, less diversified, constructive system of the Greek entablature. But just as they spread a varnish of Greek forms, Greek metres and what not, over their native Italian literature, so in like sort they spread a varnish of Greek decoration over their native Italian construction.

The Baldachin.

Bingham in his "Christian Antiquities" tells us about the early history of the baldachin. "In some of the more stately churches," he says, "as that of Santa Sophia, the altar was overshadowed with a sort of canopy, which from the fashion of it is termed by Paulus Silentiarius the turret, by others umbraculum, but among the Greeks most commonly ciborium, which Durandus and other modern ritualists usually mistake for the Pyxis where the Host is kept; but Du Fresne shows it to have been anciently quite another thing, viz. an ornamental canopy hanging over the altar. This was raised in the form of a little turret upon four pillars at each corner of the altar. The heads of the pillars were adorned with silver bowls, which was an usual ornament in those days, as is evident from the description which Eusebius gives of the twelve pillars in Constantine's church at Jerusalem. The top of it was in the form of a sphere adorned with graven flowers, whence it has sometimes the name of Sphera, Lilia and Malum. Above the sphere stood the cross as Paulus Silentiarius represents it. . . . I have been the more particular in describing this ornamental structure about the altar, after Du Fresne, because the common ritualists so generally apply the name ciborium only to mean pyx, whereas in the most ancient writers it signifies this beautiful fabric about the altar." There is an example of very ancient design in the church of San Clemente at Rome. Wren's (unfinished) model of the one he designed for St. Paul's is a lofty ornamental canopy, supported on couples of twisted columns at the north-west and south-west corners and by simpler supports at the eastern corners. In many of the Classical churches by Wren and other architects there were altar-pieces against the east wall of the chancel, which had detached columns, twisted or fluted, and were intended to give something of the same effect as a baldachin would give. In Mediæval illuminated manuscripts the canopy over the altar is often represented as a conical canopy suspended from above. But the ancient type of architectural canopy carried on four pillars is also found, though rarely. There is a beautiful Early Gothic example in the church of Our Lady at Halberstadt. What was it for? It had no use and no meaning beyond this, that it was a canopy of honour over the altar, and was used in the earliest churches which were built. The architectural argument in favour of these canopies is rather a strong one. The altar is the culminating point of the building, but it is a small object and it is difficult to give it prominence. The use of reredoses is partly to give artistic value and importance to this culminating point.

Masonic Craftsmen.

The wonderful fiction of wandering masons may be brought down from its high antiquity, and in all probability originated in the Middle Ages. We believe bodies of artificers were usually attached to Roman legions, who of course were wandering masons. After the downfall of the Roman empire, and when stone churches began to be built, artificers as well as priests came from Rome to instruct the people to raise durable places of worship. In consequence of the Italian expeditions of the German emperors of the Middle Ages some knowledge of the arts was imported into the countries beyond the Alps, and hence it grew into a custom for the German craftsmen after finishing their apprenticeship at home to spend a year in Italy to complete their education. Such, we suppose, was the origin of wandering masons.

Constable as a Landscape Painter.

It was probably the manner of Constable's execution, as much as anything else, which for a time interposed a serious obstacle to his success, particularly with artists or persons accustomed to attend to the executive detail of painting. "My pictures will never be popular," he said, "for they have no handling; but I do not see handling in nature." His aim, in fact, though we must admit it was not always successful, was to exhibit art, but not artifice—to efface all traces of the mere mode of execution—to conceal the handwriting of the painter and to imitate those mysterious processes by which nature produces her effects, where all is shadowy, glimmering, indefinable, yet pregnant with suggestion. In Turner more than any other modern artist—for in this respect we think he far excelled Constable—is this alchymy of art carried to perfection. Look closely at his pictures, and a few patches, dashes and streaks only are visible, which seem a mere chaos of colour, but retire to the proper distance, what magnificent visions grow into shape; how the long avenue lengthens out for miles; how the sun-clad city brightens on the mountain—the stream descends from the height—the distance spreads out into infinity; all these apparently unmeaning spots or accidents of colour, in which it is difficult to detect the work of the hand or pencil at all, being, in fact, mysterious but speaking hieroglyphics, based on profound combinations of colour and light and shadow, and full of the finest harmonies to all who can look at nature with the eye of imagination. Constable, as we have said, was not always successful in this, the most hazardous of all attempts in painting. If the touches of pure white, which he seemed to scatter on his trees as if from a half-dry brush, sometimes assisted the dewy effect which he loved to produce, they very often, from the absence of that power of just calculation which Turner seems so unerringly to possess, produced a spotty effect, as if the trees had been here and there powdered with snow. Very frequently he exchanged the pencil for the palette knife, in the use of which he was very dexterous, but which he occasionally carried to a blamable excess, loading his pictures with a relievo of colour, and provoking the remark that if he had not attained breadth he had at least secured thickness. On the whole, Constable, though now and then missing his object—sometimes, it would seem, as in his skies, from overlabouring his effect and trying too studiously to arrest and embody fleeting effects—was eminently successful in the result at which he aimed—that of conveying vividly and almost irresistibly the sentiment and delineative character of the scene. Everybody knows Fuseli's remark when standing before one of his showery pictures. "I feel the wind blowing on my face," was honest Jack Banister's remark while contemplating another of his breezy scenes, with the rolling clouds broken up by gleams of sunshine and the bending trees turning out their lighter lining to the gale. "Come here," was the remark of a French painter in the exhibition of the Louvre in 1824; "look at this picture by an Englishman—it is steeped in dew." "We never ask," said Mr. Purton, "whether his figures be well or ill placed; there they are, and unless they choose to move on there they must remain." This truth and artlessness and natural action or repose of his figures, only equalled in English landscape by those of Gainsborough and Collins, he probably owed in some measure to an observation of an early acquaintance—Antiquity Smith, as he was nicknamed by his brother artists, who at the commencement of his studies had given him this judicious advice:—"Do not set about inventing figures for a landscape taken from nature; for you cannot remain an hour on any spot, however solitary, without the appearance of some living thing, that will in all probability accord better with the scene and time of day than will any invention of your own."

NOTES AND COMMENTS.

The authorities of the University of Cambridge having obtained an assurance of financial aid are showing praiseworthy energy in arranging for the erection of buildings which are required if the University is to uphold its reputation as a school that represents the advances in science. Additional space for nearly all the museums is indispensable. The Museums and Lecture Rooms Syndicate, being of opinion that new botanical buildings are urgently needed, therefore recommend that immediate steps be taken to provide new buildings for the department of botany. The antiquarian committee also recommend that a syndicate be appointed, with power to consult an architect, to obtain plans and estimates for a new museum of general and local archæology and of ethnology, to be erected on the Downing College site. Other building projects are under consideration, and a very large sum could be expended with advantage. The financial board have recommended the introduction of the electric light into the Senate House, in accordance with the designs and specifications of Mr. T. G. Jackson, R.A., at an estimated cost of 400*l.*, exclusive of the architect's commission.

The reception of M. Guillaume, the sculptor, who is director of the French School of Rome at the Académie Française, gave an opportunity to M. Mézières to speak about the history and work of that school. France could claim the distinction, he said, of being the first country to recognise the advantage for young artists of a residence at Rome. Some critics suppose the training is merely to enclose their minds within narrow formulas. But there is no attempt during the three years to do violence to their instinct. The aim is, on the contrary, to provide the most solid and abundant intellectual nourishment, and by means of a variety of models to enable the student to discover what class of work is best adapted to his own powers. Then M. Mézières went on to speak of M. Guillaume as a sculptor. He believed that beneath the correct attitudes and the calm expression of M. Guillaume's figures there was a suggestion of ardent passion. There was a close relation between the sculptor's statutes and his own life, which was comparable to a work of art. Few contemporary artists have produced so much, and none has traced with a firmer hand the fundamental laws of æsthetics. The speech of M. Mézières was the reply which usage demands to the address of M. Guillaume on his predecessor the Duc d'Aumale. Owing to a temporary loss of voice the address had to be read by M. Brunetière, the editor of the *Revue du Deux Mondes*. M. Guillaume testified to the prince's complete knowledge of the history of art and his skill as an expositor of the great works at Chantilly with which he endowed France. As a man he followed an ideal, and realising that in our time a prince could not depend for position on birth alone, he endeavoured to prove that he was representative of advanced thoughts as became a French citizen in the nineteenth century, without forgetting his illustrious race. Although M. Guillaume was unable to take the principal part in the ceremony, all present sympathised with him. He can return to the Villa Médici with the confidence that his countrymen can appreciate his numerous disinterested efforts for the benefit of his country. A portrait of M. Guillaume appears in Boulanger's "Union of the Arts," which we have published, and he there forms one of a group of which the members are fast disappearing.

"One touch of nature makes the whole world kin," says Shakespeare, and the words could be applied to express the universal influence of the world's poet. After all the excitement which diplomatist emissaries of civilisation and others have caused, it is gratifying to find the French Chamber applauding Shakespeare with a fervour for which no precedents could be found recorded in "Hansard." In the debate on the Budget a week ago an ultra-Nationalist deputy objected to the performance of Shakespeare's plays in theatres which were partly supported by French taxpayers. The Minister of Fine Arts exclaimed, "Is not Shakespeare in his right place in the Comédie Française and the Odéon? and was not the city of Paris acting properly in erecting a statue of him as a homage to his genius?" Forgetting Fashoda, there were cries of "Très bien! très bien!" One enthusiastic deputy was so carried away as to demand that Shakespeare's dramas should be acted in their entirety and not adaptations of them. The Minister, in the continuation of his speech, said they must be logical, and if Shakespeare were excluded from the French stage, then it followed that the works of Titian, Raphael and Correggio, and other foreigners, should be evicted from their places in the Louvre. Reasoning of that kind was too convincing, and the Minister was allowed to have his way.

The term "Watling Street" is by itself sufficient evidence that the word street, like the Latin *strata*, signified a highway, a road. But in course of time the use of street was confined to ways in towns, and therefore there was a connection between it and the houses on one or both sides. Lord Selborne, in one of his judgments, said:—"In the natural and popular sense of the word 'street,' or the words 'new street,' I should certainly understand a roadway with buildings on each side (it is not necessary to say how far they must or may be continuous or discontinuous); and by 'new street' a place which before had not that character, but which by the construction of buildings on each side, or possibly on one side, has acquired it." A case has been decided (Allan & Others *v.* Vestry of the Parish of Fulham) in the Court of Appeal on the basis of that judgment. The plaintiffs received a demand from the vestry to pay sums of 554*l.*, 968*l.* and 248*l.*, the assessed proportion of the expenses of paving the Wandsworth Bridge Road. It so happened that the road or street was put into proper order by the Local Board of Works in 1876, a time when there were no buildings alongside the road. Houses commenced to be erected in 1890, and in 1897 the vestry decided that the road, having become a new street, should be paved. Subsequently a demand was made for the sums mentioned. The three frontagers considered that the road had been already prepared in the manner that was customary at the time. The magistrate decided that the street did not exist until houses were erected on it, and therefore the frontagers were liable. A divisional court took the same view of the responsibility for the paving. The Court of Appeal considered the previous judgments were right, because the road was not a new street in 1877, and did not become a new street until houses were built along it, and therefore the vestry were entitled to charge the paving expenses on the frontagers.

Although there appear to have been some rash statements in connection with the proposed Vauxhall Bridge and the County Council remain masters of the position, it is still the fact that the interference of architects has been advantageous. Some of the suggestions for the improvement of the design will be accepted. The weakest parts in an æsthetic sense are the supports for the lamps, but it is not difficult to make alterations which will entirely change the character of that part of the work. "They manage these things better in France" was the opinion of Sterne, and it would be a public advantage if architects could co-operate with engineers as easily as it is done in Paris. There, however, there are accepted principles of design, while it would be difficult to attain unanimity among the English architects who have signed the protest in regard to what should be realised at Vauxhall. But the principal obstacle to so desirable an arrangement is the belief that the ugly bridges over the Thames have paid better than those in which art was supposed to be respected.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: NAVE, LOOKING EAST. NORTH PORCH. GALILEE DOORWAY, LOOKING WEST DOWN NORTH AISLE OF CHURCH.

CREWE HALL.—DRAWING-ROOM.

CORNER OF ALBEMARLE AND GRAFTON STREETS.

SOME GOTHIC CATHEDRALS.*

(*Continued from page* 147.)

THE buildings in the Early English style to which attention had already been drawn belonged to the Lancet phase of now he would present them with an example of the same le just as it was about to pass into the Decorated—the rious Abbey church of Westminster, and, in the opinion of lecturer, superior in several points to Rheims, with which had features in common, both architecturally and his- ically. Henry III.'s portion of the Abbey consisted of the ir with its radiating chapels, and the transepts.

The first five bays of the nave, counting from the east, re added by Edward I. to contain the chorus cantorum; the nainder was not completed until the reign of Henry V.; but e same character with some differences of detail—noticeable efly in the omission of the rich diapering from the spandrels the six western nave arches—was preserved. Westminster bey was a French church in an English dress, the plan ing decidedly foreign, while the detail was throughout racterised by that grace and refinement inseparable from works of our architects, in illustration of which the triforium the north transept was shown.

Other views of the Abbey included that from the south the north transept, whose rose window was filled with ne of the most curious and historically interesting stained- ss in England. The work of Price, who flourished at the ginning of the eighteenth century, it was unrivalled as a cimen of his use of the pot metal. Another fine example of ice's work was the east window of St. Andrew's, Holborn.

The chapter-house of Westminster, after remaining for a g period in a state of terrible degradation and disfigure- nt, had been restored to its primitive splendour between 57 and 1871 under Sir Gilbert Scott, and the stained-glass ich filled its windows was among the finest produced since Revival—a liberal use of white enabling the colours to flash th with jewel-like brilliancy.

Remarking upon the octagonal form of the chapter-house at estminster, the lecturer was unable to offer any solution to question as to why the old Benedictine rectangular arrange- nt was departed from in this instance, beyond the sup- sition that privileges for building it in this form were corded to Westminster as a royal monastery, the chapter of ich would rank with those under episcopal jurisdiction. oughly speaking, the chapter-houses attached to cathedrals the old foundation, as York, Lincoln, Wells, Lichfield and isbury, were octagonal; while in such churches as were both riventual and cathedral, as Canterbury and Durham, and in se which, originally abbeys, were converted by Henry VIII. to cathedrals, as Bristol, Chester, Gloucester and Oxford, the engated or rectangular form was the rule. The subject of apter-houses was a highly interesting one, and required far re time than was at their disposal that evening.

Rheims Cathedral was shown next to Westminster, the turer remarking that the English abbey only required the stern towers of its French sister to render it one of the most autiful exteriors in Europe. The western façade of Rheims oked much attention, and Mr. Bumpus remarked it had been d that, to form a perfect cathedral, you must take the west nt of Rheims, the spires of Chartres, the nave of Amiens and the choir of Beauvais—he thought Le Mans.

In dealing with the various phases through which English hitecture had passed, it was difficult to assign any precise date the commencement of a particular style, each growing imper- otibly out of the preceding one. He had shown them a noble ecimen of the Transition from Early English to Decorated Westminster Abbey; now he would present them with one of the English style which had attained its highest excellence to- rds the end of the thirteenth century—the Angel choir of Lincoln Cathedral. This magnificent piece of work suffered rhaps from want of height, but the architect was fettered in s respect by the Early English choir and transepts he had to ld on to. The cost of this Angel choir at Lincoln was de- yed by offerings at the shrine of St. Hugh—a source of ome often in those days made available for great works, as had already mentioned when describing the work of North- ld at Ely for the reception of the shrine of St. Etheldreda, l the choir of Worcester for that of St. Wulfstan. England's ndest work in the Geometrical phase of the Decorated style s the cathedral of Exeter, rebuilt towards the end of the rteenth century by Bishop Quivil on the site of a Norman urch, of which the towers, now forming transepts, alone ained.

To the skill and munificence of this prelate and the good te of his successors in adhering to his plan we owe this, the st beautiful of England's cathedrals of the second class, whose glories were its unbroken line of vaulting, its window tracery, its choir-screen, upon which one of the noblest speci- mens of the king of instruments still stood, and its bishop's throne.

They would observe that in this cathedral the triforium had retired to the form of a mere arcade, probably from the wish of the architect to obtain a greater field in his clerestory for the display of stained-glass, which at that period was approaching such a state of excellence in this country. The same arrange- ment, viz. of the small triforium and the lofty clerestory, appeared in the nave at York, where, however, the two were combined. The nave of this cathedral was one of the largest and most important works undertaken during the Decorated period in England, but it could hardly be pronounced a success, the wide spacing of its pier arches enabling the visitor to see through the building in every direction. In this respect it was inferior to a contemporary and more modest work, the nave of Lichfield Cathedral, of which a view of the south side was shown. Here the arrangement of triforium and clerestory was reversed, prominence being given to the former, while the latter took the shape of spherical windows, but so beautifully arranged that their lines accorded perfectly with the severeys of the vaulting. Another lovely specimen of late thirteenth-century Decorated work was the chapel of Merton College, Oxford, a view of the interior with the seven lights of its east window taking the unusual form of a triangle, but enclosing the more familiar cinquefoil, was greatly admired. The chapel had been restored early in the fifties under the superintend- ence of Mr. Butterfield, and the colouring of the roof by the Mr. J. H. Pollen was alluded to as an interesting example of modern decorative work.

Another magnificent work of the Decorated period was the octagon of Ely Cathedral, so nobly conceived by Alan of Walsingham, to get rid of the narrow, tall openings insepar- able from the use of the tower in its normal shape. This old Norman tower at Ely had crushed in its fall (c. 1332) the first three bays of the choir, which had hereafter to be rebuilt, but in the Flowing phase of the fourteenth-century style (*i.e.* between 1345 and 1362). Mr. Bumpus directed attention in the view before his audience to the line of demarcation between this Flowing Decorated portion of the choir and that built nearly a century earlier by Bishop Hugh, of Northwold, not only by the total divergence of style, but by a rise of two steps and by the great shafts indicating where the old Norman apse began. He could not part from Ely Cathedral without remark- ing that its present magnificent appearance was due to those two eminent ecclesiologists, Deans Peacock and Harvey Goodwin, under the former of whom scholarly restorations were initiated under the superintendence of Sir Gilbert Scott, and which, begun during the later forties, were on this account in- vested with more than ordinary interest. Few cathedrals had had their choral arrangements more frequently shifted than Ely. Prior to 1768 the stalls for clergy and choir extended across the octagon into the nave. Between that year and 1771 they were removed under the superintendence of James Essex into the choir, and made to fill up the six Early English bays of Bishop Northwold's work, the first two Late Decorated bays forming a species of ante-choir, and the third being occupied by the screen supporting the organ. A water-colour drawing by R. H. Essex (d. 1855) in the South Kensington Museum, and one by Wild in his series of English Cathedrals, gave good ideas of the arrangements prevailing before Sir Gilbert Scott removed the stalls into the three fourteenth-century bays, did away with the cumbrous organ screen, erected the present light jubé, which admitted of the use of the glorious octagon for all the services, and arranged the reredos in a position that con- tributed a grandeur and dignity to this most beautiful of English choirs.

Imperceptibly the Geometrical phase of the Decorated style passed into the Flowing or Reticulated, and a fine example of this was shown in the great east window of Carlisle Cathedral. The carving of the pier caps was instanced as remarkably beautiful, and in the arches themselves the old Early English work was used up again, patent in the mouldings. The upper portions of this choir at Carlisle were, from lack of funds, poor and disappointing, compared with the arcades.

Exterior views of the grand east window of this cathedral and of that at the west end of York having been thrown on the sheet, the lecturer passed on to the choir of Wells, where the Late Decorated work of the last three bays, and of the triforium and clerestory above the first three arches, was mentioned as a particularly rich and beautiful example of the style just as it was about to pass into the Perpendicular.

Mr. Bumpus instanced the stained-glass in the east window of Wells Cathedral as a fine specimen of contemporary work. It represented the Tree of Jesse, and was thought very highly of by Henri Gerente, who was called away at the very moment when he seemed to have been raised up to carry out great things, and to take the place of a leader in the ecclesiological movement. This artist in stained-glass was on a visit to England during the forties for the purpose of studying our

* A lecture delivered on Thursday evening, March 2, by Mr. Francis Bumpus, before the Guild for Young Men and Women ached to New College, N.W.

ancient vitreous decoration. At the time of Gerente's visit a scaffolding happened to be fixed before this great east window at Wells. Procuring such paper as was to be got in the city he fell to work, and with his own hands succeeded, after a week's arduous labour, in making a tracing of the window. His labours were not thrown away, for when, after Gerente's untimely death in 1849, much of the work which he had projected was carried out by his brother Alfred, this window at Wells was reproduced in the western one of All Saints, Margaret Street. It did not prove satisfactory, however, and about five-and-twenty years ago was removed under the advice of Mr. Butterfield, to make way for the present magnificent one by Gibbs, but in which the same subject—the Radix Jesse—has been preserved, with superior figure-drawing and less offensive tinctures.

The number of English Decorated buildings, Early and Late, were of such extent that the lecturer could do no more than call the attention of his hearers to a few specimens, especially recommending to their notice the south side of the nave of Worcester Cathedral, the southern range of windows in the nave of Gloucester, the choir of Selby Abbey, the nave of Howden, the east end of Ripon Cathedral, whose window was a typal one of the Geometrical Decorated period, the central tower and north transept at Hereford, the choir of Bristol, the chapter-houses of Southwell, Wells and York cathedrals; the lady chapels of Chichester, Lichfield and Wells, and the tower and spire of Salisbury. But it was not among cathedrals that specimens of Decorated work must be looked for, but among the parish churches found in every corner of the land, and which, particularly in this and the succeeding style, were unrivalled by those on the Continent for grace and refinement. Mr. Bumpus recommended his hearers to study the churches of the Nene Valley from Northampton to Peterborough; while another magnificent line would be found to extend all the way from Sleaford in Lincolnshire to King's Lynn in Norfolk—including such gems as Ewerby, Heckington, Boston, Spalding, Holbeach, Gedney, Wisbech, Leverington, the Walpoles and the Wiggenhalls.

In showing a view of the interior of St. Ouen at Rouen, Mr. Bumpus remarked on the paucity of great Northern French churches in the Geometrical Decorated style, the greater portion of them having been built either too early—*i.e.* between 1190 and 1240, before the style had reached maturity—as, for example, Amiens, Bourges, Chartres, Coutances, Rouen, Rheims, Soissons, and the choirs of Auxerre and Troyes, or a little too late, just as Gothic was at the turning-point of its career, as exemplified in the naves of Auxerre and Tours. The gap left was but imperfectly filled up by the nave of Troyes, the church of St. Urbain in the same city—"the most magnificent spectacle that the genius of man has bequeathed to successive ages"—by Notre-Dame de l'Epine, near Châlons-sur-Marne, and by St. Benigne at Dijon. We were constrained therefore to look for examples of the French Middle Pointed style, as practised at the end of the thirteenth and beginning of the fourteenth centuries, in such portions of buildings as the lower part of the nave, with its aisles, at Troyes, in the chapels fringing the nave at Coutances, and in those occupying the same situation at Rouen.

The square east end was popularly supposed to be a distinctly English feature, but it might be found in various districts of France, though the causes which led to its adoption must be left in a great measure to conjecture. The view of the interior of the cathedral at Dol, in Brittany, was a good exemplification. Another and very similar instance was St. Julian at Tours, while in the Orleannais, especially in the vicinity of Etampes, the rectangular eastern termination formed the rule rather than the exception.* Nor was the use of the square end confined to France and England; it was met with in Germany, especially in Westphalia, the vast churches of Osnabrück, Paderborn and Herford being among the number thus terminated, and the lecturer remembered meeting with others similarly planned in Thuringian Saxony.

Several of the great Belgian churches which were rising during the thirteenth and fourteenth centuries were next shown and commented upon—Bruges, Ghent, Malines and Antwerp. Although very spacious and imposing in their ensembles, the religious edifices of the Low Countries fell very far below those of France and England in an artistic point of view, probably from the fact that their erection had not been entrusted to an educated body like the clergy.

Too many of them had been disfigured by successive coats of paint and whitewash, thus imparting an air of coldness and monotony to several of the most imposing interiors, but the lecturer was glad to say that of late years efforts had been made to get rid of these horrors, and churches like St. Martin, St. Paul and St. Croix at Liège, and the cathedral and church of St. Jacques at Ghent, now stood forth in all the splendour of natural polychromy, the red brick of their vaults and the blue and yellow of their columns, shafts and vaulting ribs presenting a striking assemblage of colours. But if they went to Mons they would see, in the great church of St. Waudru there, one whose interior had never been touched by the painter or whitewash dabber, and thus its interior as a virgin specimen of natural polychromy was of the highest value and interest.

Mr. Bumpus then said he would revert with them for a brief space to Germany and see what had been doing there during the thirteenth, fourteenth and fifteenth centuries. They would remember that at an earlier stage of the lecture he had dwelt upon the sudden transition on the part of the people of that country from their curious intermingling of the Round-arched and Pointed styles as exemplified in Neuss, St. Cunibert's Cologne, Bonn, Limburg and others to the complete Gothic. The church of Our Lady at Trèves was one of the earliest indications of this, and next came the vast cathedral of Cologne whose foundations were laid in 1248, and whose choir with its double aisles and radiating chapels, copied no doubt from Amiens, or Beauvais, or Rheims, stood completed in 1322. The transepts and nave were then proceeded with, but enthusiasm had died away, and all hope of completing the cathedral being abandoned early in the sixteenth century, those portions were hastily roofed over at the springing of their arches, and so left, with the colossal choir towering above them, until 1842 when, exactly 600 years from the commencement of the cathedral, the work of building it was resumed, and with such much ardour that in October 1863 the nave was completed and thrown open to the choir. Tom Hood, of whom it was said by a kindred spirit "that his various pen touched alike the springs of laughter and the sources of tears," visiting Cologne when the hopes of completing its cathedral were at zero, describes it in one of his letters as "a broken promise to God," and Wordsworth apostrophised it in the sublime sonnet commencing—

> O for the help of angels to complete this temple,
> Angels governed by a plan
> Thus far pursued (how gloriously!) by man.

Magnificent as it was, taken as a whole, Cologne Cathedral failed to interest in the same way as the old national church of the Rhenish provinces did. What the original Dom was like could not be ascertained beyond conjecture, but it most improbably resembled those of Worms and Speyer. He strongly urged the audience when visiting Cologne Cathedral to give their greatest attention to the magnificent old stained glass in the clerestory of the choir, which was too frequently overlooked by the ordinary run of visitors in their admiration of the glass which the well meant, but sadly mistaken liberality of royalty had endowed the south aisle and transept.

A more beautiful and truthful building, but one which might stand inside Cologne Cathedral, leaving plenty of room to spare, was that of Halberstadt, whose erection was spread over the whole of the complete Gothic period. A view of the nave was shown, bounded by its early sixteenth-century rood-screen, one of the finest in this land of screens, and of which another and more detailed view was given. Passing beneath it they would find the choir of Halberstadt Cathedral—now held by the Protestants—in much the same state as when, towards the end of the sixteenth century, prelacy was abolished in Saxony with its bishop's throne placed at the west end of the choir facing the altar; its stalls, tapestry, branch candlesticks and stained-glass.

The weakest part of this cathedral was the arrangement of its circumambient aisle, the awkward manner in which the lady chapel had been united to the north and south walls of the choir aisles being a blunder worthy of a German. The people of that country never seem to have had any affection for the procession-path with its chapels, preferring the tall and aisled apse as being more in accordance with their ideas of orientation, a point in which they were as strict as ourselves. The French arrangement, Mr. Bumpus remarked, might be seen with at Münster, Freiburg and Magdeburg, but, as in the case of Halberstadt, it was not nicely managed, and therefore far less satisfactory than the customary German arrangement of three or sometimes five parallel apses. In illustration of this the east end of the Dom at Erfurt was shown, the lecturer remarking that he had hardly ever met with such refined specimens of the complete Gothic of Germany as were displayed in the numerous and noble churches with which the capital of Thuringian Saxony is so liberally bestrewn.

With some detail from the western façade of Strasburg Cathedral, the series of German views came to a close.

In passing on to the Perpendicular style, of which they had seen the adumbration in the choir of Wells Cathedral, the lecturer remarked that of all the phases which Pointed architecture had passed through, this had the longest existence, was, moreover, peculiarly English, and retained its nerve long after the Flamboyant of France and Germany had passed into the Renaissance and Classical.

Its title, too, was singularly appropriate, but, as in the case of the other styles, it was difficult to assign the precise cause why

* It occurred too in Laon Cathedral and some neighbouring churches.

to its adoption. It may have been introduced for economical ons, the Flowing Decorated being very costly, or for the er display of stained-glass, which, during the fourteenth early part of the fifteenth centuries, had reached its per- ion. It was hardly necessary to point out the salient ures of this style, as they would be patent enough in the edrals and churches they were about to be shown. As an y specimen of the style the noble church of St. Mary at erley was presented, being followed by the naves of terbury and Winchester, both of which had their special its of beauty—the former having been built *de novo*, the r being Norman encased in Perpendicular. Another imen of this veiling of the styles was the eastern portion of ucester Cathedral, but although very noble and wonderful a whole would not bear minute inspection, much of the il being thin and poor. The choir of York Cathedral was d as another fine example of the Perpendicular in its ier stage, the lecturer remarking that its restoration and ting by Sir Robert Smirke after the fire in 1829 was arkably good, when we consider the early stage of the hic revival which witnessed it. Three noble Perpendicular ers, those of Magdalene College, Oxford, Gloucester edral and Canterbury Cathedral—each of a totally rent type—were then shown as glories of this epoch of lish Gothic. If Gloucester Cathedral tower, with its nacles set west country fashion on the top of the tower with- any connection with the other stages, was the king of pendicular towers, that of Canterbury was the queen, the urer only regretting that he could not show them such ncely West Anglian examples as those of St. Cuthbert, ls, Wrington, Bishop's Lydeard, Huish Episcopi and North herton. In illustration of a Perpendicular spire, the enth-century one of Norwich was given, surmounting the Norman tower, attention being directed to the lofty clere- y of Bishop Percy, which, with its chevet and flying resses, approached nearer to the continental type than thing we possessed.

Although the view before them was very good in this ect, Mr. Bumpus remarked that he was sorry the distance hich it had been taken precluded him from showing them old Norman processional aisle of the choir with its project- chapels, to which he had drawn attention at an initial stage he lecture.

St. Michael's, Coventry, another noble spire of the Third was next shown, followed by the interior of the chancel of tford-on-Avon—a remarkably charming specimen of the e. The magnificently restored reredos of All Souls College, ord, and the choir of Chester Cathedral, looking west, rded opportunity for some remarks upon the richness of the ner in which English churches were fitted up at this period, ancing the roofs, screens, stalls and bench ends of West and t Anglian Perpendicular.

(To be concluded.)

THE PROPOSED VAUXHALL BRIDGE.

A PROTEST against the erection of the new Vauxhall Bridge according to the design of Sir A. R. Binnie, the ineer of the County Council, has appeared in the *Times*. It is signed by the Archbishop of Canterbury; the Duke of stminster; Earl Wemyss; the Bishop of London; Sir ward J. Poynter, P.R.A.; Mr. Edwin A. Abbey, R.A.; Mr. orge Aitchison, R.A., president R.I.B.A.; Mr. Thos. Brock, A.; Mr. E. Onslow Ford, R.A.; Mr. T. G. Jackson, R.A.; W. B. Richmond, R.A.; Mr. R. Norman Shaw, R.A.; Mr. Alma-Tadema, R.A.; Mr. Hamo Thornycroft, R.A.; Mr. Waterhouse, R.A.; Mr. G. F. Watts, R.A.; Sir Arthur W. mfield, A.R.A.; Mr. G. F. Bodley, A.R.A.; Mr. Wyke liss, president B.A.; Mr. F. C. Penrose, ex-president R.B.A; Mr. G. H Fellowes Prynne, president Architectural ociation; Mr. W. Butterfield; Mr. Mervyn Macartney, ster Art Workers Guild; and Mr. John R. Clayton.

They say:—The leading London architectural societies (the Royal Institute of British Architects and the Architectural Association) have condemned the design in unqualified terms. The Institute coupled its protest with a request that the Chairman of the London County Council would receive a deputation on the subject from some of its leading members. This proposal has been declined, and all protests ignored. To all appearance the County Council is bent upon carrying out a design at once pretentious and costly, but lacking in those qualities which would make it in any way comparable to Waterloo or London Bridges, of which we are justly proud.

We desire to make our emphatic protest against the execution of this design in its present form, and to express our opinion that in this country, as in France, the design of an important bridge, where any attempt is made beyond utilitarian construction, ought to be placed in the hands of a competent artist, who should be responsible for its architectural detail as the engineer is for its structure.

For the want of this collaboration of the architect with the engineer, we have already seen the erection of three bridges of deplorable design—those at Blackfriars, Battersea and Hammersmith: we are now threatened with a fourth. The substitution of a good design, so far from increasing the cost of the bridge, would be rather likely to diminish it, since some of the features added for the purpose of adornment appear to us incongruous and unnecessary.

The London County Council has to seek Parliamentary powers for the erection of any bridge across the Thames.

If it refuses to listen to advice or suggestion on matters artistic, the ratepayers of London, or those among them who care about the architectural dignity and improvement of the capital, should look to Parliament for some future safeguard against any repetition of the expenditure of public money upon structures such as that now proposed, which, in despite of the costly nature of its architectural accessories, will, we fear, reflect no credit upon contemporary architecture, upon London, or upon the London County Council.

At the meeting of the London County Council on Tuesday last the subject was introduced.

Mr. Ward (chairman of the bridges committee) said he was glad to have an opportunity of going into this question. He felt that many of those gentlemen who had signed the letter in the *Times* would not have signed such a letter had they been cognisant of the facts. The bridges committee had received deputations from the art committee of the Royal Institute of British Architects on several occasions on the subject, and they had gone a long way to meet the various suggestions which had been received. As the result of a letter the art committee were received by the bridges committee on May 23, 1894, the President of the Royal Institute of British Architects introducing the deputation. On December 12, 1894, the standing art committee of the institution again saw the committee, and the engineer was instructed to furnish the standing art committee with sections of the bridge and give information as to the form of construction. On July 17, 1895, the bridges committee received the third deputation from the architects, who submitted a sketch design for the piers and abutments. This was referred to the engineer for consideration. Several letters passed, and the engineer was instructed to avail himself, as far as desirable, of the suggestions with which the bridges committee had been favoured. A model was subsequently prepared of the engineer's design, which included several modifications suggested by the art committee, and the engineer invited Mr. Waterhouse and Mr. Mountford to see the model. On February 19, 1898, Mr. Waterhouse wrote:—"Dear Sir Alexander Binnie,—The great courtesy shown Mr. Mountford and myself on Saturday last, in allowing us to see and have the advantage of your personal explanation of the drawings, model and details of your new Vauxhall Bridge, merits some expression on our part beyond mere verbal thanks. We congratulate you heartily on the general design and proposed construction of the bridge." They, however, went on to make some half-dozen further suggestions, and probably three or four of these would be adopted in carrying out the working drawings for the superstructure which were being made. It was manifest that the committee had gone a long way to meet the views of the architects, and in the end they felt that the engineer must be responsible for the design, as it would hardly do to put an irresponsible advisory committee in his place. It had been stated that a deputation asked to see the Chairman of the Council. The explanation of that was that the clerk opened the letter, and, seeing that it referred to bridges, at once sent it on to the bridges committee. The Chairman of the Council had stated that he had not seen that letter, but no doubt he would be willing to receive the deputation. The contract for the piers had been let, and the only thing that the committee could now alter was the superstructure. A sketch design had been sent in, but it was so unworkable in many respects that it could not be adopted.

NATIONAL PORTRAIT GALLERY.

THE trustees of the National Portrait Gallery have accepted as a gift a portrait of William Hone, the well-known satirist and author, painted by George Patten, A.R.A., and presented by Mr. Hone's daughter, Mrs. Joseph S. Soul. The trustees have also made the following purchases:—"Dr. Samuel Johnson," an unfinished sketch in oils, painted by James Barry, R.A.; this portrait, which was engraved in 1808 by Anker Smith, A.R.A., was for many years in the possession of the late Dr. George Tomlinson, Bishop of Gibraltar. "Charles, Second Earl Grey, K.G.," the "Reform" Prime Minister, painted by Sir Thomas Lawrence, P.R.A. "Col. Isaac Barré," the famous debater and orator in the days of William Pitt, painted by Gilbert Stuart; this portrait was given by Colonel Barré to his cousin, Colonel Phipps, from whose grandson it was obtained. "Robert Louis Stevenson," a pencil drawing, done at Sydney,

N.S.W., on March 17, 1893, by Percy Spence; purchased from the artist. "John Manners, Marquis of Granby," the famous military commander, drawn in black chalk, by Sir Joshua Reynolds, P.R.A., being apparently the original study for the various well-known portraits in oil. "David Garrick," a pencil drawing, done from the life by John Keyes Sherwin, the engraver. "James I.," a small portrait on panel, as James VI. of Scotland; formerly in the Brühl-Finkenstein collection in Germany. "James Clerk Maxwell, F.R.S.," the eminent scientific discoverer and professor; a painting on china.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. G. H. Fellowes Prynne, president, in the chair.

The following were elected members of the Association:—Messrs. N. B. Fairweather, C. F. Houston, G. Gilbert Scott.

The Chairman referred to the resuscitation of the A.A. cycling club, which, he considered, possessed many advantages for members, especially as arrangements had been made for the co-operation of the camera club.

It was announced that the next spring visit would take place on Saturday, March 11, to the Great Central Hotel, Marylebone Road. Colonel Edis, the architect, would conduct the party over the building. Members were to meet at 2.30 P.M. At 3.30 P.M. a visit would be paid to the Great Central railway station adjoining the hotel.

Mr. A. Saxon Snell read the following paper on

Public Baths.

It is not my intention to go over the ground so ably traversed by Mr. Hessel Tiltman in this room a month since, if only because my paper might appear in some measure a mere résumé of his, and would lack interest to you. He described the broad lines and the general disposition of public baths and washhouses. I have proposed to deal with the subject much more modestly and rather with constructive details. But one cannot approach the constructive details without some preliminary survey of the planning of these institutions, and if the remarks I have to make under this head are somewhat more lengthy than a preliminary survey might appear to warrant, you must ascribe it to the weakness of an enthusiast who cannot help airing his pet theories, and I have many with respect to the planning of public buildings.

It is difficult to lay down hard-and-fast rules for the planning of any class of building in London, if only because of the restricted area and often extraordinary configuration of the sites which are chosen by enlightened public bodies, it would almost appear, with the idea of setting prize puzzles to aspiring architects.

In most other countries the best sites are always reserved for public buildings; in London for enterprising speculators. Generally in continental towns nearly every public building of any importance is bounded by streets on at least two sides. If the architect gets one fairly good frontage in London he is lucky.

But our very difficulties in this way stimulate inventiveness, and nowhere in the world can more ingenuity in planning be found, nor have greater triumphs been achieved in making the most of limited opportunities than in this huge conglomeration called London.

Given, however, a fair site, the least we can do in making our plan is to study carefully the uses of our buildings and the essential requirements of their administration, and then to concentrate all our attention upon so arranging the various parts of the building as to fit these requirements, and to render future administration as easy and economical as possible. It follows without saying that if we are architects in the most practical sense of the word, we shall be able to construct our buildings strongly and clothe them in the most seemly array, and make even our difficulties yield opportunities for effective design.

The word "economy" has been brought into contempt so often by its misuse in the mouths of those narrow-minded people with whom it is synonymous with "cheapness," that it is worth while to define our own meaning, the short form for which is arrived at by labelling it with the words "wise" or "true."

In planning a building, then, to insure or make possible "wise" or "true economy" in its administration, we mean arranging the various parts in such order as will enable those who administer it thereafter to do so with the least waste of human energy, and happy is the architect whose client perceives the true bearing of this principle and follows it to its logical outcome. It is only just to our clients, by the way, to say that it is largely recognised by them to-day, as can be shown by the lavish expenditure upon glazed bricks, majolica and other surface decorations, the great first cost of which is so soon repaid by their permanence, and the small cost of maintenance. We, as architects, are much more interested in the first cost of a building than in its subsequent maintenance, and it is therefore also our interest to build well from the first. That is by the way; it does not benefit us alone. Indeed, our share is, comparatively speaking, small; the benefit to the client far greater. For it is obvious that if by our skilful planning we make it possible to administer a building with five servants, say, instead of six, we save our clients a subsequent expense—to take a low estimate—of 50*l.* annually, a sum which capitalised could be expressed in buildings to the value of 1,500*l.* or thereabouts. Inversely, if by expending an additional 500*l.* our client saves the cost of one servant, he is the gainer by 1,000*l.*, and we, the architects, by 25*l.* It ought to be the other way round, but let that pass.

Those who, like myself, have had the privilege of going over the new baths at Shoreditch will agree with me that we are improving in our ideas as to what a public building should be. For some years our rulers have been slowly learning the lesson which we architects have endeavoured to teach them for many years; but they listened not to our voice, and even hinted that we advocated magnificence in our public buildings mainly because of the increased benefit to ourselves. But they begin to see now that money spent in buildings is not spent in the sense that it leaves us poorer, but rather that it is invested. They begin to realise that in no way can money be more widely circulated or give a better return to the community than in building. They realise that nothing is more educational to the lower stratum of human life than to house it decently and to accustom it to better surroundings. That money spent in public buildings must be regarded as invested only—and well invested—we have but to point to our old cathedrals, buildings which are now priceless, and who shall estimate their educational effect, even at the present day?

A little sign that the public are beginning to perceive these things is afforded by the growing tendency in competitions not to hamper the competitors by a fixed price. May the tendency grow into custom. Another is the custom of visiting other institutions to learn what is their best, and then to go on better.

Gentlemen, we of the younger generation of architects have a good time before us, and it behoves us to rise to the occasion and endeavour to inaugurate a new renaissance in architecture not only in purely architectural features, in new methods of construction, in the use of new materials and a better knowledge of the old ones, but particularly in our ideals of space and order. So we may foster the growing imagination of our clients and lead them on to yet higher ideals, yet nobler efforts. In that day the architect may be honoured in the land, and always get his name mentioned (and spelt correctly) in the daily papers when they describe a building.

I need not dwell upon the necessity of directness and simplicity of planning in public buildings. I remember many years ago hearing Mr. Aston Webb say, in effect, that one of the charms of domestic planning was what he described as "mystery," and when we call to mind the rambling arrangement of some delightful old houses known to us all, we must agree with him.

The very reverse obtains in the case of public buildings. The simpler and more direct our plans and the greater the proportion between the rooms and passages the better.

These and many other rules are common to all buildings for public use, and it is my purpose now to apply them, especially to baths. To do so more effectively, I have thought it well to try and realise what one would do with a fairly unrestricted site for a moderate-sized establishment; and the plan on the board is, perhaps, not perfect, but it will suffice for my purpose. I do not suggest for one moment that it is superior to any of the other designs which you see around the walls, but the difficulty of deducing rules of planning from the latter arises from the fact that in nearly every case the sites are not ideal, and therefore the plans represent only the best arrangement under the particular circumstances.

It will, perhaps, be more to the point if you regard the design in the light of a diagram such as are sometimes given out with the conditions of competition to indicate the lines upon which the client desires to have the building arranged.

I may be permitted to anticipate a criticism which will, I should, occur to some of you, and it is this:—Mr. Tiltman foreshadowed a different classification and distribution of baths in the near future, and his remarks upon this point were by no means the least interesting and suggestive part of his paper. You may be disposed to ask why I have not planned my building upon future rather than present-day ideals, especially as I have proclaimed my sympathy with the former. I can only say that until these new ideals have been well ventilated, it is impossible to say in what form they will be best adapted to the peculiar conditions of our own country. Moreover, the principles I shall draw from the diagram will, I believe, be applicable as much to future as to present-day planning.

Let me take you through the building, pointing out by the

ay the *raison d'être* of the various parts. It comprises three vimming-baths, respectively for first and second-class men id women, and eighty private baths allotted to the two classes id sexes in the proportion laid down in the Public Baths and ashhouse Acts. We will commence with the entrance iting-hall, which should always be the key to a plan. It is out 30 feet by 20 feet, and undivided, entered from the public reet by a short and wide vestibule, and dominated by the pay-fice in the rear. The first point some of you will notice is at I have only one entrance, which you will say is unorthodox. it is; it is usual to have at least two entrances, one for men id another for women. In many baths there are as many as ur, respectively for first and second men and first and cond women. I hope the time is coming—and that soon—ien we shall recognise that if it is not necessary to have parate booking-offices and entrances for men and women in raries, railway stations and other public buildings, it should t be necessary for public baths. When this is recognised we all do away with one of the most hampering restrictions ere is in planning these buildings. The hours I have myself ent in endeavouring to design a pay-office which should serve ur separate entrances, and yet be decently lighted and ntilated, I feel sad to think of.

Of course, when there is a public washhouse attached to e baths, two entrances at least are absolutely necessary. In ch a case I should, if possible, make the second entrance rve also for the second-class women's baths. I believe that lies find it less objectionable to meet a rough class of men an the same order of women; a working man is much more ely to bear himself chivalrously before a lady than one of her n sex in the same class.

Another point to which I draw your attention is the small-ss of the hall and corridor area compared to the size of the ilding, which is due in some degree to the one entrance plan. actically the same result has been obtained at the Plaistow ths, although the entrances are separated. Whatever may said in favour of a large entrance hall (and I myself would ve it of ample size) little can be urged in favour of corridors, pecially long and tortuous corridors. They take up room, st much to build, and more to maintain, clean and overlook, d to my mind show weak planning.

On one side of the vestibule is the superintendent's private ice, and on the other a staircase to his apartments above. cept in quite small baths it is a mistake not to provide a parate office, in addition to the pay office.

The pay office itself should be about 100 to 150 square feet t larger), and fitted all round with shelving for towels and thing drawers, &c. In an establishment of this size two pay ndows are necessary. It is desirable for many reasons (not least being that of commanding the entrances, &c., from all rts) that the front and sides should be glazed in the upper nels with obscured glass to the height of 4 feet from the ound, and above with clear glass.

Before leaving this part I may remind you that if you can ord any luxuries in the way of expensive fittings, joinery, vings, &c., your clients will raise less objection to their use the entrance hall than elsewhere. Public boards are very man—at least in their weaknesses. The superintendent's ice should also always be close to the entrance, as many ople come to see him who should not be allowed to pass into e building generally; 150 square feet is quite large enough.

On either side of the pay office are lobbies and short rridors—the shorter the better—leading to the swimming and arm baths.

You will see that the first-class men's swimming-bath is aced centrally, with those for second-class men and for men on either side, the warm baths naturally being on the rresponding sides. The provisions of the Baths and Wash-use Acts as to the proportion of numbers between the sses make it very difficult to preserve symmetry in planning.

Now my reason for placing the first-class bath centrally is at in all probability it would be convenient to alternate its e for first-class men and first-class women; and this may en be conveniently done, because ladies, I think, prefer to the, if at all, in the morning, whilst the men's baths are ways filled up in the evening. It is also in a convenient sition for use as a winter gymnasium, alternately for men and men.

The shorter length of the second men and women's imming-baths leave room for the boiler-house and engine-om, and the establishment or towel laundry, &c. These are t infrequently placed together, but it is not a necessary rangement, and is, indeed, undesirable if women are to be ployed in the laundry. The subway under the end of the st-class bath affords access from the engine-room to the iler-house.

If the site permits, these departments may be advan-geously placed in the basement, but if so, we should never ake the mistake of depriving them of light and air.

A system of subways is almost essential in public baths, and possible all main pipes for drainage and hot and cold water-supply and heating should be fixed along their walls or ceiling, where they can be repaired or renewed without disturbance or injury to the rooms above.

I may say that both at Marylebone and Plaistow, and also Stratford, I have subways under every part of the building. The superintendent's apartments will, of course, be placed on an upper floor over the front centre of the building; and one of the most important points to observe is to arrange the approaches so that the damp, warm air, which inevitably hangs about even the best ventilated baths, cannot find its way into the rooms. There are not a few superintendents who can speak feelingly upon this point. A small area or a way out on to a flat is very desirable. It is usual to provide about six rooms, and they should not be too small. It is not the most enviable existence to live and work all day in the atmosphere of public baths.

Now I propose to take the various parts of the building in detail, but before commencing I would draw your attention to certain features in some of the plans round the room, many of which have been most kindly lent me for the evening by their authors.

I call your attention, however, first to one which was not lent me by the author. I had it enlarged from a small plan in one of the building papers, where it was ostentatiously labelled as having been designed by a superintendent engineer. The name of the architect "for the erection" was also given, and I am inclined to think that it was the latter who published the plan with a suspicion of sardonic humour. The least I can say of it is that it contains a number of things which are not to be commended. I, who am indebted for so many suggestions and so much information as to the working of baths to one of the most enterprising and thoroughgoing superintendents in London, am scarcely likely to belittle the value of their opinions and experience, but I do not think that any capable superintendent with a sense of humour doubts the wisdom of each one of us "sticking to his last."

Note the plan of a bath designed by Messrs. Harrington & Lee now in course of erection at Romford. It appears to me to be a model in its way of good arrangement for a very small set of baths. We have another small example in the bath erected at Alloa, near Glasgow, from the designs of Messrs. Burnett, Son & Campbell. I cannot quarrel with the want of directness in the passages to the warm baths, for instance, because the very breaking away from the simple austerity of planning is made use of for some charming architectural effects. A small set of Turkish baths, with a separate entrance and a billiard-room, is provided.

I have ventured to show also the plans of the St. Marylebone Public Baths and two sets for the borough of West Ham, each of which may not be without interest as examples of the application of these theories applied to three very different sites. I think I may add that any of you who may be interested in seeing that at Marylebone will find a courteous guide, singularly well informed in all details of public baths, in Mr. Marchant, the superintendent; and I venture to say that there are a few points of interest, a few items of peculiar construction, a few difficulties overcome, and a few examples of how small an amount of light and air can be safely relied upon.

The Swimming-Bath.

The general arrangement of a swimming-bath is too simple and too well-known to need much description. It is invariably a large hall, enclosing a bath, the essential point of which appears to be that it should be as big as circumstances will allow. This is surrounded on all sides by a pathway or platform, as it is called, and a number of dressing-boxes arranged along each wall.

With respect to the bath itself, I do not myself advocate a greater length than 100 feet, and a very good width for this length is from 30 feet to 35 feet. In deciding upon the dimensions of a bath we have to bear in mind that water costs in London about 6*d.* per 1,000 gallons (often much more and seldom less), and if a bath is emptied and filled only three times a week, the expense is heavy if the size is greater than need be. Of the three dimensions, I should place first in importance the length, and next the depth and width.

One of the most popular uses of a good bath is as a swimming racecourse, and as the unit of length in races is always the yard, and the divisions mostly multiples of 100, it is, I think, acknowledged by swimmers that 100 feet is a very convenient length for a racing bath. Three lengths go to the 100 yards; 25 and 30 yards are easily measured off.

Our water depth should vary from 3 feet 6 inches to 6 feet 6 inches or 7 feet; in second-class baths 3 feet to 6 feet, the latter being used far more by boys than grown men. Theoretically, the deepest part of the bath should be about 10 feet from one end, because that is where a high diver would, generally speaking, strike the water.

The level of the water should not be less than 12 inches below the footway curb, and this level is maintained by the overflow trough, which it is usual to place along the wall at the

deeper end. This overflow has been variously contrived with an iron projecting gutter, a series of holes, or a sunk gutter hidden by a flush brass or iron grating. The best form I have seen is that adopted at Shoreditch, which is a large moulded trough made in long lengths of majolica. For neatness of appearance, and also, I fancy, economy, Mr. Tiltman's white glazed sunk channel is nearly, if not quite, as good. A small modification would improve it.

(To be continued.)

VITREOUS ENAMELS.*

I DO not intend this evening to trouble you much about the technical part of the art of vitreous enamelling on metal, but rather to mention a few elementary points only in order that you may more clearly understand the one or two simple terms I shall use in describing the finished examples, slides of which I have to show you on the screen.

Enamelling is, of course, the outcome of the very ancient art of glass-making, and it is likely enough that the discovery that certain kinds of glass will, under particular conditions, adhere to metal, was accidental.

I define an enamel, for my present purpose, as a glass film fused upon, and adherent to, a metal ground work.

Glass, as we know it, is not one substance alone. (Silica 5, crystal borax 3½, and nitre 3½ makes glass easily with a blow-pipe.) The main ingredient in all glass is silica, or, as we popularly know it, flint, and with this are mixed various other substances, which render it easier to fuse, and softer when fused.

A Japanese recipe for an enamel glass is given by Mr. Bowes as follows :—

	Per cent.
Oxide of lead	37·15
Lime	4·92
Magnesia	0·90
Soda	5·19
Silica	51·84
	100·00

This is colourless, but for the purposes of enamel workers such glass would rarely be needed ; colour becomes a necessity, and it is easily produced by melting the proper kind of glass with the oxides of various metals. There are now many shades of enamel colours procurable, but in olden days they were few and simple, such as—

Red, probably due to oxide of lead with mercury (Watson), or might be oxide of iron (Bowes).

Blue, oxide of cobalt.

Green, oxide of copper.

Different proportions of iron will give grey, yellow and pink, and black may be iron or copper or manganese. The oxide of tin makes an opaque white, and the oxide of gold, on gold, a rich ruby red. When used with the oxide of tin any of these colours will make opaque enamels—without the tin they are generally translucent in different degrees. On impure metal translucent enamels are always likely to become opaque after the firing.

The most usual metals on which enamels are fused are gold, silver and copper. Translucent colours will sometimes fuse satisfactorily on all these, but they are only to be relied on when they are on a fine gold ground. The process, roughly speaking, is to grind the enamel to a fine powder in a mortar, and apply it wet to the metal where required ; then fuse all together at a red heat, either by blow-pipe or furnace.

The earliest enamels existing are now to be found on some of the pieces of exquisite gold jewellery made by the Greeks and by the Etruscans about the sixth century B.C. These enamels are small and accessory to the finest work in gold ever made. Little shallow spaces were outlined by means of a fine twisted gold wire soldered on to the metallic groundwork, and into these "cloisonné" spaces the enamels were fused, most likely by means of a blow-pipe.

The colours used are dull blue, dull pale green, and white Besides these little cloisonné pieces there are also found among the Etruscan jewellery several instances of earrings with small pendant figures of animals and birds in white enamel fused on a gold wire fashioned in a proper form ; after these there are no enamels to be found for a considerable time. Whether the art was lost or whether simply the examples of it have been lost I cannot say, but there seems to be no trace left of it until we come to the third century A.D., when a Greek writer, Philostratus, in a work called the "Icones," mentions variegated horse-trappings, and writes :—"They say that the barbarians who live in, or by, the sea (en okeano) pour colours on to heated brass, and they adhere, become as hard as stone, and preserve the designs which are made in them." This undoubtedly refers to vitreous enamels, and moreover i seems very likely that it also refers to Britain, as the dweller in an island might well be described as "living in the sea," bu some authorities think the Gauls are intended. Although we now have no instances of enamelled work done in Britain so early as the third century, there are many specimens of house furniture belonging to the late Celtic period which show clearly enough that such objects were in all probability commonly made. On these the colours are simple, dull red, dull blue and dull yellow being almost always found. Specimens have been found in Yorkshire, Somerset and Norfolk particularly.

In Ireland were made beautiful cups, shrines and bell covers, ornamented with enamels and niello work at a very early date, the Ardagh cup being perhaps one of the finest pieces left ; it is supposed to date from the ninth or tenth century.

The Romans brought the art of enamelling on bronze with them, and practised it largely here up to the fifth century—(Romans left Britain 436)—and after them what may be called the Anglo-Roman work, nearly resembling the actual Roman continued for some time, the colours being dull red, dull blue dull green and white rarely. These enamels are usually on small objects—fibulæ or brooches, pins of various kinds, studs and numerous small articles of little artistic merit. Some of them appear to have been made of brass (copper and zinc) and some of bronze (copper and tin, with sometimes phosphorus manganese, lead or zinc), and they appear in many cases to have been first cast from a mould, and subsequently finished with a graver, in the champlevé manner, in preparation for the enamel. The bronze pieces often have a beautiful green patina upon them.

From the fifth century until the coming of the Normans during the Anglo-Saxon period, much beautiful jewellery with cloisonné work was done here, probably by Celtic workmen At first sight much of this appears to be enamelled, but actually it resembles the Egyptian work of like character, the cloisonné spaces being filled with accurately-cut pieces of stone glass or composition, kept in place either by some strong cement underneath or else by the slight projection of the upper edge of the cloison itself. Generally, if the cloisons enclose deep hollows, this inlaid work may be expected ; but if the hollows are shallow, they are more likely to have been enamelled.

During the reign of King Alfred, in the ninth century (879-96), it is possible that a much finer kind of enamelled work than any that had preceded it in these islands was produced. There are now, I believe, only four specimens of this work left, and they are fine instances. One is at the Ashmolean Museum at Oxford, and is known as the "King Alfred's jewel ; round the setting is a legend saying, "Alfred caused me to be made ;" the other three are in the British Museum, one known as the Dowgate Hill brooch, because it was found there. It bears the crowned portrait of a king, supposed to represent Alfred himself. Another, known as the Hamilton brooch, because it belonged to Sir Wm. Hamilton's collection, has a charming conventional design in the centre, and the last bears a female bust, the enamel of which is discoloured by time. All these are most skilfully and beautifully worked in the finest cloisonné manner and many of the colours are translucent ; the three brooches in the British Museum are, moreover, set in gold, two of them with pearls. They are pieces of jewellery of which any nation may be proud, and, moreover, they are amongst the very earliest existing enamels in which any attempt at portraiture has been attempted. Even if the Alfred Jewel and the female bust brooch are not meant for any particular person, there seems to me little doubt that the Dowgate Hill brooch is intended to represent an actual king, as it is crowned with a similar crown to those which are shown on coins about the same time.

All the fine arts received a stimulus under King Alfred. There is a tradition that he sent Bishop Sigelin to India. The expedition brought back stores of treasure, precious stones and jewellery of various kinds, the study of which is supposed to have encouraged Alfred's goldsmiths, who are said to have worked under his personal supervision, a supposition to some extent supported by the words on the edge of the setting of the Alfred Jewel, "Aelfred me heht gewurkan."

I will first show you slides of two pieces of metalwork that have no enamel or inlays left in them, but which will make more clear than any words the meaning of the terms "cloisonné," "champlevé" and "bassetaille."

Byzantine.

The school of enamelling to which I shall now draw your attention is that known as the Byzantine, remembering always that this term must be considered to represent a style, rather than only such work as was actually done at Byzantium, a style moreover, which spread widely, and had great influence for a long time in the entire world of art.

Byzantium was an ancient city of Thrace, founded by a Greek colony under the leadership of Byzas, whence

* A paper by Mr. Cyril Davenport, read before the Applied Art Section of the Society of Arts, and published in the *Journal*.

ne, in the eleventh century B.C., but it did not arrive at any portance until about 330 A.D., when Constantine the Great de it his capital and called it after his name, when Constanple became the centre of the Byzantine or Eastern Empire. The Byzantine school of art developed from the Classical ing the fourth and fifth centuries A.D., and flourished until conquest of the empire by the Turks in 1453, and the more rly it approximates to its Greek original the finer it is.

The style spread largely, and its influence strongly survives, n to the present time, in Russia. It is always rich in colour, n to an exaggerated extent, and the Byzantine workmen said to have jealously guarded the secrets of vitreous melling in metal until the latter half of the eleventh century, r which the knowledge became widely spread, owing partly the migration of their own workmen and partly to the ming of foreign workmen, who took the knowledge back h them to their own countries.

The very early Byzantine enamels which still exist are ely figure subjects, and in all probability those which ceded them, if there were any such, were of the same racter. It is very likely owing to this that nothing now ains to which an earlier date than the tenth century can any probability be assigned. This is supposed to be ut the date of the small pectoral cross or reliquary which nerly belonged to the Beresford Hope collection, and is in the British Museum. It is very delicately cloisonné, bears representations of Christ, His Mother, and Saints.

An explanation of the disappearance of the very early antine enamels may be found in the existence of a curious or party founded in the Eastern Empire by the Emperor the Isaurian, and continued by his immediate successors, nstantine Copronymus, Leo the Armenian, and Theophilus. s sect was called the "Iconoclasts," and their mission to destroy all images of any kind wherever they could them. They lasted until the ninth century. It is very ly that in the churches were many enamels of saints and personages, and it is quite possible that the iconoclasts le practically a clean sweep of them.

There is fortunately one magnificent piece of enamel work existing, which makes it easy to realise that the iconoclasts have had full provocation for the destruction of such sures. This is known as the "Pala d'Oro," and is the back he altar at St. Mark's Cathedral at Venice. It is about eet long by 5 feet in height, and consists of a silver-gilt nework, richly worked and studded with jewels, set, moreor, with enamels of different dates and sizes, portraits, saints scenes from Biblical history.

The two largest enamels represent our Saviour and the hangel Michael, and parts of both of these are in relief and elled, the relief pieces being added after the enamels were shed. In the lower part are two most interesting figures, a portrait of the Doge Ordelafo Faliero, and the other the press Irene. There are also two panels of silver with raved inscriptions which seem to have been added about the teenth century. These inscriptions tell us that—(1) Under Doge Ordelafo Faliero in 1105 the Pala "Nova facta fuit," that under the Doge Pietro Ziani in 1209 it was "Renoa;" (2) that under the Doge Andrea Dandolo in 1345 it restored, "Novatur."

So from its own evidence we gather that it certainly was er than the date of the Doge Ordelafo Faliero, and it further ears from the ancient chronicles of Venice that in the tenth tury the Doge Pietro Orseolo (976-77) ordered a "tabula" e made for St. Mark's, which is supposed to be the Pala, Francesco Sansovino in his book on Venice says that it not actually brought there until the twelfth century.

No doubt the Doge Ordelafo Faliero altered the Pala conirably, and one of the ancient enamels of a Byzantine peror has been newly lettered with his name in Latin, and ther ways changed especially as to the crown.

There has been considerable difference of opinion among erts on the question which of the Byzantine emperors this re originally represented. Ludwig Pasini thinks it may e been John Comnenus, as the companion figure is that of mpress Irene, the name of his wife, who was a daughter ing Ladislas, King of Hungary. It is, however, equally ly that it represented the Emperor Alexis Comnenus I., se second wife was also named Irene. The enamel of the ress still has its original inscription in Greek, and has not en so much altered as the other. It is a figure full of dignity, I think, may be considered one of the finest Byzantine nels existing.

The peculiarities of the royal dress of the Byzantine erors are admirably shown in these two figures, and it is resting to note how they are almost in exact correspondence the figures of an ancient crown which was discovered in in a field at Nyitra-Tranka in Hungary. The plates of crown are seven in number and are of different sizes, ded at the top; the largest is enamelled with a portrait of Emperor Constantine X., called Monomachos, the two next st his wife, the Empress Zoë, and her sister Theodora, the remaining enamels being of two dancers, and allegorical figures of Humility and Truth. The date of it is about the middle of the eleventh century; the emperor died in 1054. These plates doubtless formed part of a crown designed after the Byzantine fashion, the best existing example of which is the crown of Charlemagne, now in the Royal Treasury at Vienna.

Subsequent researches resulted in the discovery of fragments of jewelled edges and miscellaneous pieces, by the aid of which the antiquary, Franz Bock, has made a restoration of the complete crown.

Besides these, I have to show you a few Byzantine enamels on bookbindings, and, as well as the crown of Charlemagne already mentioned, there are fine plaques of a similar shape on the very curious crown of Hungary, now at Buda-Pesth.

Limoges and France.

At Limoges, a town of Central France, there began in the twelfth century an output of enamelled work which lasted until the eighteenth century. There is documentary evidence of such work having been made at the earlier date, and, what is more to the purpose, a few actual pieces have survived, and during the thirteenth century particularly there was a very large production of ornaments of the altar, shrines, reliquaries, pyxes, crucifixes, candlesticks, tombs, horse trappings, sword pommels, belts and a host of other miscellaneous objects of use as well as ornament. This work was known as "Opus Lemoviticum," or "Opus de Limogia."

The enamels used were, as far as I have observed, always opaque, and they were applied to thick copper in the champlevé manner. Designs are frequently repeated, a sign that the commercial value of these enamels was at all events not lost sight of.

It is possible to make a rough classification of the earlier Limoges enamels, chiefly by means of the different manners of treating the backgrounds, and also by the manner of treating the figure-subjects.

1. In the twelfth century the backgrounds were in gilt metal, with delicate engraved designs, the figure-subjects in enamel.

2. In the thirteenth and fourteenth centuries the backgrounds were enamelled, generally in dark blue, and the figure-subjects were in gilt metal, either engraved or in partial or whole relief.

During the whole of this time some of the enamel colours were allowed to gradate into each other without the interposition of a metal boundary line. The colours which are treated in this way are usually in small bosses, corners or monumental scrolls; they are arranged in two sets—deep red, dark blue, pale blue and white, and dark blue, green and yellow. This merging is not, however, to be considered as an absolute sign of Limoges work, as it also occurs on German enamels of an early date, the blue gradating to white, and the greens to yellow.

Towards the end of the fourteenth century a lull came over the large production of enamels from Limoges, probably to some extent due to over-production, but also to the growing appreciation of works of art in ivory, the precious metals and other media; but during the latter half of the fifteenth century a remarkable reaction set in, not that the old champlevé manner of working recovered its lost ground, but a new, freer and more artistic method came into existence. This is known as the "painted" style, and in it the copper is left plain, the enamels being applied direct upon it. The painted enamels are in two distinct manners, one known as "grisaille," and the other in rich colours. In the case of the grisaille enamels the surface of the copper is all covered with a very dark enamel, and on this the design is "painted" in white, layer after layer, thick in the high light and thin in the shadows. On these enamels there is here and there a little red or flesh colour and a liberal use of fine gold painted lines and scrolls. One great value of the painted gold lines in enamel work is that, as it always looks the same before firing as it does after, the artist can accurately judge the effect he is producing. The painted enamels in colour are, so to speak, inlaid side by side, or, in some cases, where special parts are required to be particularly brilliant, shaped pieces of gold or silver foil are applied with translucent enamels over them, the rest of the enamel being finished first. On these coloured enamels there is also a free use of painted gold lines and scrolls, often used to mask the lines of junction of the different colours, which are likely to show accidental defects, and to some extent run into each other.

A convenient classification of the painted enamels into three styles was suggested by Sir Wollaston Franks, *i.e.*:—

1. The "Early Style," from 1475 to 1530.
2. The "Fine Style," from 1530 to 1580.
3. The "Minute Style," or the decadence, from 1580 to the close of the manufacture in the eighteenth century.

The peculiarities of these three styles may be briefly described as follows:—

1. The "Early Style" (1475-1530) was on thick copper, nearly flat, the whole surface being smoothly covered with a

very dark, nearly black, enamel; in this the design, as I have already mentioned, is painted in white enamel, with traces of colour and gold lines. Sometimes large pieces of foil under translucent enamels were used in such enamels as were also painted in colour, but these paillettes are never used with grisaille work alone.

2. In the "Fine Style" (1530-80) the copper is much thinner, and there is a marked Italian influence seen in many of the designs. Large pieces of foil under translucent colours were discontinued, but the use of very small pieces of jewel-like form and arrangement called "paillons" came into use. Astists of the family of Penicaud used these "paillons" freely; they also frequently stamped the letters "P. L." on the copper of their enamels, probably standing for "Penicaud Limousin." The paillons are not much more satisfactory than their predecessors the paillettes, as in both cases the translucent enamels have a special tendency to chip off, and otherwise fine enamels are often spoilt by bare patches caused by the disappearance of these accessory pieces, colour and foil as well.

To the Fine period belongs the greatest enameller whose name is known, "Leonard dit Limousin, Esmalieur peintre, valet de chambre du Roy." His earliest signed work is dated 1532 and his last 1574. His work took many forms, vases, cups, chessboards, dishes, &c., but the most important are the wonderful series of portraits, generally the bust only, of the most notable personages of his time in France, ranging from Francis I. and his Queen downwards. The frames of many of these portraits are also often ornamented with small enamelled plaques.

There are several other names of note among the Limoges enamellers of this time; among them may be mentioned Pierre Raymond, who usually painted in grisaille with slight colour and gold; Jean Courtois, who used "paillons," and produced an especially fine black for his background; and Pierre Courtois, whose figures are beaten out in relief before the enamelling is done. Jean Court, dit Le Vigier, worked largely in grisaille with slight flesh colour, and is known to have made caskets his especial study.

3 The "Minute Style," or as it may well be called, the decadence, began about the end of the sixteenth century. It is marked by finical execution, probably due to the discovery of a new medium which would carry the metallic colours—resembling what we now call "oil colours." Susanne Court worked faces in profile, finished freely with fine gold painted lines, and the Limousins (Jean, Léonard, Joseph and François) all made small works, the designs on which are freely taken from contemporary prints.

After 1620 the Limoges enamels lost ground rapidly, the best work of the period being produced by artists of the family of Landin; these enamels usually have brilliant black backgrounds, and in the eighteenth century the manufacture as an important industry came to an end.

Limoges was not the only place in France where enamelled work was made. From some workshop in Southern France comes the splendid gold cup, now in the British Museum, known as "St. Agnes Cup," as it bears the history of that saint upon its sides and lid, in bassetaille with translucent enamels. It is the finest existing specimen of this kind of work, and is supposed to have been made during the fourteenth century.

During the seventeenth and eighteenth centuries the minute style of painted enamels, used probably with an oil medium, developed largely in the direction of watch-cases, and exquisite work of this kind was done by several artists of note, in latter times much of it being made at Blois. I regret I have no slides of these to show you; the finest works of this kind I have yet found are by Toutin, Durant, Muisard, Camille André, Bouvier, Molière, Vauquer, Petitot, Bordier and Zinc, while for quite modern French work that of M. Fernand Thesmar is perhaps most to be noted, the skill shown in his work in plique-a-jour being quite wonderful.

Miscellaneous.

Besides the three large divisions into which I have divided my slides there are many other schools of enamelling to which I can only draw your attention by means of a few single examples.

In Italy and Germany the art is old, but in the rest of my miscellaneous slides you will only see comparatively modern work.

The best Japanese work was done during the last century, and is, I think, unequalled for minute working of cloisonné enamels; for delicacy of workmanship and intricate design they have never been equalled. The modern Japanese work is in all technical ways masterly to the last degree, but the design is usually weak.

English work in enamels has found a worthy champion in our member, Mr. Starkie Gardner, and, as he says, no doubt whatever a careful examination would reveal many treasures of home production which are now credited to foreign workmen. What we know is fine, but more is still to be known. The Garter plates at Windsor range from the fourteenth centu onwards, and in the same century and during the fifteenth the was a large production of enamelled croziers, usually silver gi cups, ornaments of tombs and sword pommels, some of the with translucent enamels. At Oxford and Cambridge, and many other places are preserved several splendid cup exquisitely wrought in silver as a rule, and with enam ornaments.

During the last century there were the manufactories Battersea and Liverpool, from both of which there was a lar output of small articles. These are on copper, covered all ov with a groundwork, usually white, on which designs are paint in "oil colours," and sometimes printed. The best of these a probably the candlesticks, some of which are graceful enoug The enamels vary considerably in artistic value, but general they are not particularly good.

There is to-day a revival in England of interest in t beautiful art of enamelling. We have been fortunate of la years in having had the opportunity at the Royal Academy, t South Kensington Museum, and elsewhere of examining ar appreciating the fine work done in this medium by artists suc as Messrs. Geo. Frampton, Hubert Herkomer, Alex. Fish and Nelson Dawson, and also a helping hand of great valu has been given by the excellent technical school of arts ar crafts under the auspices of the London County Council.

It is only of comparatively late years that fine enamels ha been made in India, among other places, at Lucknow ar Jeypore, the last being remarkable for the fine ruby red (oxi of gold) in a gold groundwork.

At Partabgarh a peculiar kind of enamel is made; desig cut out of thin gold are inlaid in a dark green groundwork.

At Damascus and other places in the East an easy and ve effective way of producing enamels, apparently laborious made by means of champlevé work, has been hit upon. T outline of the design is simply repoussé from the back of t copper, and the hollows thus made on the other side are rougl filled with opaque enamels.

In Russia a considerable quantity of enamel work is do on silver and copper. It is usually cloisonné, but sometim painted on a thin enamel groundwork, always in opaq colours; most of it is not earlier than the last century. T cloisons are variously produced by soldering, casting repoussé work.

Charming work in plique-a-jour is done at the present ti by I. Tostrup, of Christiania, and by M. Hammer, of Berg often in bowls and spoon-handles.

During the last century many small enamels, snuff-box candlesticks, &c., were made at Dresden.

The paper was illustrated by a series of lantern slides of t different classes of enamels, coloured by Mr. Davenport.

GENERAL.

Mr. Onslow Ford, R.A., on Monday submitted for Queen's inspection a model of the statue to commemorate H Majesty's Diamond Jubilee, which is to be placed in front the Municipal Buildings at Manchester, and also a mar bust of the Queen which he has executed for Her Majesty.

The Bishop of Bristol has received permission from Queen to state that Her Majesty takes an interest in the resto tion of Malmesbury Abbey.

M. Luc Olivier Merson has read a paper before the Fre Institut on the late Emile Signol, the painter, his venera predecessor in the Academie des Beaux-Arts.

Mr. Robert Neill, who was mayor of Manchester for years in 1866-67 and 1867-68, and high sheriff of Rutlan 1889, died at his residence in Higher Broughton on Sun last in his eighty-third year. In 1842 he founded the g building business of Robert Neill & Sons. Mr. Neill wa native of Moffat, Dumfriesshire.

St Jude's, Bethnal Green, which the vicar consider be "the purest specimen of Byzantine architecture in Lond is in danger of falling into complete decay. 1,200*l.* has b spent on reparations in the last two years, and a sum of 8 is still needed. The churchyard wall, which has long b leaning, collapsed on Sunday last.

The Next Visits of the Edinburgh Architectural Associa take place to-morrow, the 11th inst., and will be to Coli Castle and House and Redhall.

The New Central Criminal Court will be very n larger in size than the existing building. It is announced it will extend to Newgate Street, for the site of Newgate been purchased for 40,000*l.*

Adam de Brome's Chapel, belonging to Oriel Coll Oxford, is to be transferred to the University on payment the college of 270*l.*, the estimated cost of repairs immedia necessary, the college retaining right of access to Adam Brome's tomb for repairs, &c.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

BANGOR.—March 20.—For alterations to premises, No. 249 High Street, for Messrs. Briggs & Co., Leicester. Mr. Richard Hall, architect, Bangor, North Wales.

BERMONDSEY.—For erection of a factory. Mr. William Freeman, surveyor, 162 Kennington Road, S.E.

BISHOP AUCKLAND.—March 15.—For conversion of Hartford House, Bishop Auckland, into a collegiate school. Mr. J. Walton Taylor, architect, Newcastle-on-Tyne.

BRADFORD.—For erection of new porch, seating, &c., at Park Chapel, New Cross Street. Mr. S. W. Pitchers, 14 Grantham Place, Bradford.

BRAINTREE.—March 22.—For erection of a dwelling-house. Messrs. Clare & Ross, architects, 66 Duke Street, Chelmsford.

BRIDLINGTON.—March 13.—For alterations and additions to 14 and 15 Oxford Street. Mr. J. Earnshaw, architect, Bridlington Quay.

BRIDLINGTON QUAY.—March 14.—For erection of residence. Messrs. Brodrick, Lowther & Walker, architects, Central Chambers, Bridlington Quay.

BRIDLINGTON QUAY.—March 18.—For erection of buildings at the rear of Beverley House, Quay Road. Mr. Samuel Dyer, architect, Bridlington Quay.

BRIGHTLINGSEA.—For erection of a house and shop in High Street. Mr. C. E. Butcher, architect, 3 Queen Street, Colchester, and High Street, Brightlingsea.

BULMER.—For rebuilding the Fox inn at Bulmer, near Sudbury, Suffolk. Mr. John Shewell Corder, architect, Wimbourne House, Ipswich.

CARDIFF.—March 13.—For erection of a temporary pavilion in the Cathays Park, Cardiff, for the executive committee of the Royal National Eisteddfod of Wales, 1899. Mr. Geo. Thomas, Queen's Chambers, Cardiff.

CARLISLE.—March 14.—For erection of a pair of semi-detached houses at Scotby. Mr. J. H. Martindale, architect, Viaduct Chambers, Carlisle.

CARLISLE.—March 15.—For erection of a villa, stable, &c., on Blackwell Road. Mr. H. H. Hodgkinson, architect, &c., Scotch Street, Carlisle.

CARDIFF.—March 15.—For erection of a Board school on the corner of Cathays Terrace and Whitchurch Road. Mr. E. W. M. Corbett, architect, Castle Street, Cardiff.

CLEVEDON.—For erection of house, shop, coach-house and stables in Kenn Road. Mr. C. R. Middle, Clevedon.

COLCHESTER.—March 18.—For erection of a cookery-room at North Street school. Messrs. Goodey & Cressel, architects, Victoria Chambers, Colchester.

CORK.—March 13.—For erection of two houses on the Windmill Road. Messrs. W. H. Hill & Son, architects, 28 South Mall.

CROYDON.—March 15.—For additions to the municipal lodging-house at Pitlake, Croydon, and additions and alterations to premises in South Norwood Hill for the purpose of adapting them as a fire station. Mr. E. Mawdesley, town clerk, Town Hall, Croydon.

CROYDON.—March 20.—For erection of a workshop at the workhouse, Queen's Road. Mr. E. West, surveyor, 23 Coombe Road, Croydon.

CUMBERLAND.—For taking-down of old and erecting of new stable, loose-boxes, byres, &c., at Wolsty Hall, Silloth. Messrs. P. & J. W. Hayton, surveyors, &c., Bank Street, Carlisle.

DARLINGTON.—March 13.—For erection of business premises in Skinnergate. Messrs. Martin & Davis, architects, Darlington.

DISS.—For erection of a warehouse and offices. Mr. John Shewell Corder, architect, Wimbourne House, Ipswich.



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ESTIMATES FREE.



Dublin.—March 13.—For erection at Amiens Street, Dublin, of an electric-power house, 75 feet long by 23 feet wide, to be built of brick, with steel principal roof, for the Great Northern Railway Company, Ireland. Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

Dublin.—March 15.—For erecting thirteen labourers' dwellings. Mr. John O'Neill, clerk, Board Room, North Brunswick Street, Dublin.

Dublin.—March 16.—For erection of a lightkeeper's dwelling, with out-offices, &c., at Inishowen East Lighthouse, Shrove, Moville, co. Donegal, for the Commissioners of Irish Lights. Mr. Owen Armstrong, secretary, Irish Lights Office, Dublin.

Durham.—March 13.—For erection of a wall near to Framwellgate Bridge, and the construction of steps leading from Framwellgate Bridge to a pathway now being constructed near the river's edge. Mr. W. T. Jones, architect, North Bailey, Durham.

Eaglestone.—March 14.—For erection of stabling at Wissahickon, Eaglescliffe. Messrs. C. H. Marriott & Son, architects, West Park Street, Dewsbury.

East Dulwich.—March 15.—For alterations and additions to workhouse buildings at Constance Road. Messrs. Henry Jarvis & Son, architects, 29 Trinity Square, Borough, S.E.

Elgin.—March 13.—For erection of a villa, with enclosing walls and offices at Stotfield. Messrs. A. & W. Reid & Wittet, architects.

Englefield Green.—April 1.—For enlarging boys' school, asphalting boys and girls' playgrounds, altering and enlarging offices, improving drainage arrangements, &c., at the Englefield Green schools, Surrey. Mr. W. Menzies, architect, Englefield Green, Surrey.

Fenny Compton.—March 21.—For erection of a cottage at Fenny Compton station, Warwickshire, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

Glasgow.—March 15.—For construction of buildings in Kelvingrove Park, Glasgow, for the Glasgow International Exhibition, 1901. Mr. H. A. Hedley, general manager and secretary, 141 Buchanan Street, Glasgow.

Gloucester.—March 18.—For alterations at the Y.M.C.A. buildings (late Spread Eagle Hotel). Mr. Walter B. Wood, architect, 12 Queen Street, Gloucester.

Haltwhistle.—For erection of dwelling-house. Mr. H. Higginson, architect, Carlisle.

Hanley.—March 31.—For erection of St. Jude's parish church in Victoria Road. Messrs. R. Scrivener & Sons, architects, Hanley.

Hereford.—March 13.—For erection of buildings in connection with the electricity station in Widemarsh Street. Mr. John Parker, city engineer, Hereford.

Highgate.—March 27.—For alterations and additions to the steam laundry at the infirmary, Archway Road. Mr. John Buley, engineer, Suffolk House, Laurence Pountney Hill, E.C.

Huyton.—March 14.—For erection of a police station and dwelling-houses, &c. Mr. Henry Littler, architect, County Offices, Preston.

Ipswich.—March 17.—For erection of a Conservative club in Newton Road, Rose Hill. Mr. T. W. Cotman, architect, Northgate Street, Ipswich.

Ipswich.—April 1.—For alterations and additions to w.c.s and bathroom on male side at the borough asylum. Mr. E. Buckham, borough surveyor, Town Hall, Ipswich.

Ireland.—March 13.—For erection of a block of buildings and a wall at Her Majesty's prison, Maryborough. Mr. Max S. Green, engineering inspector, Dublin Castle.

Ireland.—March 13.—For addition to the Omagh station and erection of a stationmaster's house at Omagh, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

Ireland.—March 16.—For erection of the new tower and spire to St. Patrick's College Church, Maynooth. Mr. William Hague, architect, 50 Dawson Street, Dublin.

Ireland.—March 25.—For erection of a sacristy at Croom R.C. church. Mr. Moriarty, Main Street, Croom.

Isle of Wight.—March 13.—For erection of coal stores, comprising steel and iron structure on concrete foundations and covered with wrought-iron roof in two spans. Mr. John W. Webster, surveyor, Council Offices, Cowes, I.W.

Kingston-on-Thames.—March 28.—For erection of a female infirmary, &c., at the workhouse. Mr. William H. Hope, architect, Union Offices, Portsmouth Road, Kingston-on-Thames.

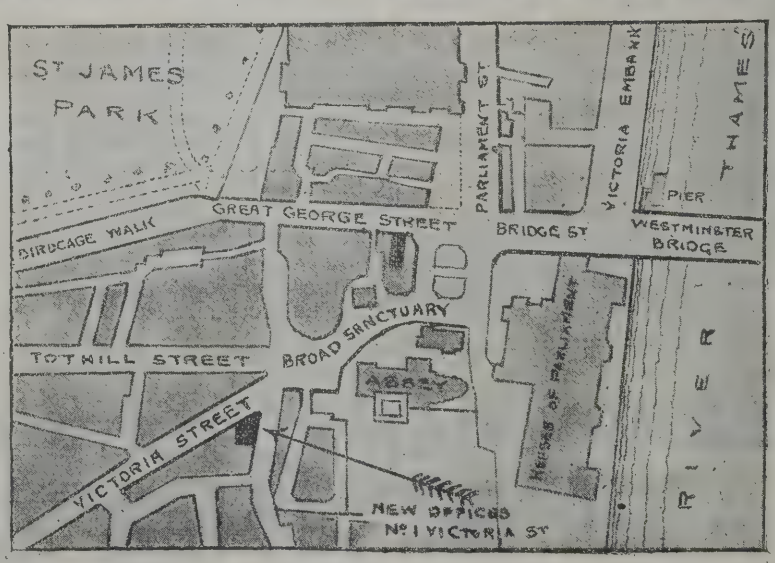
Lanchester.—April 5.—For construction of a bridge over New House Burn. Mr. W. H. Ritson, clerk, Lanchester, Durham.

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LEEDS.—March 17.—For construction of the foundations for bandstands at Roundhay Park, Wortley Park, Stanningley Park and Hunslet Moor. City Engineer, Municipal Buildings, Leeds.

LEWES.—The Corporation are inviting offers for the transfer of the electric-lighting provisional order, and the establishment of an electricity supply undertaking in the borough. Mr. F. J. Warden-Stevens, consulting engineer, 34 Victoria Street, Westminster.

LLANDUDNO.—March 13.—For erection of public slaughter-houses, hanging-rooms, lairages, offices, boundary walls, &c., on a site adjacent to the London and North-Western Railway station. Mr. E. P. Stephenson, surveyor, Church Walks, Llandudno.

LONDON.—March 14.—For supply and erection of boundary railings, gates, &c, at Nelson Recreation Ground, Kipling Street, S.E., for the London County Council. Drawings, specifications, bills of quantities, form of tender and other particulars at the Architect's Department, 13 Spring Gardens, S.W.

LONDON.—March 14.—For erection of conveniences for men at Maryon Park, Charlton, S.E., for the London County Council. Drawings, specifications, bills of quantities, form of tender and other particulars at the Architect's Departmen 13 Spring Gardens, S.W.

LONG EATON.—For erection of schools and swimming-bath at Long Eaton. Mr. E. R Ridgway, architect, Long Eaton.

LUTON.—March 21.—For erection of school buildings in connection with the Waller Street Wesleyan chapel. Messrs. J. R. Brown & Son, architects, 17 Market Hill, Luton.

MANCHESTER.—March 13.—For erection of an annexe to the nurses' block and a new isolation block at Monsall Hospital, Newton Heath. The City Surveyor, Town Hall, Manchester.

MANCHESTER.—March 17.—For erection of a new south-eastern district post office at Manchester. Messrs. Widnell & Trollope, Broad Sanctuary Chambers, Tothill Street, London, S.W.

MANCHESTER.—March 17.—For sanitary alterations to cottages in Kennedy Street and Tame Street, Ancoats. Mr. A. J. Murgatroyd, architect, 23 Strutt Street, Manchester.

MANCHESTER.—March 20.—For erection of twenty-two cottages at Miles Platting. City Surveyor, Municipal Offices, Manchester.

MANSFIELD.—March 15.—For erection of a mortuary building at the workhouse. Mr. R. Frank Vallance, architect, Mansfield.

MORECAMBE.—For alterations to 22 The Crescent. Mr. Percival B. Rigg, architect, Market Street, Morecambe.

MORECAMBE.—For erection of two semi-detached houses in Rossendale Avenue, Hornby Terrace. Messrs. Marshall Bros., architects, &c, Back Crescent, Morecambe.

MORECAMBE.—March 13.—For alterations and additions to the Battery Hotel, Morecambe. Mr. Chas. F. Thompson, architect, The Arcade, Lancaster.

MORECAMBE.—March 15.—For erection of a house and shop in Cross Street. Messrs. Marshall Bros., architects, &c., Back Crescent, Morecambe.

MORECAMBE.—March 20.—For erection of mineral-water works off Thornton Road, Morecambe. Mr. A. Lancelot Lang, architect, 12A Pedder Street, Morecambe.

NACTON.—For alterations, additions and repairs at Nacton Rectory. Mr. John Shewell Corder, architect, Wimbourne House, Ipswich.

NELSON.—March 23.—For erection of concrete and masonry walls to abutments of bridge, and four stone pillars to bridge, to be erected in the Victoria Park. Mr. B. Ball, surveyor, Town Hall, Nelson.

NOTTINGHAM.—March 13.—For erection of an engine-house and enginemen's cottage adjoining, at the new pumping station at Burton Joyce; and for construction of boiler seatings and engine-beds at the same station, for the water committee. Mr. Herbert Walker, architect, Angel Row, Nottingham.

NOTTINGHAM.—March 13.—For erection of a branch reading-room and caretaker's cottage in Carlton Road. Mr. W. B. Starr, architect, 12 St. Peter's Gate, Nottingham.

OAKWORTH (YORKS).—March 13.—For erection of six houses at Lane Ends. Messrs. John Judson & Moore, architects, Oakworth, near Keighley.

PONTEFRACT.—For erection of two stone houses at Ackworth. Mr. Walter E. Richardson, architect, 28 Bond Street, Leeds.

PONTYPOOL.—March 14.—For erection of four semi-detached villas, with outbuildings and conveniences, at Griffiths Town. Mr. B. J. Francis, architect, Abergavenny.

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RAWTENSTALL.—March 13.—For alterations to the White Horse hotel. Mr. Robert Neill, architect, 9 Grimshaw Street, Burnley.

SALFORD.—March 15.—For erection of a crushing-machine house at the sewage works. The Chairman of the River Conservancy Committee, Town Hall.

SLEAFORD.—April 4.—For erection of the superstructure of the new lunatic asylum at Rauceby, near Sleaford. Mr. George T. Hine, architect, 35 Parliament Street, Westminster, S.W.

SOUTHAMPTON.—March 13.—For alterations and additions to the ladies' lavatory, Royal Pier. Mr. E. Cooper Poole, surveyor, 4 Portland Street, Southampton.

SOUTH KIRKBY.—March 25.—For erection of Wesleyan church. Mr. George F. Pennington, architect, Central Chambers, Castleford.

SOWERBY BRIDGE.—March 14.—For erection of brick filter tanks. Mr. William Edleston Asquith, Bottom Mills, Sowerby Bridge.

STAINCLIFFE.—March 15.—For alteration of existing buildings into four cottages at Highfield, Staincliffe, for the Batley Corporation. Mr. J. C. Barrowclough, engineer.

ST. ALBANS.—March 20.—For additions and alterations to the St. Albans hospital. Mr. F. Hibbert, secretary, 45 St. Peter's Street, St. Albans.

STAPLEFORD.—For erection of Primitive Methodist chapel and school. Mr. Hy. Harper, architect, 8 Beastmarket Hill, Nottingham.

STOCKTON-ON-TEES.—March 14.—For erection of shipbuilding offices, &c. Messrs. C. H. Marriott & Son, architects, West Park Street, Dewsbury.

STROOD.—March 13.—For restoration of the tower and other works, also for interior painting and decoration at St. Nicholas Church. Messrs. Ruck & Smith, architects, Maidstone.

THORPE-LE-SOKEN.—March 20.—For erection of a witnesses' room and for general repairs at the police-station at Thorpe-le-Soken, Essex. Mr. Herbert W. Gibson, deputy-clerk of the peace, Shire Hall, Chelmsford.

THORNABY.—March 14.—For erection of offices, &c., at the Thornaby Shipbuilding Yard. Messrs. C. H. Marriott & Son, architects, West Park Street, Dewsbury.

TREDEGAR.—March 13.—For altering and cementing the Castle Hotel. Mr. Arthur O. Evans, architect, Pontypridd.

WALES.—For erection of one pair of semi-detached cottages at Aberfan. Mr. William Dowdeswell, architect, Treharris.

WALES.—March 15.—For erection of shop and dwelling-house at Brynamman, Carmarthenshire. Mr. J. Cook Rees, architect, Neath.

WALES.—March 17.—For alterations and improvements to Tabernacle C.M. chapel, Blaenau Festiniog. Mr. D. Edwards, 13 Tanymanod Terrace, Blaenau Festiniog.

WALES.—March 14.—For erection of a county intermediate school for girls, Bala, Merioneth. Mr. H. Teather, architect, 38 Wyle Cop, Shrewsbury.

WEST HARTLEPOOL.—March 13.—For erection of an electric-light station in Burn Road. Mr. C. Stanley Peach, architect, West Hartlepool.

WEST NORWOOD.—March 22.—For erection of two bathrooms at the Lambeth School Infirmary, Elder Road. Mr. W. Thurnall, clerk, offices of the Guardians, Brook Street, Kennington Road.

WINCHMORE HILL.—March 29.—For erection of a boiler and engine-house, &c., at the Northern Hospital. Messrs. Pennington & Son, architects, Hastings House, Norfolk Street, Strand, W.C.

AT the Edinburgh Architectural Society on the 1st inst. Mr. A. Balfour Paul read a paper on the "Staircase." Mr. A. Lorne Campbell was in the chair. The paper was devoted chiefly to a review of the general principles of stair design, and the lecturer incidentally deplored the modern conditions, which so frequently cramped the space and curtailed the light, to the danger of those using the stair. A free discussion on various points raised ensued.

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T. C. Nicholl, Bradford, plumber.
J. Smithes, Great Horton, slater.
T. Cordingley & Sons, Bradford, plasterer.
A. Bell, Bradford, painter.

BRIDLINGTON QUAY.

or erection of two dwelling-houses on the south side of Lansdowne Road. Mr. SAMUEL DYER, architect, Bridlington Quay.

W. Barnes	£968 0 0
J. RENNARD, North Street Building Works (*accepted*)	750 0 0

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or erection of stables, workshops, &c., at the Hythe. Mr. CHAS. E. BUTCHER, architect, 3 Queen Street, Colchester.

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For erection of premises for the Moss Cottage inn, Ripley, near Derby. Mr. R. ARGILE, architect. Quantities supplied.

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Engineer's estimate	1,320 0 0

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DUSTON.

For semi-detached villa at Duston, Northamptonshire. Mr. H. H. DYER, architect, 1 Sheep Street, Northampton.

J. Garrett	£899 0 0
E. D. Sharman & Son	815 0 0
Wingrove & Stanley	813 0 0
W. Heap	810 0 0
Wilson & Alright	802 0 0
C. Webster	799 0 0
J. G. Pullen & Sons	784 10 6
J. Nobles & Son	770 0 0
W. Higgins	764 10 0
Crow & Gardner	760 0 0
A. J. CHOWN (*accepted*)	760 0 0
Plumbing, painting and glazing.	
R. CLEAVER (*accepted*)	135 6 0

HASTINGS.

For alterations and additions to premises, 158 Queen's Road, Hastings. Mr. ALFRED DRAY, architect, Hastings.

H. E. Cruttenden	£783 0 0
F. G. Hatton	767 0 0
W. Coussens	745 0 0
A. H. White	733 10 0
Eldridge & Son	681 0 0
C. Harman	670 0 0
D. H. SNOW, Hastings (*accepted*)	653 8 0

For additions, alterations and repairs to 18 Wellington Square. Mr. ALFRED DRAY, architect, Town Hall Chambers, Hastings.

G. Davis	£329 0 0
W. F. Vidler	305 15 0
Tapner & Woodman	298 10 0
W. Coussens	293 0 0
Barton & Honeysett	275 0 0
C. Harman	267 0 0
H. DITCH, High Street (*accepted*)	250 0 0

HAYFIELD.

For alterations at the Free Methodist school. MASON & HADFIELD, Steeple End Fold (*accepted*) £230 0 0

HUDDERSFIELD.

For erection of four houses at Primrose Hill. Mr. J. BERRY, architect, 9 Queen Street, Huddersfield.

Accepted tenders.

I. Moorhouse & Sons, mason.
Hampshire & Armitage, joiner.
W. Taylor & Sons, plumber.
G. Corney, plasterer.
S. Sykes, painter.
T. B. Tunnacliffe, slater.
J. Cooke, concreter.

For alterations and additions to the Boot and Shoe inn, and erection of cottages, &c, at Birchencliffe. Mr. J. BERRY, architect, 9 Queen Street, Huddersfield.

Accepted tenders.

H. Smithson, Lindley, mason.
L. Kettlewell, Lockwood, joiner.
C. Dyson, Lindley, plumber.
J. C. Winterbottom & Sons, Damside, plasterer.
A. Jackson, Huddersfield, painter.
Pickles Bros, Huddersfield, slater.
J. Cooke, Huddersfield, concreter.

ILFORD.

For paving and kerbing works, for the Ilford Urban District Council. Mr. H. SHAW, surveyor, 7 Cranbrook Road, Ilford.

J. Jackson	£3,457 0 0
W. Griffiths	3,249 0 0
W. Gibbs & Co.	3,110 0 0
D. S. Jackson	3,057 9 5
B. W. GLENNY, Colchester (*accepted*)	2,963 3 0

IRELAND.

For additions to and alterations in the infirmary at Enniskillen. J. HARVEY, Belmore Street (*accepted*).

KINSALE.

For conversion of a house into dispensary premises. Mr. R EVANS, architect, 53 South Mall, Cork.

T. B. Buckley £155 0 0

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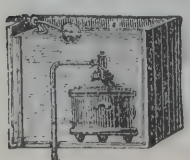
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LEICESTER.

For erection of residence and stabling at Wigston Magna, Messrs. MILES & BRASLEY, architects and surveyors. Friar Lane, Leicester. Quantities by architects.

S. Briers	£2,220 0 0
Bradshaw Bros.	2,216 0 0
J. Wright	2,100 0 0
J. O. Jewsbury	1,984 0 0
U. GURNEY, Leicester (*accepted*)	1,934 0 0

LONDON.

For extension of Patent Office (library block), for H.M. Office of Works, &c.

M. Wells & Co.	£51,747 0 0
J. Chessum & Sons	46,750 0 0
Foster & Dicksee	46,621 0 0
B. E. Nightingale	44,155 0 0
Kirk & Randall	44,000 0 0
PERRY & Co. (*accepted*)	43,581 0 0

For erection of a house and shop, Nile Street, Hoxton, for Mr. Geo. Rutter. Mr. GEO. BAINES, architect.

S. J. Scott	£1,467 0 0
C. Dearing & Son	1,460 0 0
H. L. Holloway	1,399 0 0
J. Jarvis & Sons	1,395 0 0
Wm. Shurmur	1,395 0 0
W. V. Goad	1,379 0 0
Battley, Sons & Holmes	1,290 0 0
Chas. King	1,179 0 0

For alterations at the College Arms, Bethnal Green, for Mr. Geo. Lakeman. Mr. EDWARD BROWN, architect, 161 Commercial Street, Bishopsgate.

A. Hood	£512 0 0
E. Lancaster	487 0 0
R. Preston	311 10 0
Pewterers.	
W. Paddon, jun.	77 0 0
W. ROGERS & SONS (*accepted*)	68 10 0
B. J. Grimes & Son	68 0 0
Gasfitters.	
J. Miller & Co.	53 0 0
Dupuy, Pottin & Adams	50 0 0
STEADMAN (*accepted*)	50 0 0

LONDON—*continued.*

For erection of a house and shop, Nile Street, Hoxton, for Mr. J. Rutter. Mr. G. BAINES, architect.

C. Dearing & Son	£1,686 0 0
J. Jarvis & Son	1,623 0 0
S. J. Scott	1,623 0 0
H. L. Holloway	1,600 0 0
Wm. Shurmur	1,593 0 0
W. V. Goad	1,581 0 0
Battley, Sons & Holmes	1,487 0 0
Chas. King	1,362 0 0

For erection of the Boleyn tavern, Upton Park. Messrs. SHOEBRIDGE & RISING, architects.

H. L. Holloway	£14,983 0 0
Dearing & Son	14,864 0 0
J. Carmichael	14,859 0 0
W. Shurmur	14,786 0 0
J. Anley & Son	14,782 0 0
G. Parker	14,701 0 0
Kilby & Gayford	14,436 0 0
Lascelles & Co.	14,329 0 0
Edwards & Medway	14,144 0 0

For the erection of stables, Vicarage Lane, Stratford, E. Messrs. YETTS, STURDY & USHER, architects.

J. W. Falkner & Co.	£8,293 0 0
G. J. Hoskins	8,096 0 0
W. Shurmur	7,950 0 0
M. Patrick	7,830 0 0
W. Downs	7,825 0 0
Woodward & Co.	7,729 0 0
Patman & Fotheringham	7,671 0 0
S. Parmenter	7,669 0 0
Backley	7,607 0 0

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Handford & Driscoll	1,998 0 0
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National Electric Free Wiring Company	1,509 0 0
Electrical Erection Company	1,355 0 0
C. PEACOCK & Co. (*accepted*)	1,330 0 0

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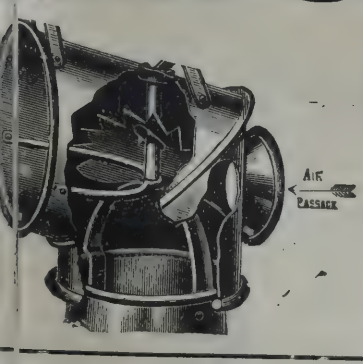
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LONDON—*continued.*

For erection of factory at Erskine Road, Chalk Farm, N.W. Mr. ALFRED CONDER, architect, Palace Chambers, 9 Bridge Street, Westminster. Quantities by Mr. E. J. PAINE, 11 Great James Street, Bedford Row.

L. H. & R. Roberts	£4,389 0 0
T. D. Steed	3,992 0 0
J. Carmichael	3,950 0 0
J. Smith & Sons	3,983 0 0
J. Grover & Son	3,938 0 0
Wm. Akers & Co.	3,912 0 0
Stimpson & Co.	3,870 0 0
Turtle & Appleton	3,840 0 0
James Chapman	3,794 0 0
Wm. Goodman	3,619 0 0
John Greenwood	3,568 0 0
E. TOMS (*accepted*)	3,549 0 0

For ventilating work, including the installation of electric fans at Bridgewater House, St. James's Park. Messrs. O'GORMAN & COZENS-HARDY, consulting engineers.

THE GRAHTRIX VENTILATING & ENGINEERING CO., Sutterton Street (*accepted*)	£1,250 0 0

For erection of a factory at Friars' Court, Southwark, for Messrs. Harmsworth & Co., Limited.

Patman & Fotheringham	£4,561 0 0
J. Outhwaite & Sons	4,297 0 0
B. E. Nightingale	3,985 0 0
W. Shurmur	3,829 0 0
Kilby & Gayford	3,534 0 0

MORESBY.

For erection of a wall and other work in connection with Moresby churchyard extension.

Young	£169 10 0
T. DAVIDSON, Parton, Whitehaven (*accepted*)	132 10 0
Harrison	131 10 0

NEWARK.

For carrying-out drainage scheme for the village of Barnby. Mr. RALPH OAKDEN, jun., surveyor.

G. Brown & Son	£104 14 0
C. E. Vessey	70 0 0
G. Morgan	67 0 0
W. T. Millns	64 14 0

NEW BROMPTON.

For alteration of stabling, Nile Road, New Brompton. Mr. E. J. HAMMOND, architect, 111 High Street, New Brompton.

T. Cornelius	£300 0 0
A. E. Langley	285 0 0
J. H. HARRIS, Chatham (*accepted*)	245 0 0

OMAGH.

For shop fronts and fittings. Mr. D. CONROY, architect, Londonderry.

J. COLHOUN, Strand Road, Londonderry (*accepted*)	£174 10 0

RUABON.

For erection of Baptist chapel, Cefn Mawr.

T. Williams	£2,500 0 0
R. Hopley	2,100 0 0
J. T. JONES, Cefn (*accepted*)	2,075 0 0

SANDBACH.

For erection of an infirmary at the workhouse, Arclid. Mr. ALFRED PRICE, architect, Elworth, Sandbach.

M. Cooke	£5,996 0 0
J. W. Bousfield	5,800 0 0
Barratt & Gibson	5,180 0 0
Rylance & Son	5,150 0 0
Stelfox & Son	5,123 0 0
Goodwin	5,100 0 0
A. J. & G. Worrall	4,946 0 0
J. Stringer	4,895 0 0
T. Smith	4,735 0 0
BIRCHALL BROS., Middlewich (*accepted*)	4,650 0 0

TENBY.

For erection of staircases and balconies for workmen's dwellings. Mr. H. MORLEY, architect, Tenby.

E. B. Bryant	£405 0 0
St. Pancras Ironwork Company	345 0 0
Hart, Son, Peard & Co., Limited	330 0 0
W. A. Baker & Co., Limited	285 0 0

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WAKEFIELD.

For alterations at the Cock and Crown hotel, Crofton. Mr. B. WOOD HIGGINS, architect, Oulton, Leeds

Accepted tenders.

J. Wainwright & Son, Wakefield, builder, &c.	£282	0	0
E. J. Spink, Wakefield, carpenter and joiner	281	10	0
J. Platts, Wakefield, plasterer	71	0	0
W. Atkinson, Leeds, slater	58	18	0
W. Wilson & Son, Castleford, plumber and glazier	58	0	0
Roylance & Horsman, Leeds, painter and grainer	21	1	0

WALES.

For erection of a minister's house for the Tabernacle Congregational church, Ynysybwl.

W. Davies	£439	0	0
WILLIAMS BROS., Ynysybwl (*accepted*)	418	5	6

For erection of a playshed at St. Dial's schools, Cwmbran.

W. T. Sier	£85	10	0
J. H. Leadbeter	79	10	0
J. Charles	71	0	0
Jones Bros.	68	16	6
C. W. Simmons	64	8	0
J. Hambling & Co.	60	0	0
T. TITLEY, Commercial Street, Pontnewydd (*accepted*)	53	0	0

For construction of a sewer at Garndiffaith, Abersychan.
W. SCOURFIELD, Blaenavon (*accepted*), 1s. per lineal yard.
Note.—The Council provide and deliver all materials.

For construction of a service reservoir (to contain about 350,000 gallons), dwelling-house and other works at Treharris, Merthyr Tydfil. Mr. THOS. FLETCHER HARVEY, engineer, Town Hall, Merthyr Tydfil.

Holme & King	£4,240	15	0
T. Taylor	3,101	10	9
J. PREECE, Hereford (*accepted*)	2,838	11	0
W. E. Willis	2,113	6	2

For erection of a Baptist chapel at Senghenydd.

J. Bowen	£2,085	5	6
J. Lewis	2,010	0	0
T. W. Davies	1,997	0	0
J. P. Williams	1,967	0	0
T. Rossiter	1,950	0	0
J. HOWELLS, Caerphilly (*accepted*)	1,870	0	0

WILTSHIRE.

For erection of new reading-room and classrooms, Marlborough College, Wilts. Mr. THOS. GARNER, architect, Gray's Inn Square, W.C. Messrs. NORTHCROFT, SON & NEIGHBOUR, quantity surveyors, Charing Cross, W.C.

STEPHENS, BASTOW & CO., LIMITED, Montpelier, Bristol (*accepted*)	£8,000	0	0

WINDERMERE.

For erection of a bridge over the river Troutbeck, near Troutbeck Church. Mr. JOSEPH BINTLEY, county surveyor, 7 Lowther Street, Kendal.

T. & M. Atkinson	£1,080	0	0
W. Grisenthwaite	870	10	3
A. JACKSON, Ambleside (*accepted*)	720	0	0

WOOLWICH.

For erection of stabling and horsekeeper's residence in Callis Alley. Mr. J. O. COOK, architect, 1A Eleanor Road, Woolwich.

G. Foreman	£3,935	0	0
H. B. Sanford & Co.	3,910	0	0
Thomas & Edge	3,910	0	0
C. Kitley	3,890	0	0
J. Haydon	3,690	0	0
E. PROCTOR, Woolwich (*accepted*)	3,484	0	0

A MOTION has been made in the Aberdeen Town Council by Mr. Fraser to the effect that a committee should be appointed to consider and report as to the advisableness of procuring or erecting premises suitable for the city concerts and lectures, and which would also be available for other public functions. He said there was undoubtedly a strong and growing feeling in the community that more commodious, comfortable and better-equipped concert and lecture-hall accommodation should be provided. He did not think he was over-stating the case when he said there was no such place in Aberdeen as a comfortable or well-equipped concert-hall. Mr. Kendall Burnett seconded. Bailie Lyon moved the previous question. He did not think the present was an opportune time to raise a discussion as to the Corporation going in for a city hall. It was well known that the directors of the Music Hall had begun to overhaul the whole of the premises. Mr. Wilkie seconded, and, after discussion, the amendment was carried by fourteen votes to thirteen.

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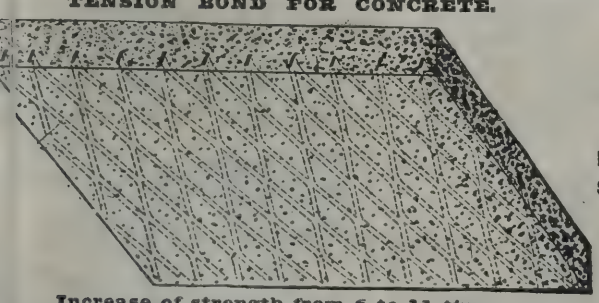
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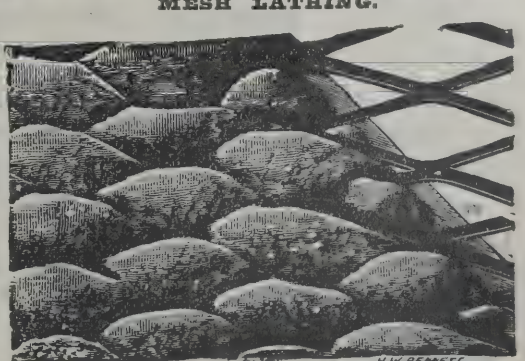


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TRADE NOTES.

IN the ventilation of Moss Vale School, Paisley (Mr. John Hutcheson, of Glasgow, architect), Cousland's improved "Climax" patent direct-acting invisible roof-ventilators are being used, supplied by the "Climax" Ventilating and Heating Company, Limited, 93 Hope Street, Glasgow.

THE additions to the fever hospital, Bolton, are being warmed and ventilated by means of Shorland's patent Manchester stoves, with descending smoke-flues, Shorland's patent exhaust roof ventilators and inlet panels.

IN the notice of Messrs. Fletcher, Russell & Co.'s new premises which appeared in our issue of February 24, we omitted to mention that the electric lifts, to which we referred, were put in by Messrs. Archibald Smith & Stevens, of Janus Works, Queen's Road, Battersea.

"TESTS of Half a Century" is the name given by Messrs. George Price, Limited, of Wolverhampton, to an interesting booklet which they have issued, and which is entirely compiled from newspaper cuttings descriptive of fires in which their safes have successfully withstood the assaults of heat and flames, descriptions of strong-rooms, &c., erected by the firm, and letters bearing testimony to the various good qualities of the safes manufactured by them.

ARCHITECTS and others responsible for the fitting up of buildings with fire hydrants should give attention to a very efficient fire valve, which is designed to supersede the old form of valve with packed glands. It is called the "Metropole," and is made entirely of gun-metal. It is very simple in construction, very durable, handsome in appearance, and lies close to the wall. We understand that Messrs. Merryweather—the well-known makers of fire-extinguishing appliances—who are the patentees of this valve, are now fitting the Grand Hotel with them, the management having decided to employ the "Metropole" valve in preference to other makes, after exhaustive trials had been made with them all. The Hôtel Métropole has had similar valves in use for over twenty years.

VARIETIES.

THE Eastbourne Town Council have resolved to invite designs for a technical school and free library, which will cost 20,000*l.*, and is to be a memorial of the Duke of Devonshire's mayoralty.

DR. C. E. DRURY FORTNUM, D.C.L., F.S.A., one of the trustees of the British Museum, died on Monday, in his eightieth year. He was an authority on several branches of industrial art and archæology.

MR. EDWARD STANFORD has just issued a new and up-to-date map of London, showing all improvements in contemplation or in actual progress, proposed new railway lines and extensions, and much other useful and interesting information.

A MEETING was held on Friday last of the committee appointed at the ratepayers' meeting in connection with keeping open the site of St. George's Church, Liverpool. The letter of the bishop respecting the retaining of the tower and spire of the church was discussed, and a strong opinion was expressed that the whole fabric should be removed, and upon the site a neat tramway shelter and other conveniences be erected, and the space made as attractive as possible. It was resolved to ask the finance committee to receive a deputation on the subject.

BY a resolution recently passed, the London coal merchants decided to petition the London County Council to allow them in future to be relieved of the necessity of carrying weights and scales on all vehicles delivering coal except the house trolley. It is understood that a copy of the resolution has been forwarded to the Council, and that the coal merchants have hopes that the Council or the committee having charge of weights and scales will accord a favourable reception to the petition. In view of the wholesome deterrent the regulations now in force have had upon dishonest coal traders in the past, it is to be hoped that the County Council will not remove such a safeguard from London's vast army of coal consumers without giving the matter the most earnest attention. These regulations were only put in force to cope with the abuses that had sprung up owing to the knavish tricks of the coal merchant in the past.

ON the 3rd inst. the new parish church of St. Chad, Handforth, was consecrated by the Bishop of Chester. The new building takes the place of a church built about fifty years ago, and found to be unsuited to the present requirements of the parish. The style of the new church is fifteenth century, with modern detail. The walls are faced with red brick, with Alderley stone dressings to windows, doorways and buttresses. The roof is covered with Staffordshire tiles of a dark brown colour. The interior woodwork, including the open-timbered roof, is of pitch pine. The accommodation is for 300 and the total cost about 4,000*l.* Mr. Thomas Browne, of Chester, is the builder, and the work throughout has been carried out from the designs of Mr. John Brooke, of Manchester.

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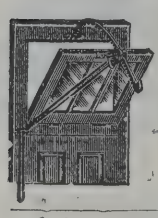
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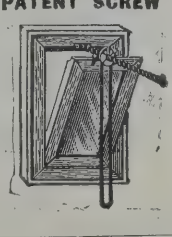
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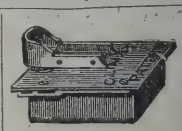
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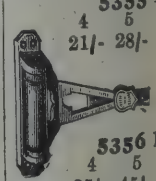


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ELECTRIC NOTES.

T a meeting of the Hereford Town Council the electric-ighting committee reported that the Board of Trade had timated their approval of the scheme for the installation and stribution of electric light in the city, and the committee opped to have the order completed within a few days. enders for the necessary works had been advertised for.

THE Police Commissioners of Stirling have received in-mation from the Secretary for Scotland that authority has een given for borrowing the sum of 25,000*l.*, being sufficient o cover the estimated cost of Professor Kennedy's electric-ighting scheme for the burgh The contracts having pre-iously been settled, the work will be proceeded with at once. Inder the scheme mains will be laid in the central parts of the own and in a large number of the suburban thoroughfares. For public lighting the Commissioners contemplate erecting venty arc lamps in the principal streets. The electric-lighting ation will be situated on part of Burghmuir, close to the aledonian Railway, from which a siding is to be formed. It intended, if possible, to have the scheme in operation next inter.

MR. THOMAS A. EDISON, jun., son of the great inventor, is, it is said, discovered a process of hardening steel which ay revolutionise the industry. It is claimed a 6-inch plate, eated by the new process, is superior in power of resistance to 5-inch ordinary plates. Edison's is said to be also much supe-or to the Krupp process. The steel rails, Mr. Edison declares, anufactured under his process, will not spread. Tools and earings are made practically everlasting. The process is to be ept secret until after the American Government has experi-ented with it on armour plates. Mr. Edison is twenty-two ears old and was brought up in his father's laboratory.

BUILDING AND BUILDERS.

UBLIC baths are to be erected at Portobello by the Town ouncil of Edinburgh at a cost of 24,758*l.*

AT the annual meeting of the Eastbourne Master Builders' ssociation, held at Hermitage's Rooms on February 28, the eport and balance-sheet for the past year were received and dopted with thanks to the retiring officers The committee for he year was elected as follows :—Mr. Joseph Martin, president, e-elected ; Mr. E. Cornwell, vice-president, re-elected ; Messrs. I. Martin, Stanbridge, Winter, Breach, Miller, Bambridge and Lacey. It was unanimously decided to join the S.-E. Counties Building Trades Employers' Federation.

MR. MARTIN BRADLEY'S new town house in Mayfair will, says the *City Press*, be one of the finest in that favourite part of the West End. He has purchased the freeholds of 3 and 4 Chesterfield Gardens, and intends to convert them into one residence. The price for the two houses was, it is understood, about 100,000*l.*

THE Dumbarton Town Council have presented a petition to the Dean of Guild stating they are proprietors of the piece of ground in the burgh known as College Park, and are desirous of demolishing the present building thereon and erecting new municipal and police buildings.

AT a meeting of the works committee of the Edinburgh and District Water Trust held recently there were submitted five tenders in connection with contract No. 10 of the Talla Water-works. The offers ranged from 96,000*l.* to about 81,000*l.* The three lowest were from Mr. John Best, Messrs. Brunton & Son and Messrs. A. M'Alpine & Son.

MEMORIAL-STONES of new Sunday-schools, in connection with the Scotland Street Circuit of the Methodist New Connexion, have been laid at Sheffield. It is 100 years ago since the first Sunday-school of this body was opened in Sheffield, and it was largely the result of a conference held at Leeds in 1797. Some time ago steps were taken to celebrate the centenary of the schools by erecting new ones. The schools and classrooms will accommodate altogether about 800 scholars, and the cost is estimated at 3,750*l.*

THE Perth School Board have resolved to carry out a large extension on the Caledonian Road school, built only a few years ago, and the largest elementary school in Perth, to accommodate the increasing number of ex-VI. Standard scholars, at a cost of nearly 2,000*l.* Extensions and alterations costing about the same amount have been considered necessary at the Northern District school. The Central District school is also to be rebuilt at a cost of between 7,000*l.* and 8,000*l.* ; and large extensions on the Southern District school, at a cost of about 3,000*l.*, are nearing completion.

A SERIOUS accident has happened at Mr. Forder's cement works at Sundon, near Luton. Some men were working in a new kiln, when the roof suddenly collapsed, and a heavy mass of bricks and mortar completely buried six men. George Garner, of Toddington, was found dead. Two other men, named Creamer and Sanders, were severely injured, and con-

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veyed by special Midland engine and van from Harlington to the hospital at Luton in a critical condition. Three others were hurt.

AT a Dean of Guild Court, held at Ardrossan on Monday, plans were passed and warrant granted for the addition of a laboratory, a workshop and classrooms at Ardrossan Academy. The academy was recently transferred from trustees to the School Board, and the intention is to run it on the lines of a secondary school. The alterations proposed are estimated to cost over 2,000*l.*

NEW CATALOGUE.

MESSRS. DAVID WILSON & CO, of 77 Lever Street, Goswell Road, have sent us on a copy of their new illustrated price list, which contains sketches of their specialties in cooking apparatus for gas, steam and coals, comprising grills, hot closets, steam boilers, steamers, jacketed pans, gas roasters, gas grillers, gas stoves, gas hot closets, charcoal grills, dinner lifts, kitchen ranges, &c. Conspicuous among these is their "Portable Table Range," specially suitable for hotels, restaurants, public institutions, schools, &c., which is remarkably comprehensive and complete. It measures 13 feet by 7 feet 6 inches, has a central flue and ventilating shaft, with hot-plate constructed throughout of heavy cast-iron, and fitted with six ovens and two fires. There is a hot closet with sliding doors at one end, with a bain marie over, and at the end a three-drawer nest of potato or vegetable steamers, fitted with steam-tight doors. A strong welded wrought-iron boiler is placed at back and sides of one fire for generating steam, with branches connected to hot closet, bain marie and steamers, and fitted with complete set of mountings comprising automatic feed valve, safety valve, pressure gauge and gun-metal water gauge cocks.

Their portable cooking range has been specially designed to suit the requirements of those who want a good roasting oven and a plentiful supply of hot water for scullery, bath-room, &c. It is made of heavy metal, and is fitted with a strong wrought welded high-pressure boiler, with arch flue at bottom, in which is fitted an independent damper, so that the whole fire can, if desired, be made to play on front, under and back of boiler. Flow and return pipes come on top, so that connections can be made to any existing pipe in a few minutes. The other ranges and stoves described offer a large variety, and among them will be found some suitable for all purposes.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: NAVE, LOOKING EAST. NORTH PORCH. GALILEE DOORWAY, LOOKING WEST DOWN NORTH AISLE OF CHURCH.

CREWE HALL.—DRAWING-ROOM.

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ILLICIT COMMISSIONS.

THE following report from the special committee on Secret Commissions of the London Chamber of Commerce has been issued this week:—

Gentlemen,—Your committee at its first meeting elected Mr. David Howard, J.P. (vice-president of the Chamber), and Mr. Walter Hazell, M.P., chairman and deputy-chairman respectively of the committee, and also added additional representatives of trade and professional associations apart from the Chamber and other gentlemen to their number, to make the committee more thoroughly representative. No less than twenty of the trade sections of the Chamber were represented on the committee by either their chairmen or deputy-chairmen.

2. With a view to obtaining evidence as to the prevalence of secret commissions in the various trades, and the extent to which the same obtained, the committee caused communications to be addressed to the members of the Chamber, the various trade associations, Chambers of Commerce, and also to the general public by the insertion of a letter published in the various trade papers and the press generally, asking for information.

3. In response to these invitations, your committee received numerous communications on the subject, both written and verbal. Most of them were received under a promise that they would be treated as strictly private and confidential, but in a few cases the persons giving the information were not unwilling that their names should appear.

4. Your committee much regret that in this way only were they able to obtain information, as they are fully conscious of the value which would attach to communications made public with all particulars and substantiated by the names of the parties communicating the same. The information thus furnished to your committee is, of course, varied as regards its character; in some cases it has been vague, in other cases specific, but in no case has your committee come to a conclusion except upon evidence which they believe to be trustworthy.

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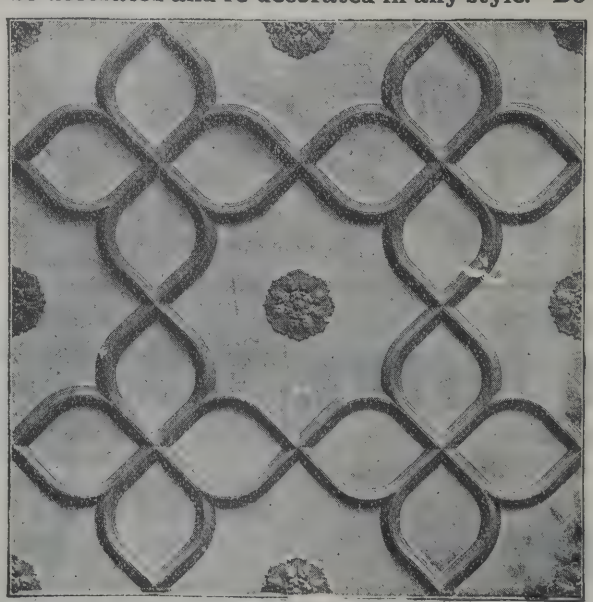
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5. Your committee conclude from the evidence before them at secret commissions in various forms are prevalent in most all trades and professions to a great extent, and that in me trades the practice has increased, and is increasing, and ey are of opinion that the practice is producing great evil, ike to the morals of the commercial community and to the ofits of honest traders.

6. Bribes in all forms, including secret commissions, owe eir existence sometimes to the desire of the donor to obtain e assistance of the donee; sometimes to the demand ex- essed or implied of the donee that the bribe shall be given.

7. In the first class of cases your committee have reason to lieve that the bribe is often given unwillingly and with a pang conscience, as the result of the keen competition in trade, d in the fear, too often well founded, that unless given other ss scrupulous rivals will obtain an advantage; many cases ve come before your committee in which traders have lieved (often though not perhaps always without reason) that eir entire failure to obtain orders has been due to the want of bribe.

8. The second class of cases are those in which the cipient extorts the bribe from those who have established siness relations with his principal. The practice is rendered ore effective and oppressive by a combination between the ackmailers. The servant or agent who demands a commission d fails to receive it, not infrequently warns his fellows in the me position in the trade against the honest trader, who thus ds himself shut out from dealings with a whole circle of firms.

9. In stating the result of the information received in rela- n to the several trades, and also to some professions, your mmittee do not wish to suggest that these practices are by y means universal in any trade or profession.

10. The bribes given naturally take many forms; most nerally they are given in the simple form of a money pay- ent, the worst form of which is a *pro rata* commission on the siness done; sometimes in the shape of a loan, which places e borrower at the absolute mercy of the lender, who, if he be ssatisfied with the amount of custom he receives, can call in, threaten to call in, the loan; sometimes the bribe consists presents of plate, wine, or other things, and not infrequently is administered in the form of lavish hospitality and treating.

11. One frequent practice with those who venture to put eir offer of bribes on paper is to describe the sum offered as "discount," though the offer is made, of course, not to the incipal but to his agent.

12. The mass of corruption which the evidence before the committee shows to exist may appear to some persons so great and complex as to render it hopeless to struggle towards purity. Your committee do not take this view of the matter. They believe that the discussion of the subject and the publicity of some cases before the Law Courts have already done some good; and they recall the undoubted fact that corruption formerly existed in this country in regions where it is now entirely unknown, that there are cases in past times in which bribery threw a stain upon occupants of the Bench, that at one time a large number of the members of the House of Commons were in the pay of the Crown, and that commissions and other secret forms of bribery abounded in Government departments. Your committee accept the improvement which has taken place in these directions in the last fifty years as a fact full of encouragement for the commercial community of Great Britain. The question of whether it is desirable to introduce legislation to check the abuses which still remain has been considered by your committee. On the one hand, it is forcibly urged that the Act of Parliament which makes criminal all bribery occurring in the case of officers of Government Departments and public bodies, has produced advantageous results; and that many persons who allow themselves to be parties to an illegal transaction would shrink with fear from the same transaction when made criminal. On the other hand, several difficulties present themselves in the way of effective legislation. In the first place, it is never safe for criminal legislation to advance very far beyond the public conscience, and it is doubtful how far that conscience is yet enlightened on the matter; in the next place, it would be a matter of difficulty to define the offences with adequate breadth without including acts of an innocent or trivial character; and lastly occurs the consideration that the transactions aimed at are very often secret, and that it would be difficult to obtain confirmatory evidence, and unsafe to convict on a single unconfirmed oath.

13. If legislation is to be attempted it appears to your committee that it should render criminal the payment, the receipt, the offering and the solicitation of any corrupt payment; and also the giving of any invoice or other document calculated to enable the recipient to commit a fraud upon his principal, and that it is expedient that such legislation should be initiated by your Chamber or supported by a petition by them.

14. Your committee submit that the question of the desir-

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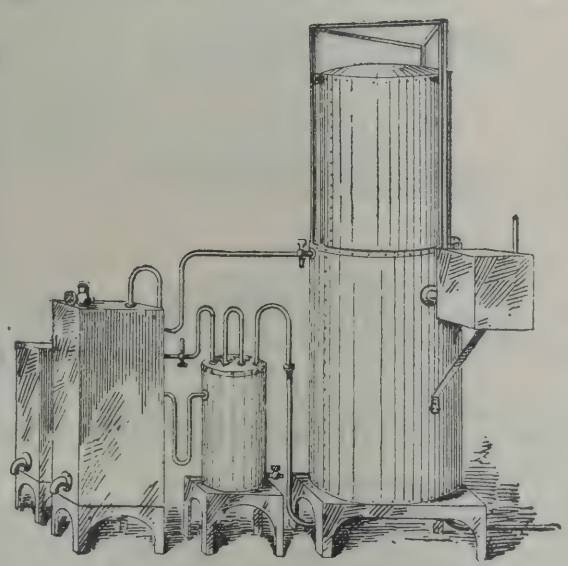
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ability of legislation should be fully and immediately considered by the Chamber, and that if an affirmative conclusion be arrived at, the matter should be remitted to a committee for the preparation of a suitable Bill, with such assistance as they may think proper to invite.

15. But meanwhile, and independently of legislation, it appears to your committee that much may be done if only the community will rouse themselves to the task. Your committee make with this view the following suggestions :—

16. The more frequent enforcement of the civil rights of the principal ; and they are advised that these rights may be thus stated :—

(*a*) A master or principal may recover from his servant or agent everything which has been received by him by way of secret commissions in the course of his service or agency, and if the accounts have been settled between the principal and his agent, and it can be shown in a single instance that the accounts are tainted with fraud or wilful omission, the accounts may be re-opened, and the agent be required to restate and verify them by oath.

(*b*) A master or principal may as a general rule dismiss without notice, or without payment in lieu of notice, any servant or agent who has received and not disclosed a bribe.

(*c*) A contracting party may repudiate and rescind any contract entered into through an agent who has received a bribe from the other side.

(*d*) A contracting party may recover from the briber and the bribed, or either of them, any sum which he has paid under the contract, and which in consequence of the bribe was in excess of the fair or market price.

(*e*) A contracting party whose agent has been bribed by the other party during the execution of the contract may, in spite of its being part performed, rescind and recover what he paid, both to the briber and the bribed.

17. The great benefits which may be derived from the enforcement of the appropriate civil remedy have been forcibly shown by the experience of a member of your committee, Mr. Oetzmann, the plaintiff in the well-known case before the Lord Chief Justice, who says :—

"My firm have had some experience in recovering sums of money from manufacturers and others. The most notorious case we had was Oetzmann *v.* Long. We had, however, found out others before that case. We compromised one case, in which we recovered about 15*l.* sums paid to our then late buyer. In Long's case we recovered about 120*l.*, and a considerable sum more as damages and costs. After Long's case we took up one or two others, in one of which we got 120*l.* before the issue of the writ, and in the other case we recovered 300*l.* after the issue of the writ with full costs; but that does not represent anything like the benefit we have received. We have benefited immensely by being able to buy cheaper. Immediately after Long's case we had many manufacturers calling upon us, some of whom we knew before, others of whom were more or less unknown, but who all said, now there is a chance of their doing business with us. In nearly all cases we were able to buy direct from the manufacturers, thus saving the middleman's profit."

18. Your committee further suggest:—That all professional and trade bodies (such as those representing the medical, legal, artistic and other professions and trades) be recommended to make an emphatic declaration on the subject of secret commissions and adopt the course already taken by the Royal Institute of British Architects, the Institution of Civil Engineers and other bodies, by inserting into their by-laws a stipulation that any member guilty of the pernicious practice will be expelled the Society by the Council. In order to make such a provision effective this would require the aid of the general public, as well as of the members of the several professions and trades.

19. That traders should make with all with whom they deal a definite agreement, similar to that entered into by the members of the Calico Printers' Association undertaking, that nothing in the form of a bribe, commission or present shall be offered or given by them to any one.

20. It would be highly advantageous if masters and principals when entering into engagements with servants and agents would call attention to the subject and make the refusal of all bribes an express instead of an implied term of the contract of service or agency. Such an explicit stipulation would probably give moral as well as legal support to servants and agents in resisting the temptation when offered under the pretence of a thing which is always done.

21. Your committee are of opinion that much good in many cases may be done by circulars or notices warning against the payment or receipt of bribes. In one case a nurseryman is in the habit of issuing a notice to all gardeners of his refusal to pay commissions on orders; in another case another of your committee having discovered the misdeeds of one of his buyers addressed a circular on the subject to all the firms from which he was in the habit of buying. In some cases notices have,

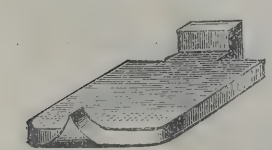
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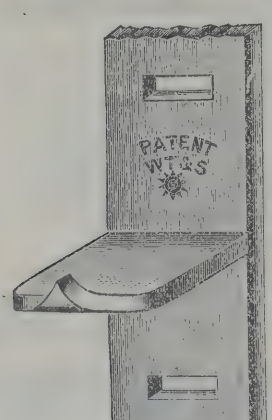
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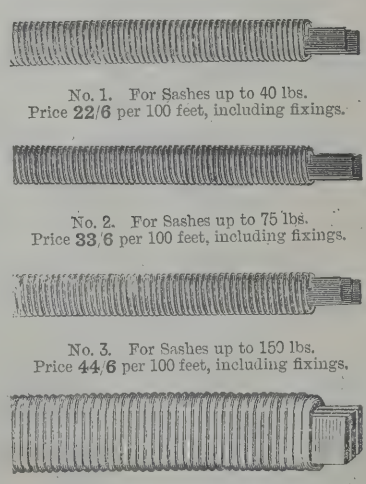


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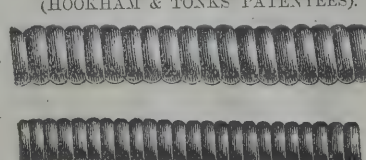


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your committee believe, been circulated by householders amongst the shops serving them warning them against the payment of commissions to the servants employed, and corresponding notices by the tradesmen to the servants of the houses which they supply would be useful.

22. Something may be done to check commissions by the exercise of increased vigilance on the actions and proceedings of the servants and agents employed, especially of buyers and salesmen and of persons employed to inspect and pass goods. If principals would always inquire for themselves why goods were refused, or why advice is given hostile to the particular manufacturers or tradesmen, they would sometimes find that the defect was not in the goods, but in the bribe. This necessity for vigilance applies with special force to the case of large institutions, such as workhouses, hospitals, asylums and to large commercial joint-stock concerns, such as railways and to co-operative stores.

23. In many cases buyers and others who are employed in very responsible positions and have very important duties to perform are paid inadequate salaries, and are thus rendered especially liable to the temptation of accepting bribes. This, in our opinion, demands the careful consideration of the heads of firms.

24. The existence of a great system of technical education throughout the country should be utilised as a means of disseminating clearer views than often exist of the immorality of the giving and receiving of bribes. The managers of these institutions would, no doubt, give the necessary permission and allow influence in the right direction to be brought home to the young people in their schools, whether by means of written papers or of oral addresses.

25. Lastly, your committee recommend the holding of a public meeting to call the attention of the public and all concerned to the heinousness of the system of secret commissions and its detrimental effect upon morals and business.

DAVID HOWARD, Chairman of Committee.

Adopted by the Council of the Chamber, July 7, 1898.

THOMAS F. BLACKWELL, Chairman of Council.
KENRIC B. MURRAY, Secretary.

SMALL HEATH BATHS, BIRMINGHAM.

THE Corporation of Birmingham are about to erect public baths at Small Heath. In July 1897 an estimate of cost was prepared amounting to 25,000*l.* A revised estimate was lately given. The *Birmingham Post* gives the two :—

The plans of the proposed baths were approved by the Council on July 27, 1897, and the estimate then submitted and also approved was as follows :—

1. Buildings, stack and boiler-house, including drainage, excavation and builders' work, complete ...	£16,000	1. Buildings, stack and boiler-house, including drainage, excavation and builders' work, complete (actual tender)	£26,475
2. Dwelling-house for resident engineer ...	400	2. Dwelling-house for resident engineer	
3. Engineers' work, viz. steam-engines and boilers, pumping machinery, hot and cold water services, enamelled baths, pipes, valves and fittings, complete ...	3,250	3. Engineers' work, viz. steam-engines and boilers, pumping machinery, hot and cold water services, bath, pipes, valves and fittings, complete	3,000
4. Cold-water reserve-tank, girders and supports	1,100	4. Cold-water reserve-tank, girders and supports, overflow, rising mains, valves, pipes and connections	1,100
5. Well and bore-hole	2,000	5. Well and bore-hole...	2,100
6. Electric-lighting plant, electric bells and internal fittings required in the several departments ...	750	6. Electric-lighting plant and internal fittings required in the several departments and branch library buildings adjoining	1,250
7. Architect's charges and clerk of works' salary	1,000	7. Architect's and quantity surveyor's charges, lithography and clerk of works' salary	2,200
8. Extras and contingencies	500	8. Builders' extras and contingencies ...	575
		9. Engineer's extras and contingencies ...	300
	£25,000		£37,000

The committee now submit the following revised estimate:—



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The committee requested the architect (Mr. Henry Martin) to supply them with an explanation of this large increase, and they have received from him the following report:—"The estimate given for this work in July 1897 was approximate only, and was based on a comparison of area and cost of the baths erected by you in Monument Road, as supplied to me at that time, and by the further assistance of a rough ground plan and a sketch elevation of the Green Lane frontage only, prepared at very short notice, there being then no other drawings prepared of any description."

At the meeting of the City Council on Tuesday Mr. S. E. Johnson, on behalf of the baths and parks committee, moved "That the minute in reference to the erection of baths at Small Heath be rescinded, and that the committee be authorised to accept the tender of 37,000*l.* from Messrs. B. Whitehouse & Sons for the erection of the baths." The expenditure on the suite of baths originally sanctioned was set down at 25,000*l.* He wished to say emphatically that the committee had not pledged the Council to any expenditure, and that they had not bought a single brick. The increase was due in a great measure to the advance in the price of labour and material. The committee were desirous of having a bath which would be pointed to as an example to be followed by other towns. The existing baths cost nearly ½*d.* in the pound, and this addition would not cost ¾*d.* in the pound.

Mr. Marsh, who seconded the motion, repudiated the idea that the committee and their servants were to blame for what had happened. Their instructions to the architect were distinct and definite. In June 1897 they were informed that the building would cost 22,000*l.*, and they asked for 25,000*l.*, but he was thoroughly convinced that in view of the present price of material and labour the work would not be done cheaper than the present estimate.

Mr. Lancaster moved as an amendment, "That in the opinion of this Council the sum of 25,000*l.*, sanctioned in July 1897 for the baths at Small Heath ought to be ample for that purpose, and this Council refers the report back to the committee to reconsider their estimate and report." He said he had never known an estimate jump up 60 per cent. in eighteen months. An architect who could not give an estimate within 10,000*l.* of the actual cost was not fit to carry out work of that character. He could not trust such an architect, and the committee ought not to.

Mr. Lane seconded the amendment, and Mr. Murray supported it.

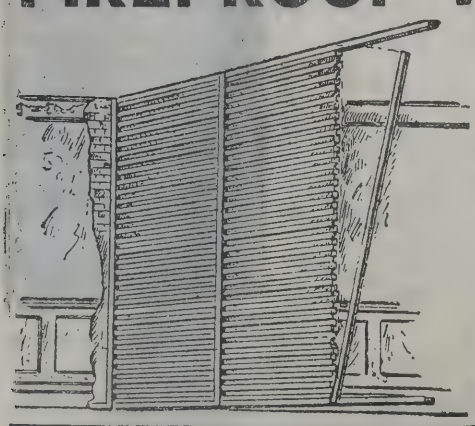
Alderman Cook said it seemed clear from the speeches of the chairman of the committee and Mr. Marsh that they were convinced that the report would not be adopted. They had excused the committee and its servants, and had made an onslaught on the architect. He could not now see how it was possible for that committee to bring up another scheme from the same architect, nor could he conceive how the architect could complacently work for the committee, especially in connection with those baths. The better way, therefore, would be to refer the report back for further consideration, the committee understanding that they should start again with a clean sheet. He did not suggest that full justice should not be done to the architect. He should be properly paid for what he had done, but he (the speaker) could not conceive how satisfaction could be given unless they got an entirely fresh architect and an entirely fresh set of plans.

Mr. Baker pointed out that the committee had no choice respecting the architect. He was selected for the purpose of building the free library at Small Heath, and it was understood that the baths committee were to take the same architect, in order that the building might be in character with the library. He, for one, never believed that the baths could be built for the sum mentioned, but they had the emphatic assurance of the architect that they could. Turning to the character of the building, he defended the proposals with respect to the internal fittings. The tiles would be a great saving in the cost of maintenance. For instance, they spent 20*l.* a year on Monument Road Baths as compared with 70*l.* on Kent Street, though they ought to spend 100*l.* a year on the latter place to make it decent. The gallery had been proposed because they understood the Council desired it. Were they, he inquired, to take out any of those things? He advised the chairman of the committee to accept the amendment.

Mr. Adie also thought it advisable that the report should be reconsidered.

Mr. Balden, as one of the representatives of Bordesley, expressed his desire to have the baths erected as soon as possible, but he could not vote for the report. He therefore moved, as an amendment, "That the report of the baths and parks committee be referred back, with instructions to confer with the quantity surveyors in consultation with the architect as to whether it is possible to effect any alteration in the plans, and consequently a saving on the estimates, without in any way

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npairing the stability of the proposed baths." He pointed out hat a serious thing it would be to take the matter out of the ands of the architect. Doubtless he had committed an error f judgment, but there were cases in which such an error should ot be visited too heavily on a man. It was a pity to bind the ommittee down to 25,000*l.*

Mr. Jephcott seconded this amendment.

Mr. Randall pointed out that in the report of July, 1897, ne gallery round the bath was mentioned, and therefore pro- ided for.

Alderman Barratt moved a further amendment that the eport of the committee be referred back for further considera- on, with a view to reducing the cost to as nearly as possible 5,000*l.*

Alderman White agreed that it would be proper to take the eport back.

Mr. Stembridge seconded Alderman Barratt's amendment.

The Lord Mayor inquired what was the mind of the Council n the question of employing another architect. The position as that they had employed an architect, and if they did not ake his work the rule of the profession was that he should be aid 2½ per cent. on the amount of his estimate.

Mr. Lancaster: On his original estimate.

The Lord Mayor having assented, proceeded to say that ney had had the quantities taken out, and the quantity urveyor would have to be paid on the builder's tender. That ork would be thrown away providing they had a new rchitect, because the present quantities would be of no se for fresh plans. Therefore, if they adopted the suggestion o go to another architect, it meant that at least 900*l.* was gone bsolutely. The explanation of the whole thing was very imple. The committee in 1897 brought out a report which mbodied the reports of their architect and of their engineer, nd on that the Council sanctioned an expenditure of 25,000*l.* n his report the architect mentioned the details and gave an stimate. He (the Lord Mayor) had seen the letter which eferred to the calculations of that estimate. The mis- ake was made in taking out the cubic contents on the asis of Monument Road, and the result was a figure lower nan that for most buildings with which he (the Lord Mayor) had had anything to do with the erection. The whole thing went wrong because too low a unit was aken. The extensions were immaterial, and the glazed bricks ormed part of the original plans. Would the committee, how- ver, do better by throwing over the architect and taking some- one else? He did not think they would get baths for 25,000*l.*, and if the committee accepted the amendment it would only mean that they would have to come back to the Council and say that they could not afford the accommodation for the money. He did, however, believe that a great deal might be cut out of the specification. There need be no ex- pensive ornamental elevation to two streets, and in other directions he was informed reductions might be made. The same architect built the free library, and the result was only 5 per cent. above his estimate. They were not without experi- ence in Birmingham of a similar mistake. In connection with the new general hospital they had to use the pruning-knife.

Mr. Lancaster pointed out that his amendment did not tie the committee down to 25,000*l.*

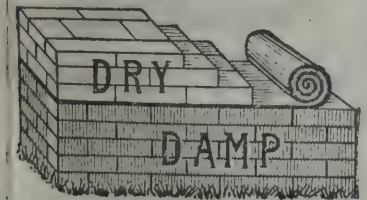
Alderman Parker thought a great deal of time would be lost if they employed a new architect, and if the present one was prepared to cut down to meet the feelings of the Council he should be retained. If not, then the committee would be justified in adopting another course.

The Lord Mayor intimated that the architect had expressed himself willing to go into the plans from that point of view.

Alderman Barratt's amendment was lost. At first the Lord Mayor announced a tie with respect to Mr. Balden's amend- ment, but on names being taken it was lost—twenty-three members voting for it and twenty-five against. The Chairman of the committee accepted Mr. Lancaster's amendment, and it was adopted as the substantive motion.

A MEETING of the Lancashire and Cheshire Antiquarian Society was held on the 3rd inst. at Chetham's Hospital, Man- chester, Mr. T. R. Sutton presiding. A paper was read by Mr. W. H. Sutcliffe on some recent explorations on Hades Hill, near Rochdale. He described the contents of a barrow discovered by Mr. J. T. Hill, Shawforth, including an urn and some burnt human bones. The absence of metal in the barrow pointed, he said, to the conclusion that it was formed before the Bronze Age of this neighbourhood, and that the urn was the work of the same race that made the flint implements found on the Rochdale Neolithic floor. The date could not be safely fixed, but it was very remote. Mr. Hill very kindly proposed to hand over the whole "find" to the March collection of flint implements in the Rochdale free library.

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THE BUILDING TRADES EXHIBITION.

THIS year's Builders' Exhibition, which promises to be a record one, will be opened on April 26 by Professor Aitchison, R.A., F.R.I.B.A., supported by Sir Arthur Blomfield, R.A., Mr. E. Vigers (president Institute of Surveyors), Mr. G. F. Fellowes Prynne (president Architectural Association), and most of the leading architects in London.

Special features of this year's exhibition will be the electrical section and the smoke abatement section. In the latter of these gold, silver and bronze medals and certificates will be awarded for the best domestic appliances obviating the smoke nuisance. These medals have been officially designed by Sir W. Richmond, R.A.

SOME USEFUL INVENTIONS.

MESSRS. WALLACH BROS, of 57 Gracechurch Street, E.C., are the proprietors of some very ingenious safety appliances which deserve to be better known than they at present are. Foremost among these we may mention their patent Automatic Belt-lifting Apparatus, by means of which slipped belts can with facility be replaced on the moving pulleys or drums without the dangerous necessity of climbing a ladder or otherwise jeopardising the safety of the operator, which has been many times the cause of serious and, not infrequently, fatal accidents. This appliance is very simple in construction and manipulation, is comparatively very inexpensive, and by its means a pulley can very quickly be replaced. Another fruitful source of danger is obviated by the use of their patent Gauge-glass Protector, which is an effective safeguard against injury by broken glass thrown about by the bursting of gauge-glasses. The "Evertrusty" gauge-glass protectors, made by a patented process from the best quality of clear white glass, toughened, and having strong wire netting embedded therein, will stand almost any pressure or shock to which they may be subjected through gauge-glasses bursting behind them. Tests of the severest character have demonstrated that glass made in the manner described is unapproachably the most suitable shield which can be interposed between gauge-glasses and the boiler attendants or other persons in the vicinity. To show that these protectors are the most efficient and reliable in the market, it is only necessary to mention that, whereas ordinary toughened glass has been known to fly at a pressure of 40 lbs., the protectors under notice have not been in the least injured by shocks developing a pressure of 440 lbs. (nearly 30 atmospheres). A further advantage is that, even if the glass of the protectors were to be injured, it would not fly, owing to the presence of the embedded wire, an advantage which is sufficiently obvious.

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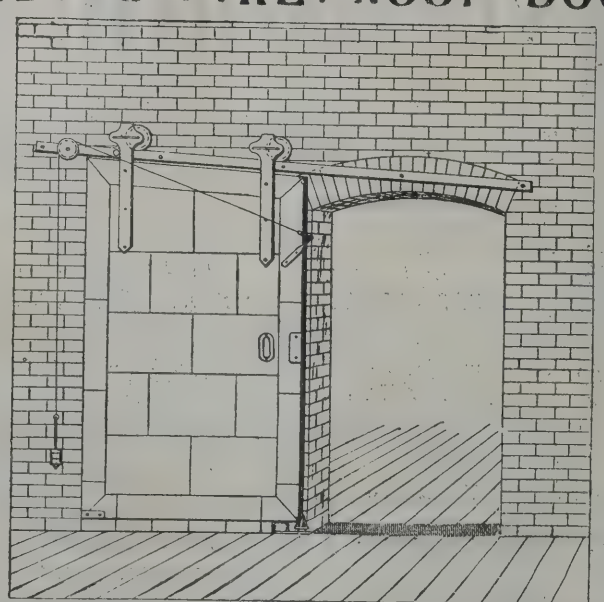
THE GREAT DAM AT ASSOUAN.

ACCORDING to the *Egyptian Gazette*, the preliminary work necessary before the actual construction of the permanent dam can be even commenced began as soon as the contract was signed about the middle of last February. Immediately the necessary legal formalities had been completed plant of all descriptions poured into Assouan and Assiut. The contracts for the delivery of the material were entered upon at once, and the machinery was not long in arriving. All the machinery was sent direct from England. In fact, every piece of machinery, plant and material was of English make, so Egypt can rest content that she has had all that the best engineering workmanship in the world can produce. The plant began to arrive at Alexandria in March, and before the end of that month a great deal had arrived at the first cataract. Most of it was taken from Messrs. John Aird & Co.'s reserves of plant in England and elsewhere. At the same time buildings arose with extraordinary speed amidst the waste of desert and granite that stretches from Assouan to Philæ. Surveyors also appeared on the scene and the preliminary surveys were made. All this took place barely within a month after the contract had been signed. There was not a single moment's delay. Although the work is to take five years not a day had to be lost, for this enormous undertaking is of vital

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nportance to Egypt. Thus it was that the ink on the contact had scarcely dried before the Nubian Valley was filled ith an animation that it had not seen since the granite quarries the first cataract swarmed with the workmen of Rameses the reat. As soon as these first steps had been made the workmen began to arrive. Arrangements for getting the hands gether were commenced in March, and ever since then reams of Italians have been coming to Shellal. The rm has agencies established throughout Italy, chiefly Turin, for engaging these men. The granite at the st cataract is hard and requires special, skilled men to ork it. Of course there are any amount of granite-workers in e neighbourhood of Aberdeen who are just as good as the alians. But the expense of getting them here would be eater, their wages are higher and they would be less able to and the heat than the Italians. These men are all picked orkmen. They come chiefly from the great granite districts Baveno, on the Lago Maggiore and Biella, in the neighbourood of Turin. As soon as they are engaged they have their res advanced to them, and come out direct. There are now out 350 of these men, but this number will be trebled as e work advances. The firm are very contented with their alian workmen. They look a fine set of men, and their beaviour is excellent. The rest of the men are Maltese, Syrians, reeks and Arabs. There are also a few Soudanese. It is a rious thing that the local Nubian has been found to be solutely incapable as far as this work is concerned. The he and sinewy fellows that work so hard dragging a habeeyeh up the cataract cannot stand settled labour. They e only useful as boatmen, and it has been found simple aste of money to employ them, Consequently all the native bour has to be imported from Upper and Lower Egypt. The llah is a good workman, and agents are continually travelling roughout the country selecting capable men and drafting em down to Assouan. The pay of the natives is quite double e ordinary wage rate for such labour in Lower Egypt. Owing the desert that extends along the banks of the river in the eighbourhood of the first cataract, the firm has to find ccommodation for every man it employs. Some idea of the ousing of these men may be gathered from the numbers that e employed. These workmen are over 4,000 in number. he maximum number of labourers that will be employed will e between 7,000 and 8,000 at Assouan alone. Together with e hands at Assiut they will reach the enormous total of 6,000 men. These men are cutting up the very stone that was worked in the age of the Pharaohs. Oftentimes the marks of wedges used thirty centuries ago are found on blocks of granite that are being quarried to-day.

Twice a day a tremendous cannonade is heard. This is caused by the blasting operations. The explosive always made use of is gelignite. There are no less than twenty-two quarries for dressing granite ashlar, and there is a countless number of quarries for procuring rubble. The whole structure will be formed of granite. The excavations are being carried down to the bed-rock in order that the dam may be able to withstand the hydraulic pressure that it will have to bear. No actual masonry has been yet begun. All efforts are being concentrated on the work of getting down to the bed-rock. The actual building of the permanent dam will, however, commence in a few weeks' time.

After the plant commenced to come out from England the next great task was to build lines of railway to and from every point of the works. Then these lines had to be connected with the short but important line that unites Assouan to Shellal. At the present time about five miles of railway have been constructed. A large amount of coal is used on these railways and elsewhere in the works, and nearly all of it comes from England. The limestone for making the mortar, which, of course, is a most important item in the work of construction, comes from Reghama, south of the ancient sandstone quarries of Gebel Silsileh, from which the blocks used in the greater part of the Egyptian temples were taken. There is a very large quarry here, and hundreds of men are at work cutting out the limestone. As soon as the stone has been quarried it is sent up the river on boats to Assouan. Although a large quantity of limestone will be used for mortar the greater portion of the dam will be built of Portland cement. Another important part of this great hive of industry that has arisen as if by magic in the desert is the staff and special workmen. We have dealt above with Arab and ordinary labourers, but there is an enormous mass of trained men besides. There are quantities of civil engineers, mechanical engineers, carpenters, stone masons, stone dressers, quarrymen, blasters and miners. Then there is the staff. At the present time it numbers about fifty or sixty, but it is constantly being increased. The clerical staff is divided into the pay department, draughtsmen and timekeepers. The medical staff is also a necessary result of this great agglomeration of human beings. There is a complete hospital on the works, and a very nice, airy building it is. It contains about three dozen beds and a permanent medi-

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cal staff, and a number of nurses are attached to it. Another important department is the catering. When we paid a visit to the neat building which contains the restaurant we saw a table d'hôte ready laid which would have done credit to a first-class hotel. Adjoining the restaurant there is an excellent billiard-room for the amusement of the staff and their friends. Close by are large dining-rooms for the Italians and the other European workmen. The natives employed on the works mess themselves, but large quantities of bread are made for the Arabs, as, owing to the neighbourhood being almost totally uninhabited, they would otherwise have to go all the way to Assouan for their bread. Not only food but shops are also required, and quite a bazaar has arisen in the formerly deserted spot. Here are now spruce-looking shops; tailors, shoemakers, grocers, butchers and other shops have been set up. A café and a very respectable looking public-house have also been set up. There are also branch shops scattered over the works for supplying the men in the various parts of the work with provisions. A church is being built on the works. This edifice has not been finished yet, but will be ready for worship in a week or so. It is a charming little building, and is intended to chiefly satisfy the spiritual wants of the European workmen. Another important department is the police service. Owing to the great number of men of all nationalities and all classes who are engaged on the works, it is very necessary that precautions should be taken to prevent any disturbances breaking out. Police quarters are now being built. A resident officer and a staff of policemen will be quartered there permanently. The conduct of all the workmen has been excellent up till now.

It is impossible to enter into the financial details of the work at the present time, for everything depends on how far it will be necessary to go down in order to get to firm foundations. The works will take the full time specified in the contract before they are complete, and so there is another four years to run yet before the dams will be in working order. As soon as the season of the High Nile begins the work in the river will cease. A considerable portion of the construction, however, comes above the level of the Nile flood, and work will be continued without intermission on this part of the work. At the same time there will be plenty of work to be done in making preparations for commencing work in the river as soon as it begins to subside and also in getting everything ready for next season.

Sir Benjamin Baker, K.C.M.G., LL.D., F.R.S., who was the joint engineer of the Forth Bridge, is the consulting engineer for the works, both at Assouan and Assiut. Sir Benjamin is now in Egypt, and, in company with Sir William Garstin, K.C.M.G., and Mr. John Aird, M.P., has visited the works. The director-general of the two reservoirs is Mr. Wilson of the Irrigation Department. Mr. Fitzmaurice is the resident engineer at Assouan.

Mr. John Aird put in an appearance at the House of Commons on Monday for the first time this session, having arrived in London on Friday night after a somewhat prolonged visit of inspection to the works which are in progress under his direction on the Nile. The hon. gentleman, says the *Times*, who received a cordial welcome, states that the excavations at Assouan and Assiut have now been carried far enough to enable a start to be made with the actual foundations of the dams, the construction of which will, it is expected, be entered upon next week. To give an idea of the magnitude of the scheme, it may be noted that 6,000 workpeople are already employed at Assouan, and between 2,000 and 3,000 at Assiut, 90 per cent. of these being natives. Amongst the Europeans engaged are some 500 Italians, of whose industry and skill Mr. Aird speaks very highly. Before returning to England the member for North Paddington had an interesting interview with the Khedive, who was much gratified to hear that the work of the Egyptian labourers was giving great satisfaction to the contractors.

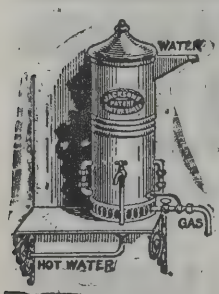
SEWER GAS.

THE following directions for dealing with foul gas in sewers have been prepared by Mr Joseph Corbett, the borough engineer, for use in the county borough of Salford. Whenever men have to go down into an old and foul sewer or cesspool the following precautions must be taken:—

1. Open the lids of two adjacent manholes so as to provide a down-cast and an up-cast shaft; or if only one manhole is available and there is no other outlet by an open sewer or vent pipe, place a wooden tube about a foot square down the one manhole for use as a down-cast shaft.

2. Use one manhole, or the wooden pipe above described, as a down-cast shaft, by means of a heavy shower of water from a large watering can with a rose jet, or else from a rose jet on a hose pipe from the town's water mains.

3 Where there are two manholes near together, use one for the downcast shaft, by means of the shower of water above



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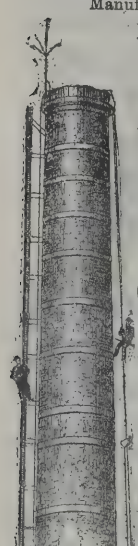


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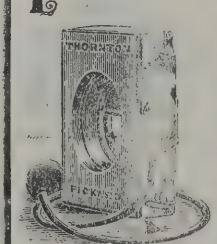




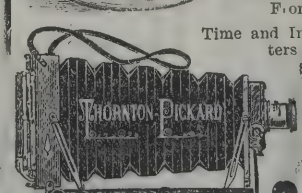
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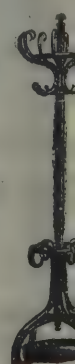


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scribed, and use the other for the hoisting and working aft.

4. Test the air in any shaft before men go down it by vering a lighted candle down it. If the light burns dull, en without going out, the shaft must not be entered. Venti- e the shaft as before described and test it again; and do t enter it until a light will burn brightly in it.

5. Beware of any mixture of combustible or explosive gas the sewers or their manholes, and if any signs of such gases e found, obtain skilled men and safety lamps from some lliery, and let those men direct the work, giving them the lp of ventilation, &c., as before described.

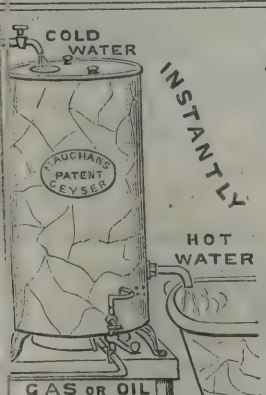
6. When a man has to descend a risky manhole or shaft he ust have a strong rope properly tied about his shoulders, so at he could be lifted by it, and the rope must be kept in nd ready to lift him up if he becomes overpowered by the s.

When a man has to crawl along a risky sewer he must have short rope securely tied to his ankles, and a rope from it to nd so as to draw him back if he becomes overpowered by le gas.

7. In any case of special difficulty or danger, report the se immediately to the borough engineer, so that he may take le responsibility of the work.

A MORTAR-MILL AS A FACTORY.

JDGMENT has been given in the Court of Appeal in one of le most important cases arising out of the Workmen's Com- pnsation Act, viz McNicholas *v.* R. F. Dawson & Son. The llowing report is taken from the *Times*:—The case raised vo questions of importance, one being of considerable diffi- ulty owing to the Act defining "factory" by reference to the ovisions of the various factory Acts. The appellant was the idow of a deceased workman named Patrick McNicholas, ho at the time of the accident causing his death was a work- an in the employment of the respondents, Messrs. Dawson & on, who were builders engaged at the time in erecting a post- fice and some other buildings. McNicholas was employed to ok after a steam-engine in an engine-shed and a mortar-pan, s duty being to fire the boiler, to start the engine and oil it, nd to oil and feed a mortar-pan, which was outside the engine- hed in the open air. The engine was used for grinding mortar r the post office, from which it was distant about 20 yards. Across the middle of the engine-shed was a revolving shaft worked by the engine and placed about 4 feet from the ground. The engine-shed had a full-sized door at the side furthest away from the mortar-pan, and there was a small door 4 feet high at the side of the shed nearest to the mortar-pan. This small door was sometimes used for ventilating the engine-shed, and it opened from the inside, and the man workmg at the engine would have to pass under the shaft to go to this door. The deceased man had been forbidden to go out of the shed by this small door. Upon the morning of August 6, 1898, at about 6.55 A.M., the deceased man called to an outdoor labourer named Smith, who was employed at the mortar-pan, asking him if he was ready, and upon being answered in the affirmative the de- ceased man started the engine, and about two minutes afterwards Smith heard a rattling noise, and upon going into the engine- shed he saw, as he stated in his evidence, a bundle going round the shaft, and he stopped the engine and found it was the deceased man, who died shortly afterwards. No one saw how the accident happened. It was the duty of the deceased men after having started the engine to go to the mortar-pan. The evidence showed that the proper way to the mortar-pan was by the main door, and that if the deceased man wished to go out by the small door he would have to creep under the shaft in order to reach it. The oil can used for oiling the engine was found on the shelf where it was kept when not in use, thus showing that the accident did not happen when the deceased man was oiling the engine. Two main questions were raised. First, whether the accident arose out of and in the course of the employment, within section 1, subsection 1, of the Workmen's Compensation Act, 1897; and, secondly, whether the steam-engine was a "factory" within the meaning of section 7 of the Act. There was also a question whether the deceased man, in disobeying his masters' orders not to use the small door, was guilty of "serious and wilful misconduct," within section 1, subsection 1 (*c*), of the Act, so as to bar the claim for compensation. The County Court judge, in his judgment, said that the engine shed and the engine were a "factory" within section 7 of the Workmen's Compen- sation Act, 1897; that the deceased man had not been guilty of serious and wilful misconduct; and upon the question whether the accident arose out of and in the course of the employment, he said that in the circumstances it was probable that the deceased man was trying to creep under the shaft and was caught by it while doing so; that his duty after he had started the engine was to



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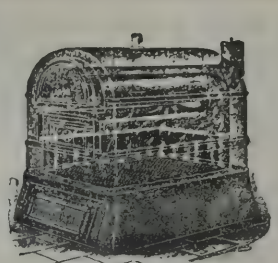
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go out of the front door to the mortar-pan, and that this would not have required him to go near the shaft; that the deceased was probably "in the course of" his employment when the accident happened, but that the appellant must go further and prove that the accident arose "out of" the employment, "Smith *v.* Lancashire and Yorkshire Railway Company" (1899, 1 Q.B., 141); and that the evidence showed that the ordinary course of duty of the deceased would not have taken him near the shaft, and that no evidence showed what induced him to go near the shaft; that it might have been some object of his own, or it might have been his intention to go out of the small door, which he was forbidden to do, and which his employment in no way necessitated; it was true that it might have been something connected with the engine which his duty required him to perform, in which case the accident would have arisen out of the employment; but in his opinion it was left absolutely uncertain whether it did or did not arise out of the employment, the balance of probabilities being rather that it did not; and as the burden of proof was on the appellant, he held that she had failed to prove that the accident arose out of the employment, and he therefore gave judgment for the respondents. The appellant appealed. By section 1, subsection 1, of the Workmen's Compensation Act, 1897, "if in any employment to which this Act applies personal injury by accident arising out of and in the course of the employment is caused to a workman," his employer shall be liable to pay compensation. By subsection 2 (*c*), "if it is proved that the injury to a workman is attributable to the serious and wilful misconduct of that workman, any claim to compensation in respect of that injury shall be disallowed." By section 7, subsection 1, "This Act shall apply only to employment . . . on or in or about a railway, factory," &c. By subsection 2 "factory" has the same meaning as in the Factory and Workshop Acts, 1878 to 1891, and also includes any dock, wharf, quay, warehouse, machinery or plant to which any provision of the Factory Acts is applied by the Factory and Workshop Act, 1895. . . ." By section 23, subsection 1 of the Factory and Workshop Act, 1895, "The following provisions, namely, . . . (V.) The provisions of this Act with respect to the power to make orders as to dangerous machines shall have effect as if (*a*) every dock, wharf, quay and warehouse and, so far as relates to the process of loading or unloading therefrom or thereto, all machinery and plant used in that process; and (*b*) any premises on which machinery worked by steam, water or other mechanical power is temporarily used for the purpose of the construction of a building or any structural work in connection with a building w included in the word factory. . . ."

Mr. Macaskie and Mr. E. W. Perkins, for the appell contended that the accident arose out of and in the cours the employment. Even if the deceased man was attempti contrary to his orders, to pass under the shaft so as to go by the small door it would still be in the course of his empl ment, as it was his duty to go to the mortar-pan, and accident would have arisen out of the employment.

Mr. Ruegg, Q.C., and Mr. A. Powell, for the responde contended that the appellant had not shown that the accid arose out of and in the course of the employment. If deceased man was going out of the small door he was do what he was forbidden to do, and in such a case it could be said that the accident arose out of and in the course of employment. Everything was left in doubt, and the appell had not discharged the onus upon her. Secondly, this was an employment within the Act. It was not a "factory" wit the definition in section 7, subsection 2. It was admitted t this was not a factory within the Factory Acts, 1878 to 18 To make it a factory it must come within that part of definition "dock, wharf, quay, warehouse, machinery or pl to which any provision of the Factory Acts is applied by Factory and Workshop Act, 1895." These words referred section 23, subsection 1 (V.) (*a*), of the Factory and Works Act, 1895, where the words were repeated, and did not refe clause (V.) (*b*), which related to premises on which machin was. The material words in this case of the definition in s tion 7, subsection 2, of the Act of 1897 were "machinery plant," and section 23, subsection 1 (V.) (*b*), only applied "premises" on which no doubt machinery was used. Th temporary sheds used in connection with building operati were never intended to come within the definition of fact and so to be brought within the Act of 1897.

The court allowed the appeal.

Lord Justice A. L. Smith said that the first point taken that no evidence was given that the accident to the decea man arose out of and in the course of the employment. Wo not anyone say, upon the facts proved here, that the accid arose out of and in the course of the employment? The decea man started the engine on the morning in question, and minutes afterwards he was killed. The County Court ju said that it was consistent with the evidence that the decea man might have been going towards the small door for purpose of going out of the shed that way, which he

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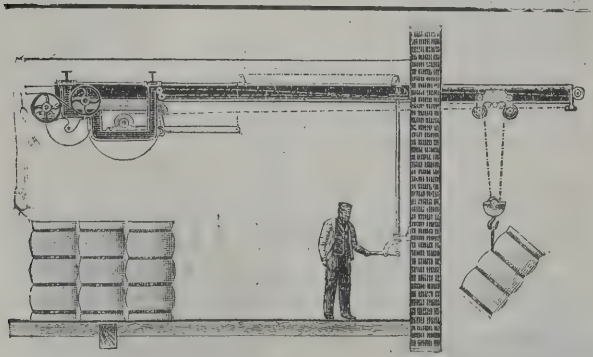
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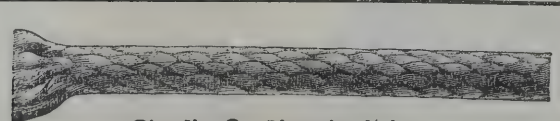


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essly forbidden to do, and that therefore it was not proved the accident arose out of and in the course of the employ- it. That holding came to this, that if a workman went by a ng way from one point of his employment to another an ry happening to him while doing so would not rise out of in the course of his employment. The learned judge felt self hampered by the decision in "Smith v. Lancashire and kshire Railway Company" (1899, 1 Q.B., 141), a case ch also came upon appeal from him. In that case a et-collector, after he had finished collecting the tickets, ped on to the footboard of the train after it had started made a remark to some one, and was killed in ing off. The learned judge in that case found as a that "the deceased was not actually engaged in any act ervice at the time of the accident, and did not get on to footboard for any object of his employers, but for his own sure." In face of that finding this court held the accident not arise "out of" the employment. How on earth could court have held otherwise in the face of a finding of fact the deceased man got on the footboard solely for his own sure? In the present case, assuming everything against appellant, assuming that the deceased man was going out e engine shed by the small door, which he was forbidden o, and assuming that he acted rashly and negligently in g so, how could the court absolve the employers from lity in the absence of serious and wilful misconduct on the of the deceased, which the judge had negatived in this case n the ground that the accident did not arise out of and in course of his employment? In his lordship's opinion, ing the case most favourably to the respondents, the dent to the deceased arose out of and in the course of his loyment. Upon that point therefore he was unable to e with the decision of the County Court judge The next tion was an important one, namely, whether the employ- t of the deceased man came within the Act of 1897. Was employed on or in or about a "factory" within the ning of section 7, subsection 1? To get at the defini- of factory one must look at subsection 2 of that sec- "Factory" was to include, among other things, any hinery to which any provision of the Factory Acts was lied by the Factory and Workshop Act, 1895 Turning to ion 23 of the Factory and Workshop Act, 1895, it seemed him that the Legislature had by subsection 1, clause (V.) and (*b*) made certain things factories to which the provisions he Act with respect to the power to make orders as to dangerous machinery were to apply. Supposing the machinery specified in clause (*b*) was defective, would not justices have power to make orders with respect to it? In his opinion the machinery specified in clauses (*a*) and (*b*) were both brought within the definition of "factory" in section 7, subsection 2, of the Act of 1897. In his opinion the engine in the present case came within section 23, subsection 1 (V.) (*b*), inasmuch as it was worked by steam for the purpose of grinding mortar, and was temporarily used for the purpose of structural work in connection with a building. The engine therefore came within the definition of a factory in section 7, subsection 2, of the Workmen's Compensation Act, 1897. The judgment of the County Court Judge must therefore be reversed.

Lord Justice Collins was of the same opinion. The evidence showed that the man's duty was to fire the boiler, to start the engine, to oil it, possibly to open the small door to ventilate the shed, and to go out to the mortar-pan. The evidence was that on the morning in question he started the engine, and in two minutes he was found involved in the machinery. The question was whether those facts amounted to evidence that the accident arose out of and in the course of his employment. His Lordship agreed that the onus of proving that lay upon the appellant. It came to this, Was there evidence to go to a jury that the accident arose out of and in the course of his employment, because the County Court judge did not decide upon the evidence, but said in effect that there was no evidence fit for the consideration of a jury? The highest that the case could be put against the deceased man was that he was killed while attempting to go out of the engine-shed by a dangerous way under the shaft, which he was told not to do. But it was just as much part of his duty to get out of the engine-shed as to go into it, and it was in the course of his employment to do either. The Workmen's Compensation Act, 1897, did not make negligence in the employer a condition of recovering compensation. It was not necessary to prove negligence in the employer, and it was no answer to a claim for compensation to prove negligence on the part of the claimant. If the claimant showed that the accident arose out of and in the course of the employment within the Act, then the employer, in order to escape liability to pay compensation, must show that the injury was attributable to the serious and wilful misconduct of the workman. The consideration of mere negligence, therefore, was out of place, and it was sufficient if the claimant could show that the accident arose out of and in the course of the employment, though the workman might have been negligent at the

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NOTICE OF REMOVAL.
During the Rebuilding of the Strand Premises, which have been occupied by "THE ARCHITECT" for the last 30 years, the Editorial, Publishing, and Advertisement Departments have been removed to the
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time. Very probably there might be such a negligent act on the part of the workman so entirely outside his employment as would make the negligent act causing the injury not within the course of his employment at all. But here the accident arose out of and in the course of the employment, and if there was any negligence at all, it occurred in the course of the employment. There remained the second question. Section 7, subsection 1, enacted that the Act should extend to employment on or in or about a "factory." It was contended that this was not a factory within the meaning of the Act. That compelled the court to examine what he must call this extraordinary mode of legislation upon the point. A factory was defined by reference to the Factory Acts, 1878 to 1891—it was admitted that this case did not come within those Acts,—and it was further defined as including any dock, wharf, quay, warehouse, machinery or plant to which any provision of the Factory Acts was applied by the Factory and Workshop Act, 1895. That obliged him to refer to section 23 of the Act of 1895. That section applied a number of provisions in the Factory Acts as to dangerous machines to certain subject matters therein specified. The principle of the section was that it constituted certain things a "factory;" by subsection 1, clause (V.) (*a*), it constituted certain things, including machinery and plant used in certain processes, a factory; and by clause (V.) (*b*) it constituted something else, which was not machinery alone, a factory, namely, premises on which machinery worked by steam, water or other mechanical power was temporarily used for the purpose of the construction of a building or any structural work in connection with a building. It was said that clause (*b*) did not constitute the machinery a factory. But the legislation was for the purpose of enabling the authorities to make provision as to dangerous machinery, and on looking at it it was addressed to dangerous machinery in a factory. That explained why one must first get the factory. Turning back to section 7, subsection 2, of the Workmen's Compensation Act, 1897, one found that the word "factory" included machinery to which any provision of the Factory Acts was applied by the Factory and Workshop Act, 1895. In the Act of 1895 one found that premises on which certain machinery was was made a factory, and to that machinery the provisions of the Act was to be applied. Therefore, the machinery became a factory within the meaning of the Workmen's Compensation Act, 1897, and so there was a factory within a factory. By this indirect legislation there was this machinery in a factory, which machinery was itself a factory. The machinery, therefore, in this case became a factory, and the deceased man was employed on or in or about a factory at the time when he met his death.

Lord Justice Romer delivered judgment to the same effect.

Lord Justice A. L. Smith asked whether the case must go back to the County Court judge.

Mr. Perkins stated that the compensation had been agreed at 180*l.* 1*s.* 11*d.*

The Court gave judgment for the appellant for this amount, the County Court judge to apportion it between the widow and the children; the appellant to have the costs in the county court and on the appeal.

Mr. Ruegg, Q.C., applied for a stay of execution pending an appeal to the House of Lords, if such an appeal were decided upon, as the decision involved consequences of serious importance to the building trade.

The Court refused to stay execution.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

24188A. Max Villaret and Johann Baptist Wahlen, for "Improvements in means for transporting bricks and the like."

3737. George Brown Davis, for "Improvements in urinals."

3793. Moses James Adams, for "Improvements in closets and flushing apparatus."

3814. John Francis Hearne and Thomas Whitehead, for "The Hearne ventilator."

3838. Charles William Cummings, for "Improvements in fanlight and casement openers and fasteners."

3916. Samuel Clark, for "Improvements in syphon-flushing cisterns."

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CATHEDRAL SERIES, No. 210.—DURHAM: NORTH PORCH.





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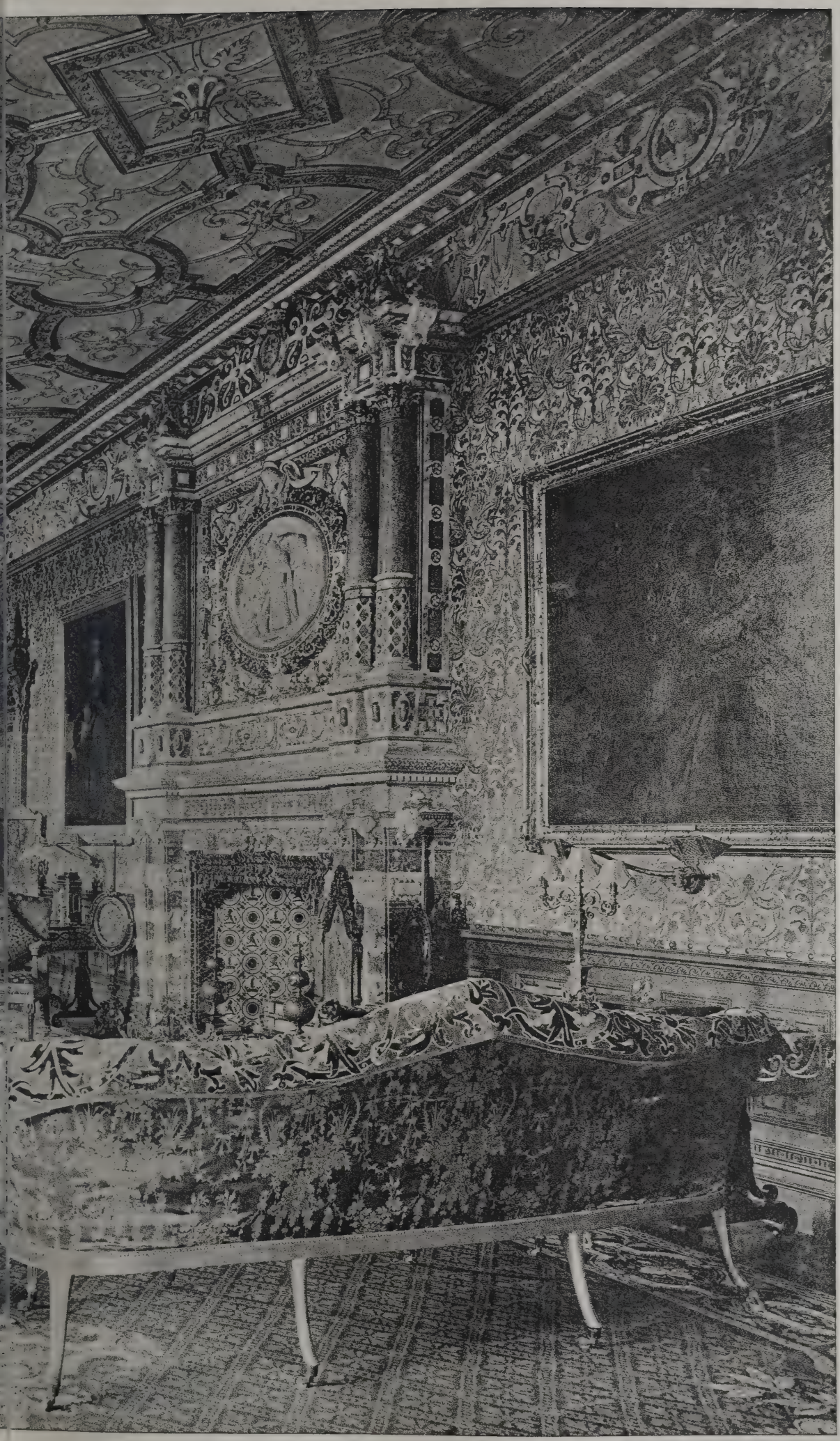
INK-PHOTO. SPRAGUE & Co L.to 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

CATHEDRAL SERIES, No. 209.—DURHAM. NAVE, LOOKING EAST.



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CATHEDRAL SERIES, No. 211.—DURHAM: GALILEE DOORWAY, LOOKING WEST DOWN NORTH AISLE OF CHURCH.

The Architect.

THE WEEK.

E London County Councillors are not the advisers ractical man would care to consult about the training of kmen. The Council's staff of selected men are not ch esteemed, and it is only with one class of contracts y are likely to be satisfied. Regardless of prejudice, ch in this case is well founded, a special sub-committee the Council have been inquiring into the educational uirements of members of the building trades. Several nesses were heard, and a large report has been issued. e conclusions adopted are as follows:—1. That every rt be made to lengthen, with Parliamentary sanction, present term of school life, including a raising the legal age for leaving school, and that between teen and fifteen opportunity should be afforded special instruction in manual training and drawing. That no restriction whatever should be placed upon the ons attending theoretical classes in technical subjects rt from the general requirements that the members of class should be capable of profiting by the instruction ded. 3. That, with a view to enabling artisans to me qualified as general foremen, mechanics belonging ny branch of the building trades be permitted to attend the theoretical and practical classes in other branches he building trades. 4. That learners under 19 years of and improvers should be permitted to attend practical es, provided that they show sufficient familiarity with rade to render their efficient training possible without e interference with the progress of the class. 5. That committees should be appointed to visit and report the classes in each trade, and discharge the other s indicated in the report. 6. That in the teaching of urely trade classes (evening) and in the examinations ected with them, more stress should be laid on ods which secure mechanical skill and quickness of manship, as well as on theoretical knowledge, and nts should not be encouraged to expend an undue nt of time and labour upon elaborate models of no ical use. 7. That, as far as possible, the teachers ld be actually engaged in the trade in which instruction en by them. In order to secure this, special classes ld be instituted to qualify competent mechanics to be ers, and for this purpose the polytechnics should be as centres of normal training. The last is the most rtant recommendation, for it is a departure from the e usually followed in technical education in this try.

HANTILLY to-day presents a very different appearance t it which Dr. JOHNSON saw when he visited the Château e CONDÉS in 1775. Now it is one of the lordliest re-houses of Europe. Then it was more of a gerie than a palace dedicated to art. All that struck JOHNSON were the remains of animals. "What I mber," he said, "were the jaws of a hippopotamus rved, which, however, is so small that I doubt its y. Nothing was in spirits, all was dry." The simplest rt would now receive a different impression from the f the Duc D'AUMALE to France, and consequently are more English visitors and others than were ted in Dr. JOHNSON'S days. So many attend that in to facilitate entrances and exits it has been decided en two gates to the park instead of one. Other ements are adopted which will enable visitors to ne the collections with more ease than was possible ar. Chantilly will be reopened on Saturday, April 1, se who wish to pay an entrance fee in order to study rks of art unimpeded by a crowd, and on April 16 e public, who can enter without charge on Sundays hursdays during the season.

ARCHITECTS must have been glad when they saw the of Mr. BUTTERFIELD attached to the memorial g to Vauxhall Bridge, for it proved that the venerable was still anxious to see art applied to construction—iple he represented so well. It has become necessary for Mr. BUTTERFIELD to come again before the public about another subject. Ritualists are charged with the introduction of the arrangement by which there is a separation of sexes in churches. St. Alban's Church, Holborn, and All Saints', Margaret Street, were assumed to be evidence. Mr. BUTTERFIELD, as our readers are aware, was the architect of both buildings. In a letter to the *St. James's Gazette*, he says that for the former building he suggested to Mr. HUBBARD, who was paying for the work, that he should arrange with any clergyman to whom he might offer the incumbency that the division of sexes should be adopted there, as being the most certain way of ensuring that it should be a free and unappropriated church. Ritualism had not then asserted itself, and Mr. HUBBARD had no leanings in that direction. At All Saints'—the work of Mr. HENRY TRITTON and Mr. BERESFORD HOPE—it was settled from the first moment by the two founders that there must be a separation of sexes, for the same reason which afterwards influenced Mr. HUBBARD at St. Alban's. So-called Ritualism had nothing to do with it. We suppose, however, in spite of Mr. BUTTERFIELD'S assumption of responsibility, it will continue to be believed that the separation was a clerical innovation rather than an arrangement which was rendered necessary to secure unappropriated sittings.

ONE of the deficiencies of the National Gallery is the fewness of the works which are representative of French art produced during the century. An opportunity lately presented itself which would allow of one most characteristic work being added to the collection. The Princess DE SAGAN possessed the *Odalisque Couchée*, by INGRES, a painting that was popularised by engravings. Like so many of the master's works, it was a nudity, but it displayed his splendid draughtsmanship, which has become proverbial. The trustees were divided in opinion about its fitness for a public gallery in London, and by a majority of one it was decided to decline the offer to purchase the work. The picture was immediately secured for the Louvre, in order to prevent the possibility of a foreign government obtaining it. In an age of impressionists, INGRES' careful work is ridiculed because it is a satire on hasty production. But the opinion in which it is held by the conservators of the Louvre is indicated when we find one of the most admired of French works, LEOPOLD ROBERTS'S *Italian Harvesters*, has been removed to make room for the *Odalisque*. As a corrective of careless work the picture would be most useful in Trafalgar Square.

ONE of the consequences which are sure to arise wherever a majority of the so-called "working men" will be found in a public body was indicated by a motion which came before the Dublin Municipal Council last week. It was proposed that henceforth meetings of the Council and committees should be held not earlier than seven o'clock in the evening, except in the few cases where the hour is governed by Act of Parliament, so as to give the labour representatives an opportunity of carrying out the duties entrusted to them by the electors. What the change in the hours of meeting to accommodate the representatives of labour would entail was explained in a statement signed by the borough engineer, the city architect and other officials. The Council's offices must continue to be kept open during the day, and those having charge of them could not escape attendance, although they would be required for the nightly meetings. The latter would be as numerous as they are now in the daytime. It appears that in 1896 there were 760 committee meetings, in 1897 there were 822, and in 1898 647—an average of 743 meetings yearly, equivalent to two meetings every evening, Sundays and holidays included. To require officials to attend an equal number of meetings after seven P.M. would be to ask them to work for periods which no body of employés would willingly undertake, and no employers, on careful reflection, would think it expedient to demand. The labour representatives have not yet supreme power in the Dublin Municipal Council, and it was therefore agreed to delay action by submitting the question to a committee of the whole house. The officials of local authorities are hereafter not likely to wish for "working men" to become their masters.

SIR DOUGLAS GALTON.

THE Royal Engineers would be justified in adopting as one of their mottoes, "Peace hath its victories no less than war," for on the rolls of the officers many names appear of men who have been as useful to the State in civil capacities as those who have won a reputation on the field. It requires some self-denial and a strong sense of duty to take the side of peace. If, as Dr. JOHNSON said, "Every man thinks meanly of himself for not having been a soldier," then a soldier who is unable to take part in the operations of war must suffer more. But there have to be victims in all professions, and military engineers cannot hope to be exempt from supplying them. The late Sir DOUGLAS GALTON, who died on Friday last, was one of those men who might have aspired to high rank as a soldier, but although he rendered loyal service to the army from time to time his whole professional career during half a century was a civilian's. From his position as a Royal Engineer he was more trusted by the Government than if he were an ordinary civilian, but all his work could have been done by a civil engineer or a civil architect. About his ability there could be no question, for he was only eighteen when he gained his commission. That was in 1840. England had not then even a little war on hands, and GALTON was obliged to go through the usual routine of the corps, in which construction in various forms is an element. It is an advantage for a young sapper that he can endeavour to distinguish himself in the eyes of superiors without incurring the charge of trying to supplant his fellows. With the engineers contingencies are always occurring; demands are sometimes made by officials for men who are equal to undertake novel services, and sooner or later there is scope for ability which at first sight would not appear to be soldierly. DOUGLAS GALTON found such a chance when he was twenty-five.

Railways were then projected in numbers that excited some alarm among those who were supposed to be responsible for the lives of the people. If there were only cuttings and embankments necessary, with bridges consisting of stone or brick alone, the risks would be of little account. But roads and rivers and valleys were to be crossed, where a bridge of masonry or brickwork would be of no use. It was proposed to substitute iron, but where was the guarantee that every engineer who put his name on parliamentary plans was acquainted with the properties of iron? The examination of witnesses before committees made it plain that there was little agreement among engineers about the degree of strength which was necessary to insure safety. It was also uncertain whether the jarring caused by the transit of trains was injurious to the bridges. There were many other problems to be investigated, and accordingly a Royal Commission was appointed to report on the application of iron to railway structures. It should be remembered that in those days when iron was mentioned cast-iron was understood. Captain GALTON was appointed secretary to the Commission. As the most efficient member was Professor WILLIS, of Cambridge, it is needless to say elaborate calculations had to be undertaken, and the array of figures which expressed the results of the experiments was enough to appal an ordinary engineer. The report appeared in 1849, but by that time cast-iron for railway bridges was almost entirely superseded by wrought-iron. The investigation was creditable to all who took part in it, and the tables are occasionally referred to, but so much labour did not produce the advantages which were anticipated.

His experience as secretary was enough to make GALTON wearied with mathematical calculations and testing with delicate apparatus. He therefore accepted an appointment as one of the inspectors of railways under the Board of Trade. An inspectorship is a responsible but not a disagreeable office, and it does not mean hard work all the year round. In the course of three or four years GALTON was advanced to a position which allowed him less leisure, for he became secretary to the Railway Department. His patience endured the coiling of red tape for over five years, but in 1860 he resigned.

There was no leisure for a man of his calibre. He had proved by a dozen years discharge of various duties that he was trustworthy and versatile. Captain GALTON became the "general utility man" of applied science, but he wa no advocate of circumlocution or centralisation. From h experience he knew that Government officials were n more than mortal, and he was no advocate of handing ov to them business for which they did not possess specia aptitudes. Hence it was that he opposed many specialis who were advocating the purchase of railways by the Stat His attention was not confined to railways. At one tim he was employed on a commission for investigating th most favourable conditions for laying submarine telegrap cables, at another time he acted as referee on the projec for the disposal of the metropolitan sewage. He wa against the Barking outfall, and recommended another sp lower down; but if NAPIER'S scheme for utilising the sewa on the flat lands of Essex had met with financial suppo Barking Creek was as eligible a place for the transfer sewage to a different conduit as could be selected. A the scheme had to be abandoned, the main-draina system of the Metropolitan Board of Works for Nor London remains incomplete, and in consequence the Tham is polluted.

Sewage schemes served as an introduction of GALT to a new field of activity, that of sanitation, and thencefo he could be considered as waging war against an excessi death-rate. The losses which were caused in the Crim by the absence of provision for sheltering sick and wound men made people realise the relation between buildings a health. Evidence equally startling might have been fou in ordinary dwellings, but there could be no more impressi object lesson than was furnished by the ill-effects of barra and military hospitals. A commission was appointed inquire into the condition of the two classes of buildings home and in the Mediterranean stations. Captain GALT was a member. The report which followed was startli It was decided to set about the erection of hospitals o new type, and GALTON was asked to design the fi example—the hospital at Woolwich which bears the na of SYDNEY HERBERT, who was Secretary at War. As innovation it gave rise to much controversy, and at a la period the designer would probably have adopted differ arrangements, but considering the circumstances of time it must be considered as a courageous effort to dep from stereotyped plans.

The War Department still retained its hold on Cap GALTON. For a couple of years he rendered it efficient vice as Assistant Inspector-General of Fortifications. T he performed what was probably the most courageous of his life by accepting the post of Assistant Under-Secre for War. He was too anxious to have work done Pall Mall. He persevered for seven or eight years in hope of accomplishing reforms, but, like other brave m he was compelled to succumb to the clerks. After he left he was secured for the purpose of attempting reform the Office of Works. He was to look after construc while Mr. LAYARD was to foster good taste; but that turned out a forlorn hope. It is much to be regretted the tyranny shown to ALFRED STEVENS was exercised v Captain GALTON was in office, although we hope he not a voluntary agent in it.

The formation of the Sanitary Institute, which was in a great measure to an army doctor, enabled Ca GALTON to bring his large experience to the aid o general public in suggesting improvements in dwel His own suggestions were valuable, and his example support to other men who were labouring in the cause. He had no cut and dried rules. He insisted each building should have special treatment for wa and ventilation according to its position, design, uses, struction, &c. In that case he became the oppone empiricism, and helped to save the public that listen his advice from falling into the hands of the so- "practical man." He invented an excellent venti fireplace, which was sufficiently simple and efficie serve for use in barracks, but which could be employ rooms of all kinds. It was only natural he should b in its superiority, but he always endeavoured to rend strictest justice to the merits of its rivals. He continu be an earnest supporter of the Sanitary Institute his end.

That was not the only honorary work which h formed. Few men of our time rendered more faithfu

ces to the public in a quiet way. In Worcestershire, here he resided of late years, he was one of the most tive of public men, and he seemed to be quite content go through onerous duties with as little self-seeking as if were engaged as a subaltern in siege work. Although stiny kept him from the tented field, he always acted as if oved by the soldier's instinct, and in that way set an ample which it would be an advantage if many imitated. t the Great Review he must appear as a faithful rvant, who did the work entrusted to him with all his ight.

SYSTEMS OF DISTRIBUTING AND GENERATING ELECTRICITY.

By F. J. Warden-Stevens.

(*Concluded from page* 157.)

Transformers.

CLOSELY allied with dynamos are transformers, which have already been referred to several times.

A transformer is an apparatus for transforming or chang- electric current from one pressure to another without ring the total amount of energy. A transformer is ally used for changing pressures of 1,000 volts and vards, as used on high-pressure mains, to 100, 150 or volts, as used in consumers' premises. The current is reased in practically the same ratio as that in which the ssure is decreased.

An alternating current transformer consists essentially two coils of wire—one of many fine turns, and the other few thick turns, each quite independent of the other trically, but wound on one magnetic circuit, such as a inated iron core.

The principle of working is the same as in a dynamo. coil connected to the main generator magnetises alter- ly the iron, the magnetism of which passes through the from which the current is to be taken, and it will be that the action is just the same as if a magnet is moved nd out of this second coil, or passed in front of it as in lternator. A pressure is induced in the second coil h is proportional to the number of turns. Thus, with- any moving parts, but by adopting alternating current ad of continuous current magnets as used in alternators, pressure may be changed and current supplied, though ourse without motion the energy delivered cannot be ed.

A continuous current transformer is similar in principle, the exception that rotation is necessary. The two are wound as before described, but on the armature, h has two commutators. The one side receives the ent, the commutator transforms it into an alternating ent, which is transformed to the other coil, whence the ent is commuted into a continuous current by the other mutator. A small magnetic circuit is provided, just cient to cause the armature to rotate as a motor, but is its only use.

The voltage on the one side is a fixed proportion of on the other, and cannot be altered except by the tion of a small dynamo, the field of which can be d and which operates on one winding only. This gement is sometimes adopted, but is an additional lication.

Another form of continuous current transformer is a r coupled direct to a dynamo; the motor receiving the nt from the main generators and being direct coupled s the transformer dynamo running at a different ge. This latter method is not so efficient as the r, but it has the advantage that the voltage on the mo side can be varied independently of that on the r side without special apparatus.

Both the above classes of continuous current trans- rs may be used for converting continuous to alter- g current or *vice versâ*, by replacing one of the com- tors by two or more slip rings, from which the ating current is collected, as previously described.

Rotary transformers are also used for the purpose of sing the pressure on a circuit, which action is called sting." The motor side of the apparatus is connected across the mains as a shunt to the main current, which is carried through the dynamo side on its way to the trans- formed circuit. In passing through the dynamo its voltage is augmented by the voltage there generated. This is often arranged as a series machine, increasing the voltage with the current passing, which is the condition that has usually to be provided for, such as on a feeder supplying a distant portion of the network, where the pressure has to be higher than on the other feeders. Boosters are also used for charging accumulators from a constant-pressure circuit, the pressure having to be increased as the cells become fully charged. Alternating current transformers are often used as boosters, as already described, there being, of course, no moving parts.

A few words may here be said with reference to trans- former sub-stations. In large districts it is necessary to supply the distributing mains from several centres, in which case a transformer sub-station is necessary to contain the apparatus. These sub-stations are often constructed under the streets, but if possible the basements of houses are secured. The chief necessities are that the sub-station shall be waterproof and well ventilated. The great drawback to almost all forms of sub-stations is the "sweating" of walls when in contact with the ground, and this can only be prevented by isolating the chamber from direct contact with the ground, which can be done by means of non-con- ducting packing, air-ventilated bricks or bitumen. Asphalte lining for sub-stations is also frequently used, as it has a surface which does not deposit moisture. One of the best ways to effectually prevent the deposit of moisture is to ventilate the space thoroughly.

Switching Gear.—This is a most important part of the arrangement in electricity-supply works, and it requires very careful consideration, more than it perhaps sometimes receives.

It is requisite that a switchboard or switch panels, which contain measuring and regulating instruments and switch gear, should be in a prominent and accessible position, and it should be kept quite clear of all inflammable material. Safety from fire is one of the essential points consistent with good practice, and any switch panels should be designed with this as the primary object. Appearance is not a factor which should be studied when it necessitates a large quantity of woodwork. Some switch panels are now made with absolutely no inflammable material, all instru- ments being mounted on slate slabs fixed to an iron frame and all connections being of bare copper.

Switch panels may be made to combine safety with good appearance without the use of woodwork, and even if ordinary cables are used for connections it is impossible for a serious fire to occur. The walls, floors and ceilings within several feet of the switching arrangements should be fireproof, not only to prevent fire spreading to other parts of the building from the switch panels, but also to protect the switching arrangements themselves from the effect of fires in other parts of the building. Once the switch-gear is damaged a failure of the supply is almost inevitable, as it cannot very well be duplicated.

It is essential that switch panels should contain the following :—

For each dynamo—fuses, ammeter and switch, and perhaps shunt regulator.

For each feeder—fuse and ammeter.

For each battery of accumulators—fuse, automatic switch, ammeter and multi-contact switch for regulation.

For the whole arrangements—main and feeder voltmeters.

By means of these instruments everything that it is essential should be known can be easily ascertained, although there are many other less important points which it may be desirable to know. In works where the alternating current system is in use, it is necessary to have "synchronising" apparatus—that is an electrical device, as before mentioned, which shows when two alternators to be paralleled are in step. This apparatus consists usually of a transformer wound with three coils, one for each dynamo and the other for a pilot lamp. The coils are wound so that when the dynamos are in step, the two coils assist each other and the pilot lamp is bright. When the two dynamos are out of step the pressures are in opposite directions, and consequently the lamp does not light. The lamp is, of course, quite visible all over the engine-room,

and as a rule it is supplemented with a voltmeter of strong construction at the switching panels for greater accuracy.

The main voltmeter should possess a very open scale, and it should also be unaffected by temperature or stray magnetism.

Accumulators.—The use of accumulators in electricity supply works is extending rapidly. A few years ago many continuous current supply works were in operation without storage batteries, or only very small ones, and batteries were never adopted in alternating current works. Now large batteries are erected in every continuous current works, and small ones in most alternating current works.

The advantages of accumulators are chiefly the convenience of storage. A battery may be charged during the evening, taking the balance of the power of the dynamos not required by the lights, which will supply the demand from midnight until the next afternoon. This reduces the cost of attendance, the cost of coal, and the wear and tear of plant. The cost of a storage battery is, taking it to discharge in three hours at a given rate, about the same or rather less than that of a boiler, engine and dynamo to give the same power; and, this being the case, it is economy to adopt accumulators as a stand-by. Unlike running plant, it can always be drawn upon at a moment's notice in case of breakdown, and is independent of boilers or engines. There are a few disadvantages, such as rather high cost of maintenance and the necessity for skilled attention. Accumulators have a further advantage when used direct on the mains—they act as automatic regulators, especially where gas-engines are used. The battery absorbs any extra current which may be generated in excess of that required by the mains, and gives out any current required owing to less being generated than required, without altering the pressure perceptibly. The above of course only applies to continuous current supply.

In alternating current works the batteries are usually used in connection with the exciting circuits, and for the works, lights and pumps. This is economical, especially at time of light load, as no auxiliary machinery need be run, and the attendance and coal required may be kept down to a minimum. In some works the use of accumulators has gone even further. The light load itself is supplied from the accumulators by one of the continuous to alternating current transformers already mentioned, and the battery is charged in the evening by the same machine taking in the alternating current and supplying the continuous current to the battery. This has been found to remove one of the chief objections to the alternating current system, viz. the fact that the plant (engines and boilers) had to run uneconomically for sixteen out of the twenty-four hours.

It may be well to briefly describe the principles on which the accumulator works. The storage is not of electricity but of energy. The usual form of accumulator consists of two plates or sets of plates immersed in dilute acid; when the current is passed through the liquid the water in the acid is decomposed and oxygen is given off at one pole and hydrogen at the other. Usually the plates are essentially lead in a finely-divided form, and the oxygen oxidises one plate, but the hydrogen has no effect on the other unless it has become sulphated by contact with the acid, when it reduces the sulphate to pure spongy lead. In this state the accumulator acts as a primary battery and will give out current, the oxidised plate becoming reduced to lead sulphate and the spongy lead plate to sulphate. When both plates are again in the same condition the cell is discharged and must be recharged again by passing current into it.

Each cell has a pressure of two volts on discharge whatever its size, and so half as many cells must be provided as the pressure required, with a few to spare.

Buildings.—Very much might be said on the subject of buildings for electricity supply works, but it is certain the fact that the shape of the site, the type of machinery to be used and local conditions have a great effect upon the arrangements of buildings, and no one plan is applicable to all circumstances.

The requirements of the engineer should be laid before the architect, and the latter can then design a building to suit the means of the company or local authority. The chief points to consider are durability, ventilation, convenience and ease with which extensions can be carried out. It is a condition of economy in working a steam plant that the engines shall be as near to the boilers a possible, and that as extension becomes necessary th average distance shall not increase. It follows from thi that the most economical arrangement is to form th buildings so that the boilers are extended in the sam direction as the engines. The usual arrangement is t build the works in two parallel bays, the boilers being i one and the engines in the other. The offices are place at one end, usually near a road, and the other en is closed up temporarily. A wall separates the tw bays, and the steam pipes come through this wal When any extension takes place the bays are lengthene and when everything is finished and the new plant installe the temporary partition is removed to the new end of th works. By this means extensions can be carried out wit out interfering with the working of the plant, and witho allowing dust, grit, &c., to fall on the machinery. Th latter point is very important, as it is essential to kee running machinery free from grit, as otherwise hot bearin are liable to occur, and may be ruined, to say nothing the possible failures in the supply. The arrangement the buildings suggested here cannot be adopted universall as the shape of the site may be unfavourable; local circu stances must be considered. It is, of course, very necessa to have the building of such a shape that a travelling cra can easily be fitted, and the "bay" construction specia lends itself to the use of travelling cranes. It is importa that there shall be no pillars or other obstructions in t centre of the engine-room, as this prevents the travelli cranes from being used to advantage.

The walls of the building should have their foundatio independent of the engine foundations, and the foundatio should be, if possible, resting on different strata. If the precautions are attended to, the building will not suffer fr vibration. The floors of the engine-room should be form from the engine foundations as much as possible, and the should be ample allowance for pipe trenches, &c.

OPEN SPACES IN LONDON.*

IN his pleasant book about London, LEIGH HUNT rela his introduction to a child who had seen but one t a solitary example which grew in St. Paul's Churchy Whenever a tree was mentioned she thought it was that no other. LEIGH HUNT was describing the state of kn ledge on arboriculture among Londoners about fifty y ago. He considered their ignorance was wilful, for, as said, "There is scarcely a street in the City of Lon perhaps not one, nor many out of the pale of it, from s part of which the passenger may not discern a tree." there were many residents in the City besides his friend who had either failed to observe the branches leaves, or who had not travelled far enough to e the sight. There were in those days not trees, but flowers growing in London. HUNT ass his readers, as if it were something wonderful, a the existence of a real garden in Watling S which lay "completely open to the eye, being divided the footway by a railing only." HUNT was not ashame his cockneyism, although men like WILSON and LOCKH who were familiar with country scenes, were able to rid him for the extraordinary importance he attached to s and flowers and vegetation on a small scale. A man could say, "A flower put in a window in the streets great city affects the eye something in the same w the hand organs," was supposed to be inspired pettiness that was fatal to any claim to be consider poet. HUNT knew that men could be pent up in Lo until the love of nature gradually declined, and he tri suggest to them how that love could be recreated o served by the aid of reminders which the poorest were to afford. When he was imprisoned for two year saying that the Prince Regent was no longer youn beautiful, he covered the walls of his cell with room having a pattern of trellis-work and ivy leaves. I way he endeavoured to compel his imagination to per him that he was in Italy instead of in Horsemonger

* *The Municipal Parks, Gardens and Open Spaces of L their History and Associations.* By Lieut.-Col. J. J. Sexby. London: Elliot Stock.

What was remedial for himself he supposed was no less efficacious for others, and he advocated the bringing of nature within view of all, as a tranquilising agent that could make life more endurable. Hunt and the other representatives of the "Cockney School of Poetry" were despised by critics who were able to scale mountains and roam through woods, but the longings after something more than grimy streets have had beneficial results, and in spite of its growth and the increased value of sites, there are more green oases within the Metropolis than were to be found in the days when Hunt, Keats and Hood were compelled to describe nature out of their own consciousness.

It will hardly be credited that at present there are about 250 open spaces in which the Londoner can take his ease as if they were his own property. Some are small, being no more than disused churchyards, while others contain hundreds of acres. But they are all assigned to the service of the public, and they are as a rule conserved in a way that is satisfactory. It cannot be said that from the positions the character of the adjoining streets is always enhanced. The spaces had to be taken whenever the opportunity offered, and it would be useless to wish that occasionally they could be shifted to spots where more effect would be produced from their appearance.

The parks, gardens and open spaces are not as well known as they merit. It gave a shock to many people when they heard that Battersea Park had suddenly become a resort for fashionable cyclists. The choice was supposed to be as whimsical as the slumming explorations. It was not realised that the park is very different to the forsaken place which seemed adapted for amphibian animals alone when it was acquired in 1846. The "Fields" were so dreary the dangerous classes knew there was safety in them. A missionary, in describing some of the scenes which were common in Battersea, said, "If ever there was a place out of hell that surpassed Sodom and Gomorrah in ungodliness and abomination this was it." The prejudice which was then excited in the minds of respectable people is not yet entirely removed. But a visit to Battersea Park will reveal a victory that is comparable to the Northern Farmer's when he "stubb'd Thurnaby waäste"—the sub-tropical garden, the Alpine garden, the lakes, lawns, cricket grounds and other attractions make the park become a Garden of Eden for many of the inhabitants of the district. Victoria Park is supposed to be completely monopolised by "East Enders," and is too remote to attract Society for cycling or other novel diversion. It may not suggest the overcoming of so many physical difficulties as Battersea, but it would be hard to decide between their claims to attention. Near it is another open space called Meath Gardens, formed out of a speculative cemetery that was a failure. Most of the money for the purchase of the land from the owners was obtained by donation through the agency of the Metropolitan Gardens Association.

The liberality of rich people has been repeatedly exemplified in the acquisition of open spaces in the Metropolis. Sir Sydney Waterlow presented his estate on Highgate Hill containing 29 acres, with 6,000*l.* to purchase 2¾ acres that were held on lease. The park is, compared to others, what a small collection of cabinet specimens would be to a "general collection" of paintings. It has a piquancy which is peculiar. Another benefactor to the Metropolis was the late Sir Spencer Maryon Maryon-Wilson, who presented about twelve acres at Charlton. Baron Grant also purchased Leicester Square and made it over to the Metropolitan Board of Works, not in the condition he received it, but as we see it now, adorned with sculpture and laid out as a public garden. The gifts in land and money from individuals, however, acquired only a small fraction of the parks, gardens and open spaces belonging to the Metropolis. It was from the rates the greater part of the money was and will be derived. Both the Metropolitan Board of Works and the London County Council have often acted wrongly, but much may be condoned on account of the courage shown in the acquisition of lands for the general benefit. All divisions of the Metropolis now possess open spaces which rich and poor are able to enjoy.

The history of the transactions which have ended in the attainment of so large an area of public land is well deserving of narration. As the negotiations were mainly carried out by public bodies, the usual indifference to them has followed. The public can appreciate the results, and they are heedless about the procedure which had to be passed through. Colonel Sexby has therefore rendered a service to London by narrating how the parks and other open spaces were secured. From his practical acquaintance with a surveyor's business, he is in a position to understand all that was done, and he has spared no pains to prepare a record that will be accurate. But he is not satisfied with treating of finance. It happens that the most important acquisitions have an historical interest. The events, traditions and legends are described, and the volume is consequently well adapted for the general reader, while the archæologist will find in it information which would have to be sought through a large number of books. A glance at the index is sufficient to show how numerous are the associations connected with the open spaces.

The associations are so abundant and interesting, it is difficult to attempt a selection of them. Those of the Victoria Embankment Gardens alone would be sufficient, without wandering beyond them. Essex and Arundel Streets recall the ancient mansions which were the scenes of many historic events. In Arundel House the Royal Society found a local habitation. When it was proposed to remove the building the Society returned to Gresham College. Instead of a new mansion a street was laid out on the site, and the contrast between past and present inspired Gay to write some bitter lines on the innovations. Recalling the riches of the old house in Classic sculpture and paintings by Italian masters, he said :—

> Behold that narrow street which steep descends,
> Whose buildings to the slimy shore extends ;
> Here Arundel's fam'd structure rear'd its frame,
> The street alone retains the empty name :
> Where Titian's glowing paint the canvas warm'd,
> And Raphael's fair design with judgment charm'd,
> Now hangs the bellman's song, and pasted here
> The coloured prints of Overton appear.
> Where statues breath'd, the work of Phidias' hands,
> A wooden pump or lonely watchhouse stands.

Adelphi Terrace, which overlooks the gardens, was a speculation of the Brothers Adam. Garrick lived in the centre house during the seven last years of his life. There he surrounded himself with the fine things the leaving of which, as Johnson told him, would make a death-bed terrible. The riverside at Chelsea is associated with memories of Dante Rossetti, who lived in Cheyne Walk. Within a few doors is the house of Daniel Maclise, R.A., which was afterwards occupied by George Eliot for a few weeks before her death. Lincoln's Inn has a too-enduring memorial of Sir John Soane, for the appearance of it scares people from seeing its contents. Tennyson lived in an attic in the Fields, and Dickens was constantly visiting No. 58, where John Forster resided. But artists have avoided the place, although Inigo Jones has cast glory on it. In Red Lion Square Benjamin Robert Haydon, the painter, once lived, and Henry Mayer, who painted a portrait of Charles Lamb. Grose, the antiquary, possessed a house near Wandsworth Common. The name of Vanbrugh is inseparable from Blackheath. Sir Balthazar Gerbier, architect, painter, and probably spy, lived close to the Bethnal Green Gardens. Hogarth and Reynolds were inhabitants of Leicester Square. Many other memories linger about the gardens, and Colonel Sexby's volume will enable those who visit the open spaces to take a mental interest in them. Great care has been exercised in compiling the information. It is only in everyday matters which are common knowledge, such asnames of the architects for the School Board offices, that the author occasionally stumbles. In so comprehensive a work slips are to be forgiven. The pages are liberally illustrated with reproductions of old prints as well as of photographs. Altogether the volume deserves to be possessed by those who take an interest in the public gardens of London.

Mr. George E. Clare, M.S.A., who has been practising at 66 Duke Street, Chelmsford, has taken into partnership Mr. Walter G. Ross, and opened a London office at 1 West Street, Finsbury Circus, E.C.

LONDON TOPOGRAPHICAL SOCIETY.

THE annual meeting of this Society—the first of its reconstituted existence—was held on the 9th inst. in Clifford's Inn Hall. Lord Welby presided. The report of the organising committee stated that the origin and formation of that committee are recorded in the general report of the late Topographical Society presented with the handbook, which contained views and maps of London published by the former Society. The present organising committee, which includes several members of the Council of the old Society, have been administering the affairs of the new body, of whose aims and scope they have issued a prospectus. This document has been widely circulated among students, members of archæological societies and others likely to be interested, with the result that a considerable number of members have joined. The subscriptions received for 1898, added to the moneys taken over from the late Society, have enabled the committee to undertake publications in the first year of its existence, and to weld together the resources of the old and of the present societies. The existing stock of the publications brought out by the members of the old Society has not been allowed to suffer depreciation, and during the committee's administration subscriptions for these works have been received amounting to about 60*l.* Besides the handbook already referred to, the committee have issued the first series of an "Illustrated Topographical Record." One of the publications of the first year of the Society's existence is Porter's Map of London, *circa* 1660, which shows London as it was shortly before the Great Fire, and affords a glimpse of the London wherein Shakespeare dwelt, of which the original is in the possession of the Society of Antiquaries. Having in hand a series of drawings by Mr. Elmslie illustrating the changes in the topography of London during the existence of the old Society, the committee decided to bring out a second series of the "Illustrated Topographical Record." They had intended to bring out Norden's maps of London and Westminster, dated 1593, but felt constrained to make an alteration in their plans. As to proposed work, it is the committee's opinion that the reproduction of maps, views and plans of London should be their chief object, and for this purpose they recommended in particular a drawing of remarkable topographical interest acquired by the MS. Department of the British Museum. This is an elaborately detailed plan of the roads, &c., from Hyde Park Corner to Countess Bridge (what is now Addison Road railway bridge), in fifteen large sheets, made for the Kensington Turnpike Trust by their surveyor, Joseph Salway, and dated in Sloane Street in 1811. Of this the report contains an elaborate description, and recommends the issue of descriptive letterpress along with the maps, views and plans, on the lines of the handbook already brought out. If the "Illustrated Topographical Record" was to be combined, it would be a valuable piece of work for the Society to organise a complete photographic survey of London, both in the City and the county. The committee have a balance at the bank of 128*l.*, and received last year 224*l.*, including 76*l.* balance of last account.

Mr. Fairman Ordish, hon. sec., made a short statement. The draft rules, of which the most interesting to the general public was that which fixes the subscription at one guinea, were, with an amendment of detail, carried.

A motion was also carried regretting the inability of Mr. Henry. B. Wheatley to serve on the Council, and expressing the sense of the meeting of the great services which he had rendered to the cause.

The Chairman congratulated the Society on having secured Lord Rosebery as president. Elderly people were constantly reminded of the incessant changes being effected in London, and it would be a valuable work to keep memorials and drawings of London as it was from time to time. Sir George Scharf used frequently to take drawings of old buildings before they were demolished, and the preservation of such records and memorials tended to preserve the sense of continuity between the London of to-day and that of the past. It was to be hoped that the County Council would take an interest in the Society's labours, and it was satisfactory to have on the Council such men as Mr. Gomme, and the chairman and other members of that body. In the public offices were plans and records—one in particular, a plan of Whitehall of 1682—which were of great interest, and which enabled us to identify the actual site of the old Cockpit.

Sir Owen Roberts moved that the Council should put in hand a section or sections of the plans of the Kensington Turnpike Trust.

The motion was agreed to.

A motion was also carried in favour of the continuance of the "Illustrated Topographical Record," and interesting photographs taken from old drawings by Mr. Scannell of old London were exhibited.

Mr. Fairman Ordish, in moving a resolution in favour of the establishment of a Shakespeare memorial, by which the London of the poet's time might in its external aspects be realised, said that in the public offices there were many drawings of London between the dissolution of the monasteries and the Great Fire which would enable us to see London and its playhouses as Shakespeare saw them. A memorial volume of this kind might with advantage be published.

Mr. W. Poel seconded the resolution, and advocated the reproduction of Shakespeare's plays exactly as they were given in his day.

The motion, however, was lost.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of the Architects' Benevolent Society was held on Wednesday the 8th inst. at the rooms of the Royal Institute of British Architects, Professor Aitchison, R.A., presiding. There was a good attendance of members, amongst those present being Mr. Macvicar Anderson, Mr. H. L. Florence, Mr. Sydney Smirke, Mr. E. B. l'Anson, Mr. Wm. Woodward, Mr. J. T. Christopher, Mr. Zeph. King, Mr. T. M. Rickman, Mr. W. Grellier, Mr. Henry Dawson, Mr. Arthur Crow, Mr. W. Hilton Nash (treasurer), and Mr. Percivall Currey (hon. secretary).

The minutes of the last meeting having been confirmed, the Treasurer announced that donations had been received from Mr. Macvicar Anderson of 18*s.* 10*s.* and from Mr. J. M. Brydon of 5*l.*

Mr. Percivall Currey then read the report of the Council as follows:—

The Council of the Architects' Benevolent Society, in presenting their forty-ninth annual report, have the pleasure of congratulating the members of the Society on a year of useful work, in which much has been done to relieve the necessities of deserving applicants, the sum of 654*l.* 14*s.* 10*d.* having been distributed among thirty-nine persons. They have also to report that there has been an increase in the amount received in subscriptions (471*l.* 10*s.* as against 459*l.* 13*s.* received in 1897), and that the following gentlemen have added their names to the list of annual subscribers:—Mr. Cecil Orr, Mr. E. Monson, Mr. H. Huntly-Gordon, Mr. Sydney Perks, Mr. H. Alexander Pelly, Mr. John Ford, Mr. W. G. Cooke, Mr. H. P. Monckton and Messrs. Patman & Fotheringham. While there has been this increase in the subscriptions, the Council regret that there has been a considerable falling-off in the amount received in donations, the sum of only 105*l.* 12*s.* having been received, as compared with 300*l.* 17*s.* 7*d.* received in 1897. Amongst the donations the following may be mentioned:—Colonel Edis 21*l.*, Mr. Aston Webb 15*l.* 15*s.*, Dr. R. Rowand Anderson 10*l.* 10*s.*, Mr. A. Hessell Tiltman 10*l.*, Mr. George Inskipp, Mr. Wm. Woodward, Mr. W. West Neve, Mr. J. T. Christopher and Mr. G. Elkington 5*l.* 5*s.* each. The Tylers' and Bricklayers' Company also gave 5*l.* 5*s.*, Messrs. Patman & Fotheringham 3*l.* 3*s.* and Mr. Sidney R. J. Smith 3*l.* Various smaller sums were also gratefully received.

The steady increase in the number of subscribers during the past few years (the amount being now more than 50 per cent. in advance of that received in 1892) is however an indication that a growing interest is being taken in the Society, and that the work which it performs in assisting unfortunate architects, their widows and children is becoming more widely recognised. Still, the Council feel that the number of subscribers (a little over 300) is small compared with the number of practising architects who are in a position to contribute to the Society's funds, and they would cordially invite inquiries from non-subscribers as to its scope and objects.

It has long been felt that the Society would be more generally supported if its existence were more widely known, and with a view to extending the knowledge of its aim and work, your Council have recently had under consideration the question of an annual dinner. It was thought, however, that this would be undesirable at the present time, and that the same object might be served if the fiftieth anniversary of the Society, which would occur in 1900, were celebrated by a dinner. A small sub-committee has therefore been formed to make the necessary arrangements for such an event, and your Council trust that the committee's efforts will be heartily supported by members of the Society and by the architectural profession at large.

The proposal carried at the annual general meeting last year to increase the number of the Society's pensioners from three to six, and the amount of the pensions from not less than 15*l.* to not less than 20*l.*, was confirmed by a subsequent general meeting specially convened for the purpose on July 13. The available pensions were therefore duly advertised at the beginning of the present year in the professional papers and the *Times*, and allotted to the most deserving candidates.

The Council have much regret in recording the death of three of the oldest members of the Society, Professor Hayter Lewis, Mr. J. J. Edmeston and Mr. T. C. Hine. Professor

ıyter Lewis, who has bequeathed 100*l.* to the Society, was e of its original members, and one of its most generous bene- tors. He served on the Council on many occasions and ted as honorary treasurer with advantage to the Society from 36 to 1889. Mr. Edmeston had been a subscriber since 1860 d had also served on the Council. Mr. T. C. Hine was an ginal member and acted as a corresponding member of the uncil from 1855 to 1870.

Seven meetings of the Council have been held during the ar, the average attendance at each meeting being eight.

The following gentlemen, being the five senior members, tire by rotation from the Council, namely, Mr. Arthur ow, Mr. E. A. Gruning, Mr. G. T. Hine, Mr. Arthur Cates d Mr. Aston Webb. To fill the vacancies caused by these tirements, the Council have the pleasure to nominate Sir thur W. Blomfield, Colonel R. W. Edis, Mr. Edwin T. Hall, r. T. M. Rickman and Mr. R. A. Briggs.

The Council, in closing their report, desire to express their nse of the indebtedness of the Society to the Royal Institute British Architects for office accommodation, &c., and to the ficers for their always helpful courtesy.

On the motion of Mr. Macvicar Anderson, seconded by Mr. ph. King, the Council for the ensuing year of office was ected as follows :—

Mr. Aston Webb, Mr. H. L. Florence, Mr. J. T. Christopher, r. Sydney Smirke, Mr. W. Grellier, Mr. E. W. Mountford, r. R. H. A. Roumieu, Mr. W. Woodward, Mr. E. B. I'Anson, r. E. H. Martineau, Sir A. W. Blomfield, Colonel R. W. Edis, r. E. T. Hall, Mr. T. M. Rickman and Mr. R. A. Briggs.

The honorary secretary and treasurer were thanked for their rvices, and re-elected in their respective offices.

The retiring auditors, Mr. C. Forster Hayward and Mr. G. ethbridge, having received a vote of thanks, Mr. Henry awson and Mr. Zeph. King were elected auditors for the nsuing year.

On the motion of Mr. Woodward, a cordial vote of thanks as passed to the Royal Institution of British Architects for ffice accommodation, &c.

The Chairman, in replying to a vote of thanks, made an loquent appeal on behalf of the Society, and urged its claims n the large body of practising architects who are not ranked mongst its subscribers.

THE ALFRED MEMORIAL.

IN a letter to the *Times* Mr. Lionel Cust, of the National Portrait Gallery, writes :—

At the meeting convened by the Lord Mayor of London to rther proposals for the national commemoration of King lfred the Great it did not seem proper to raise any discordant ote which might disturb the unanimity with which all present ere ready to welcome the scheme. The proposals, however, f the executive committee seem to invite some criticism.

It seems to have been resolved by the executive committee hat the national memorial shall be at Winchester, and consist f a statue of King Alfred, together with a hall to be used as a nuseum of early English history. Part, at all events, of this vork has already been put in hand.

It is a curious trait of committees appointed to consider ational memorials that they can seldom agree upon any ommon idea other than that of a statue. Hence arise such bsurdities as the accumulation of portrait-statues of statesmen ll within a few yards of each other at Westminster.

There is at present in this country a school of sculptors qual to any that have been produced at any time in any land. They only lack opportunity. When such a commission as the Alfred Memorial was given in the great days of Italian sculpture, the committee said to Donatello or Ghiberti, "Make us a beautiful monument, either a shrine or a group in marble, or hammer out in iron or bronze the great deeds, legendary or otherwise, of the hero whom we wish to make immortal." Donatello and his compeers did it and made their country, as well as themselves, the more famous thereby. Given a free hand in the design, our Thornycroft, Onslow Ford, Gilbert and their skilful brethren can and would do the same for England.

Again, a statue will presumably convey, or be intended to convey, a likeness of the great king and law-giver. As far as I know, no likeness of Alfred exists, for the Alfred Jewel at Oxford and an occasional coin can hardly be regarded as an authority. Perhaps the executive committee have already furnished Mr. Thornycroft with the necessary information.

With regard to the hall and museum, if the latter is seriously intended, it would seem a waste of money to build it until the committee were certain of having something to put into it. For antiquarian reasons also the proposal to insert this museum into the ruins of Wolvesey Castle may be considered questionable. It should be remembered also that monuments have already been erected to Alfred at his birthplace, Wantage, and that while Winchester, where Alfred died and was buried, is justly and laudably anxious to possess a visible memorial of its great citizen, such a monument at Winchester cannot dislodge those at Wantage from priority of conception and completion. Finally, from the national point of view, it is worth remembering that, though Alfred was born at Wantage and died at Winchester, it was Alfred who rescued London from the Danes and enabled London to become the metropolis of the Anglo-Saxon race.

There is time for the nation to think calmly over the proposals for this memorial, as the commemoration does not take place until 1901. While heartily in sympathy with the general scheme, I beg to offer these few criticisms for public consideration.

THE EXCAVATIONS IN THE FORUM.

AN offer has been made by Mr. Lionel Philips of 2,500*l.* for the purchase of the houses built on the site of the Basilica Æmilia. The object of the purchase of the buildings from their present owners (says the Rome correspondent of the *Morning Post*) is that they may be removed so as to facilitate the excavations in which so much interest is being taken at the present time. About a week ago Mr. St. Clair Baddeley, a member of the British-American Archæological Society, gave to some friends and acquaintances a lecture in the Forum on the subject of the Forum and the Basilica Æmilia, the first great extension of the Forum Romanum. After describing the triumph of the Romans over Perseus at Pydna and the magnificent Greek spoils then brought to Rome, he laid stress on the importance of the site now occupied by a number of third-rate houses under which lie parts of the Forum and the basilica which have never been explored. Mr. Baddeley mentioned that the cost of buying up the houses which cover this archæological mine would amount to the large sum of 64,000 lire, or 2,500*l.* After the lecture Mr. Lionel Philips, who was present, quietly said that the only way he could recompense the lecturer for the pleasure he had experienced in listening to so real and vivid a description of the triumphal return of the Romans laden with so many trophies of Greek sculpture and Greek art would be to contribute, if allowed, to the cost of expropriating the houses and carrying out the excavations. He therefore authorised the lecturer to announce to Signor Baccelli, the Minister of Public Instruction, his readiness to contribute 2,500*l.* to the undertaking, the money to be lodged at the Banca d'Italia, and to be utilised exclusively for buying up the houses, and excavating the sites, provided that the work were done with reasonable quick-ness. This offer was at once made to Signor Baccelli, who is said to be consulting his colleagues about the matter. It is also reported that the matter had been laid before King Humbert, who was delighted at this new proof of universal public spirit on the part of an Englishman. The site is extremely interesting, as it lies between the ancient Curia, or Senate House, and the Temple of Antoninus and Faustina. The Basilica Æmilia is mentioned by Pliny on account of its magnificence, as it was built of Phrygian marble. Some portions of the cornice have lately been unearthed near the site by Signor Giacomo Boni, who is now in charge of the excavations. The offer made by Mr. Lionel Philips has created the greatest enthusiasm among archæologists in Rome, and it is hoped that the Italian Government will hasten to take advantage of it and push on the work.

VAUXHALL BRIDGE.

AT the meeting of the London County Council on Tuesday, Dr. Longstaff asked whether the Institute of British Architects had been consulted as to the design of the new Vauxhall Bridge since the method of construction in concrete was adopted ; whether the committee desired the new bridge to be an ornament to London, and, if so, what steps they proposed to take to secure that end.

Mr. Ward (chairman of the bridges committee) said that the answer to the first question was in the affirmative. The committee of the Institute of British Architects had been seen three times on the subject of the original design of the bridge. The arches were then of steel, but as a result of these interviews the committee, on the advice of their engineer, arranged to build the arches of concrete faced with granite. Fresh drawings were made and a model was prepared in plaster on a large scale, and as the result of a further interview, Mr. Waterhouse wrote the letter he had referred to last week. After approving the design of the bridge, the letter made some further suggestions on minor matters, and some of these would no doubt be incorporated in the working drawings which were being made for the arches. The piers had been decided on some time ago, and the contract had been let. The architects seemed to differ greatly among themselves. He certainly hoped the new bridge would be an ornament to London. Even now the committee would be glad of any further suggestions or criticisms from the architects.

NOTES AND COMMENTS.

THE contest over the London Government Bill will soon commence. The County Council was a reform introduced by the party now in power, and they would be slow to undo their own work. But the operations of the works committee allowed no choice. The new London Government Bill is therefore a reproof to the Council, an intimation that unless more care is taken to prevent the loss of money on contracts a more revolutionary measure will be inevitable. We must admit it seems like a retrograde movement to go back to vestrydom, for the new boroughs are only vestries "writ large." But what is to be done when it is found that the class of men who meddle with municipal affairs in London cannot deal with anything on a grand scale unless it is the wasting of money? Care will have to be taken, however, to prevent the inhabitants of the Metropolis from being mulcted with increased expenditure by the creation of additional works committees on a smaller scale than the one holding revels in Spring Gardens. No less important will be the administration of the Building Act. The committee of the Privy Council are to be entrusted with authority to make a provisional order determining what powers under the Act of 1894 "are to be exercised by the London County Council and the borough councils respectively, and the conditions under which they are to be exercised." That clause deprives the County Council of some of its most important powers, and there would be much opposition to it if the Council's methods were satisfactory. The Privy Council will be as liable to misunderstand what is needed for the improvement of London streets as any elected body. But if the County Council can be made amenable to common sense by depriving it of some of its authority, so desirable a result is worth a little sacrifice on the part of architects. The borough authorities will be able to license wooden structures, to remove unauthorised sky-signs and obstructions in streets, to demolish dangerous buildings, to regulate the stacking of timber and the supply of water, to acquire land and provide for housing working-classes, &c. None of these changes suggest a lighter taxation, and there is the weak point of the Bill. It should embody more precautions against a continuance of the extravagance which has been rampant too long already.

THE Town Council of Harrogate invite architects to submit competitive designs for a new kursaal, and other additions to the existing buildings. The existing buildings are to remain as far as practicable, and the additional accommodation required is as follows, viz. :—Concert hall, to accommodate 3,000 persons; refreshment-room and café; billiard-room (three or four tables); cloak-rooms and lavatories for ladies and gentlemen, telephone call office, reading-room, smoke-room. In connection with the concert-room, a gallery should be provided in which smoking would be permitted; there should also be a verandah outside the concert hall, which should be so arranged as to be capable of being closed in during inclement weather. Lithographed copies of four sketch plans prepared by the borough surveyor will be furnished to each competitor, that marked No. 3 being the one which was viewed the most favourably by the committee; but it is to be distinctly understood that these sketches are merely intended to indicate the general lines on which the concert hall only should be planned, and are not to bind competitors in any way. If the existing pump-room (in which is situate the chloride of iron spring) should be disturbed, suitable provision must be provided elsewhere. No shops are to be provided in connection with the scheme. All the buildings are to be faced with stone. Competitors not complying strictly with the conditions will be disqualified. Each set of drawings to be sent in anonymously, but accompanied by the author's name and address on foolscap paper in a sealed envelope, foolscap size. All drawings are to be mounted on wood stretchers, size 48 inches by 34 inches over all, prepared for hanging, with cord and rings. Any competitor submitting alternative designs must send each set packed separately, with sealed envelope enclosed, and a separate report. The report descriptive of the drawings must state the cubical contents of the buildings and the price per foot at which the cost is estimated, as well as the total cost No models, photographs, or perspective drawings will be allowed. All drawings, except block plan, are to be to a scale of 8 feet to an inch, in black line only, the walls on plans and sections being blacked in, and no colour or washes of any kind are to be shown on the elevations. A lithographed plan showing the existing buildings and ground levels will be furnished to each competitor. The total cost of the scheme must not exceed 20,000*l*. All plans to be sent in, addressed to SAMUEL STEAD, borough surveyor, not later than June 3, 1899.

THE Americans have discovered a new use for electricity, viz. thawing frozen waterpipes. In the town of Maddison 400 mains were blocked, and recourse was made to the professors at the local university, where it was arranged that a current could heat the pipe and thaw it without any risk of bursting. Experiments were at once made, and in a short time the pipes were freed from ice. Mr. ADAMS, the president of the university, has been compelled to issue the following bulletin in order to be spared correspondence from all parts of the States from which applications for information had been received:—"The source of electric power which is required in thawing service pipes should be capable of producing 300 amperes of electric current, with a pressure of from 50 to 60 volts. This power may be obtained by means of an alternating current transformer connected with electric light lines or any other similar source. Whenever several pipes in a city are frozen we advise that the water-works and electric-light companies be asked to join in the effort to facilitate the work of thawing. Although up to the present time experience has been chiefly confined to service pipes, the method is applicable to street mains in case sufficient power is obtainable. It has been computed that 75 horse-power is requisite to thaw out within thirty minutes a frozen main 6 inches in diameter for a distance of 100 feet. For a longer distance corresponding power would be required. It is ordinarily found that the time needed for thawing any length of pipe less than 200 feet does not exceed half an hour after the electricity is applied.' In other places the experiment was no less successful.

PERSIA was at one time the rose garden where poets were appreciated like nightingales. Those happy days have passed. But art, which was only a species of poetry, has survived, in spite of all the evils of monarchs. Modern Persian work retains some of the old beauty, which is in a great measure due to the moderation of the designers, who appear always to appeal to minds that love what is refined and have a distaste for glaring effects. It is strange that while there are so many reproductions of Persian patterns in free libraries and museums throughout the country, English manufacturers should imagine that what is glaring and barbaric will find a market among the people. In speaking lately at the Society of Arts Mrs. BISHOP, the traveller, said that wherever she went in Persia she found Russian goods, and "was told that the Russian merchants understood their taste better as to colours and patterns; the Manchester prints were large fiery patterns, with a great deal of scarlet in them, which were probably intended to suit the supposed barbaric taste of Persians, whilst the Russian prints were in smaller and quieter patterns and more subdued colours, which the Persian women wore with pleasure, because they gratified their refined taste. To send staring patterns to Persia, where good taste is proverbial, is the most absurd thing possible." The Manchester manufacturers would, we suppose, say their designers were taught in the schools of the Science and Art Department, and were realising the true principles of form and colour.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: CHOIR, LOOKING EAST. CHOIR VAULTING, LOOKING WEST.

WEIGH HOUSE CHAPEL, DUKE STREET, GROSVENOR SQUARE, W.

PRIVATE BALL-ROOM, THE HAGUE.

SOME GOTHIC CATHEDRALS.*

(Concluded from last week.)

ANOTHER and much later, but equally sumptuous example of the manner in which buildings of the Perpendicular och were fitted, confronted them in the choir of King's llege Chapel, Cambridge.

When the works of this *cantio cygni* were commenced in 40, Mediæval art in Southern Europe was beginning to feel e influence of the Italian Renaissance. The building was ll in progress when the Perpendicular style gave way before e new impulse, so that this "glorious work of fine intelli- nce," almost the last great triumph of English Gothic, became eceptacle not only for that sumptuous organ screen, and for se matchless stalls, but for its series of unrivalled painted ndows—unrivalled, that is to say, for their age and style. esigned and built for one form of worship, this glorious ecimen of English fifteenth-century Gothic was unfurnished ien another was introduced, but by some lucky chance it had ntrived to elude both the spoliation of the Great Rebellion d the vitiated taste of the last century.

They would remember how Wordsworth, in one of his nnets, speaks of the marvellous fan-traceried roof of King's llege Chapel—

> Self-poised and scooped into ten thousand cells
> Where light and shade repose, where music dwells.

ie effect of this chapel, lighted up on the Saturday and nday afternoons of winter with an apparently endless line of ndles, was a sight once seen never to be forgotten.

Another highly interesting Cambridge college chapel was at of Trinity, a view of which was shown. The gift of Queen ary, it was an oblong, flat-roofed, debased Perpendicular ucture. When the chapel of St. John's College was being uilt, some, fired by its example, advocated the rebuilding of at of Trinity. Luckily, the lecturer observed, wiser counsels evailed, for the chapel—certainly not the monument of a od age—is so thoroughly identified with the history of the llege, has so very dignified an interior—remodelled some irty years ago by the plastic hand of Sir Arthur Blomfield, oliday contributing some singularly beautiful painted glass—at to have removed it would have been to tear out one of the ost interesting pages from the architectural history of ngland.

With a view of the interior of Henry VII.'s Chapel, West- nster, Mr. Bumpus concluded his series of Perpendicular ecimens, remarking that many persons thought English chitecture came to a close with the reign of that monarch; lt this was a mistake. To be sure, our church architecture gan to lose some of its purity towards the close of the Wars the Roses—when the cathedrals, abbeys and churches, on which the hand of the spoiler had not yet been laid, must ve presented a most magnificent spectacle; but the em- llishment of, and additions to, religious edifices were carried with unabated vigour till the Dissolution of the Monasteries, en Pointed architecture received a check from which it has ly recovered within the last sixty years. Pointed forms, how- er, lingered on down to the middle of the seventeenth century, evidenced not only in a number of churches scattered up and wn the country, but in several college chapels in Oxford and mbridge, though much mixed up with Classical detail.

In France they had no Perpendicular style, their Flowing corated degenerating very soon into poor Flamboyant, and en losing itself altogether in the Renaissance of the Classical. s specimens of two Flamboyant façades of the better class, ose of the cathedral at Tours and the church of St. Jacques Dieppe were shown.

The lecturer remarked that he could not take leave of this eculiarly English phase of Gothic—the Perpendicular—without rsory allusion to such buildings he had not shown them as dington Church, Wiltshire, an interesting example of the ransition from the Decorated; the choir of Gloucester Cathedral; e presbytery of Winchester Cathedral; the chapels of New ollege, Oxford, Winchester and Eton; St. George's Chapel, Vindsor; Sherborne Minster; Manchester Cathedral; St. lary's, Nottingham; the Beauchamp Chapel in St. Mary's, Varwick; the chapels of Bishops Alcock and West ter- inating the choir aisles of Ely Cathedral, and the glorious erpendicular churches with which Somersetshire, Norfolk nd Suffolk are studded. The roofs, screens and bench nds of these Perpendicular churches were very splendid, nd if his hearers wished to know the manner in which e two former, in such East Anglian examples as Blyth- urgh, Cawstone, Filby, Irstead, Knapton, Southwold, Trunch, Westhall and Worstead were coloured, they had but to pay a sit to the South Kensington Museum, where, in the small om opening out of the gallery containing Raphael's cartoons, they would find some admirable pieces of work in illustration of this particular branch of fourteenth and fifteenth-century decorative art from the pencils of Messrs. G. Wardle and W. T. Cleobury.

The magnificent cloisters attached to Gloucester Cathedral must not be forgotten. Cloisters, remarked the lecturer, were to be seen nowhere in Europe on such a dignified scale as in England. It was, perhaps, in cathedrals which were both the seats of bishops and great monastic establishments that these beautiful appendages to a Gothic building could be seen in their grandest form, as, for instance, Canterbury, Durham, Norwich and Worcester. Several churches, at once cathedral and monastic, as *e.g.* Ely and Winchester, had lost their cloisters, which were of great extent. Gloucester, Chester and Oxford, cathedrals of the new foundation, retained these append- ages very completely, especially the first named. At Peter- borough the cloisters, which were not only of vast extent, but equipped with painted glass, some of which yet survived in the windows of the apse, were completely destroyed at the Rebellion. Some cathedrals of the old foundation—Lich- field, York, St. David's and those of the three other Welsh sees, Bangor, Llandaff and St. Asaph—were unsup- plied with these entourages; while others — Chichester, Hereford, Lincoln, Salisbury and Wells—possessed cloisters of singular beauty and magnificence, though it is difficult to assign any cause for their erection beyond the supposition that they were either mere *objets de luxe*, or formed a covered way from the cathedral to the chapter-house and the resi- dences of the bishop and dignitaries.

Mention was made just now of cathedrals of the old foun- dation. By this was meant those whose chapters, consisting not of monks but of secular canons, were not disturbed in the reign of Henry VIII., when all monastic establishments were either swept away or remodelled with chapters of secular canons. The cathedrals of the old foundation are Bangor, Chichester, St. David's, Exeter, Hereford, Lichfield, Lincoln, Llandaff, London, Salisbury, St. Asaph, Wells and York.

The remaining cathedrals, which, having been served by monks, were refounded with secular canons in the time of Henry VIII., and abbey churches then made cathedrals for the first time, are called cathedrals of the new foundation, and include Bristol, Canterbury, Carlisle, Chester, Durham, Ely, Gloucester, Oxford, Peterborough, Rochester, Winchester and Worcester.

The sees of Liverpool, Manchester, Newcastle, Ripon, Southwell, St. Albans, Truro and Wakefield were creations of modern times, and that of Bristol, having since 1830 been united with Gloucester, was in 1897 once more severed from it and reconstituted a separate diocese.

France had been singularly unfortunate in the preservation of her cloisters; indeed, considering the atrocities committed upon her fanes at the close of the last century, when such magnificent structures as St. Nicasius at Rheims, the cathedral at Dijon, and St. Jean des Vignes at Soissons were razed to the ground, the wonder is that so many have come down to us in the condition they have.

In Germany the number of churches retaining their cloisters was perhaps larger than England, but although many were interesting as belonging to the Romanesque and Transitional periods of Gothic art, the lecturer opined that in point of finish and refinement they could not rival our own. Interesting specimens of early cloisters existed attached to the minsters at Essen and Bonn, to the Busdorf Kirche at Paderborn and to the cathedral at Hildesheim. Sometimes the cloisters of German churches occupied very odd positions, as for instance at Hildesheim and Ratisbon cathedrals, where they were placed at the extreme east end, and at Paderborn Cathedral, where they would be found east of the transept. These cloisters at Paderborn were singularly fine specimens of German com- plete Gothic work, as were those attached to Münster, Magde- burg and Mayence cathedrals. Very beautiful, too, were those of the same age belonging to the collegiate church at Xanten St. John's Church, Osnabrück, and St. Stephen's Mayence.

Returning to England, and taking up the thread of its architectural history, Mr. Bumpus observed that the Great Fire of London swept away nearly all her Mediæval churches. To replace them we had that wonderful group by Sir Christopher Wren, whose design for each varies according to the shape of the site occupied by its predecessor. Often this site was very irregular, but the ingenuity of Wren overcame all obstacles, and in each church we had some architectural conception, grandiose in its effect, utilising to the best the old site, and containing among its *instrumenta* an altar-piece, a pulpit, a door-case, a font cover, an organ, a chandelier such as would afford a perennial source of study and delight.

Although the subject of his lecture had been "Gothic Cathedrals," the lecturer observed that he was unable to resist calling the attention of his hearers to these unique works, all grouped around St. Paul's, which although the noblest building built in Europe in the Italianised Grecian style, was in reality a Gothic body in a Classical dress.

* A lecture delivered on Thursday evening, March 2, by Mr. . Francis Bumpus, before the Guild for Young Men and Women tached to New College, N.W.

In some of his City churches Wren was constrained to adopt Pointed architecture, but albeit the proportions of his churches in the Gothic style were faultless—as, for instance, the towers of St. Michael's, Cornhill, and St. Alban's, Wood Street—they would not bear a minute inspection. The period subsequent to the Great Fire was one of Classicism. The beautiful symbolism of Wren, Hawksmoor, Flitcroft and Gibbs, which characterised the last quarter of the seventeenth and the first of the eighteenth century, was succeeded by the unmeaning ugliness of the reign of George III., when everything relating to ecclesiastical art was at its bathos. Yet the latter portion of this dreary period, the 'teens of the present century, witnessed the publication of some of the most sumptuous works ever produced on the architecture of England, as, for instance, Britton's "Cathedrals" and "Antiquities of England," "The Beauties of England and Wales," Pugin and Le Keux's "Antiquities of Normandy," Wild's "Cathedrals of Lincoln and Worcester," and Sir Henry Ellis's edition, with Coney's etchings, of Dugdale's "Monasticon." Then there was the "Gentleman's Magazine," which was, so to speak, the "Art Journal," the "Athenæum" and the "Architect" rolled into one, and later the "Penny" and "Saturday Magazines," both of which placed much useful knowledge on architecture and antiquities within the reach of those by whom the costlier works were unattainable. Of course, in all these much was written on the subject of Gothic architecture, and endless theories were propounded about its origin and development, but it was left for writers of another decade to reduce the result of these researches to a systematic and compendious form, and to provide what was a want most keenly felt by the architectural student—a grammar of his art. Mr. Bumpus, however, opined that the English never lost their love for old Gothic art even during this the darkest and coldest chapter of ecclesiastical history, peeping forth as it did in the erection of such absurdities as Strawberry Hill and the chapel in Tavistock Place. But the subject of the revival of the true principles of ecclesiastical art formed a history in itself, and one of which he dared not even touch the fringe that evening. As, however, the subject of his lecture had been "Gothic Cathedrals," he could not bid farewell without throwing on the sheet views of the three great cathedrals built during the last thirty years in the British Isles —those of Truro, Edinburgh and Cork, each of which had been carried out by a distinguished architect in his style of predilection. Of Truro Cathedral, the work of the late Mr. J. L. Pearson, conceived in that peculiar type of Early English familiarised to them by his London churches of St. John, Red Lion Square, and St. Augustine, Kilburn, the choir and transepts had as yet reached completion, and these had been really and truly completed in the most sumptuous and finished style. This was the way the men of old built—a bit at a time and done well. Were all modern English churches carried out in the same way, architects would not complain so loudly as they do that nothing grand is possible. It was too much the fashion nowadays when, say, 7,000*l.* had been got together, to run up a commonplace-looking red-brick barn with hardly a feature in it worth stopping to look at, and the lecturer regretted to say that, in not a few instances, these unsatisfactory structures had been erected out of the proceeds of a demolished Wren church.

Edinburgh Cathedral was then shown as a specimen of the Early English style of Sir Gilbert Scott, not unmixed with some French detail. In fact, he thought the motif for the cathedral was the church of Braisne near Rheims, while the manner in which the square-ended choir had, by the mode of vaulting adopted, been made to assume when viewed interiorly an apsidal character, was derived from the lady chapel of St. Etienne at Auxerre.

The cathedral of St. Fin Barr at Cork, begun in 1862, opened in 1870 and completed nine years later, was cited as one of the very few ecclesiastical works of William Burges which that gifted man had been allowed to carry out unhampered by pecuniary considerations.

Designed in that bold, vigorous, late twelfth-century French style for which he had a predilection, Cork Cathedral was a striking example of Burges's skill in a branch of ecclesiastical art in which, perhaps, he was unrivalled—iconography.

Before concluding Mr. Bumpus said he could not resist throwing on the sheet views of the Oxford college chapels of Exeter, by Scott (1858-60), and of Keble, by Butterfield (1873-76). Each was in its particular style a masterpiece, and exemplified how very differently architects of eminence could manipulate the apparently simple idea of a college chapel.

In the latter, as far as proportion went, Mr. Butterfield, the lecturer opined, had approached the sublime in architecture, but he ventured to assert that had the distinguished author of such works as St. Augustine's College, Canterbury, St. Matthias, Stoke Newington, and St. Alban's, Holborn, given less rein to his fancy in the matter of structural polychromy, its circle of admirers would have been far larger than it was at present.

The lecturer said he had now given them a tolerably comprehensive idea of some of the most important churches raised in England, France and Germany from the end of the eleventh century to the beginning of the sixteenth.

The ecclesiastical architecture of these three countries of Northern Europe had each its characteristic features, but of all, the vivid and varied impression produced in beholding such an infinite variety of detail and general expression was nowhere so strongly marked as in England. In France we admired not only the enormous height to which architects of that country carried their buildings, but the skill evinced by them in the disposition of their ground plans—unequalled in Europe—the beauty, vigour and profusion of their sculptured imagery, and the nervous manliness allied with delicacy patent in all the churches of the best period, particularly those in the Ile de France and Normandy.

Such commendation, Mr. Bumpus regretted to say, could not be extended to German architecture, for delightful as were the recollections of all he had seen there—and he counted such churches as those of Cologne, Münster, Paderborn, Soest, Halberstadt, Erfurt and Trèves among his oldest and most valued friends—he could not close his eyes to the fact that in many respects it fell immeasurably below that of France and England.

But if the German churches fell far short in point of structural excellence, Mr. Bumpus observed they were richer in that they retained so much of their ancient furniture, the churches of Northern Germany especially, and if his listeners wanted to study Mediæval rood-screens, tryptichs, choir-stalls, stained-glass, vestments, tapestry, ironwork and such matters of more strictly ecclesiological interest, it was to this part of Europe they must turn their steps.

There was, too, something mysterious about German church architecture, for, unlike that of France and England, it could not show those beautiful gradations and dovetailing of styles, there being gaps in the chain difficult to account for, and this made its study one of no little perplexity though at the same time of high interest.

Whence, asked the lecturer, came all this variety? Trafficking spirit of composition? The putting of round for square and the acute for the depressed, just for the sake of variety? No; men of mind were at work, men whose genius was not exhausted by a single effort, uniting great originality with patience and enduring labour, and a thorough systematic education in their art. In our English cathedrals—which surpassed those of France in variety of planning, simply because their architects did not conceive them on such gigantic scales, and were thus enabled to play with their outlines by the addition of chapels and, as at Beverley, Canterbury, Lincoln, Rochester, Salisbury, Worcester and York, by secondary transepts to their choirs—the endless variety of Pointed architecture not only appeared in the differences of building from building, but in rich profusion in the different parts of the same edifice.

So distinct and so peculiar was the character of each, that to confound one with another were impossible.

This, however, could hardly be said of the French churches, except perhaps by those who had studied each one particularly.

Nor was it only in the cathedrals and abbey churches of our land that this variety of outline and this delicacy of detail was perceptible, but in the parochial churches which were its pride and glory. When all these noble structures arose machinery was not invented. The endless forms had all to be honestly cut in stone, and the artificer relieved the monotony of his labours by varying it according to his fancy, by bringing out the creative faculty of the soul, giving strength to the arm, and stamping on the result a living character which no tame copying could ever attain to.

Before sitting down Mr. Bumpus drew attention to the collection of casts in the South Kensington Museum, the Crystal Palace and the Architectural Museum in Tufton Street, Westminster, to procure which many of the buildings brought before their notice that evening had, at great cost, been laid under contribution.

ARCHÆOLOGY OF BANKING.

A LECTURE was delivered by Rev. Professor Mahaffy on "Banking in Ancient Times," in Dublin, under the auspices of the Institute of Bankers. Mr. Andrew Jameson presided, and in opening the proceedings said that he was only expressing the feelings of the whole Institute when he said how deeply they appreciated the kind way in which the Provost and Fellows of Trinity College had aided them in their effort to establish the Bankers' Institute. In doing so they were helping to make the young men of Ireland to think more of education and literature, and in that way furthering the cause of which they looked upon Trinity College as the main fount in Ireland.

Professor Mahaffy said that Sir John Lubbock on the

:casion of his last visit to Dublin, when he delivered the augural address at the opening meeting of the Institute, had id :—"I think you will agree with me when I say that the ink is essentially a British invention. The Jews were great anciers, but never bankers in the British sense of the term." he first statement struck him (Professor Mahaffy) as more an questionable at the time, but as Sir John Lubbock's thority was so great he did not think it right to contradict it. nce then, however, he had made it his business to go into e conditions of primitive Greece to see what there was to rrespond in that age and country with the present-day banks d banking. In Dr. Murray's Dictionary a bank was de-ribed as "an establishment for the custody of money received om or on behalf of its customers; its essential duty is the ayment of orders given on it by its customers; its profits arise ainly from the investment of money left unused by em." Could they find that banks in such a sense existed in reek antiquity? They knew that the Greeks and Phœnicians ere great financial nations; and Tyre, a city without territory, quired enormous wealth entirely by commerce. Was it nceivable that all this was accomplished without the inter-ediary of a bank? The most obvious bit of evidence that curred was this. In a lot of Latin plays which were transla-ons from the Greek you met with a person called a "trapezita" -"trapeza" meaning a four-footed table, corresponding to e "bank" or "bench," which was the word used by the early alian bankers. From this it appeared that people did not ep their money at home, but in charge of this person, who as essentially a banker, and they sent orders to this man hen they wanted to draw their money for themselves or hers. So far, they would agree with him that the duties this person corresponded accurately with the definition a banker given in Dr. Murray's Dictionary. Another uty they fulfilled was the exchange of foreign into home oinage; and as to this, there were then, as now, fre-uent complaints that the fee charged by the bank was too xtravagant. If they went back to much earlier times they ound the original banks to be temples. The great temples of elphi, Delos and Olympia contained not only the property f the gods but also the money of many Greek states. The mples also had private property of their own—land and money btained by fines—and, so far as they had this property, they nt it out at interest, especially to other communities; and me communities when in want of money in time of war were the habit of obtaining forced loans from the gods. The vidence of this was contained in an inscription in marble und in the Acropolis of Athens and in the Temple of Delos. he lecturer gave an account of some of the banking operations f Pasion, whose bank, he said, had fifty talents of capital in it -equal in purchasing value to about 100,000*l.* at the present me. The credit of Pasion was so high that his son, who was spendthrift, when out on public duty was able to get money henever he chose by merely stating that he was the son f the banker, Pasion of Athens. Pasion had a slave, hormis, his business man, and to him, when he was imself growing old, he leased his bank for ten years at 60*l.* a year—a large sum in the pecuniary conditions of the ountry. Litigation subsequently took place about the bank, nd one of the arguments on behalf of Phormis was that in a nancial crisis in Athens, during which the other private ankers, who had not to pay rent, had gone smash, he, despite is rent, had kept up the credit of his bank, and so saved the redit and security of many citizens of Athens. The lecturer hen turned to Egypt under the Greeks, and said they learned rom papyrus and from tablets that a great banking system xisted under the Ptolemys. The Royal Bank would probably e offended if he told them that their title was as old as three enturies before Christ, for not only in Alexandria, but in rivate banks in nearly every village in Egypt was that title to e found at that time. They found thousands of documents in hich there were receipts given for money paid into these anks, and the Government farmed these banks in particular ities to individuals for different considerations. The lecturer, aving exhibited some photographs of banks' receipts of this arly period, said there was one document also which showed hat the Phœnicians were in the habit of using token money. n conclusion, he said all he claimed to have done in his lec-ure was that he had shown good and satisfactory reasons for aying that banking was not a purely British invention, but as in all its main features known and practised by the ancient reeks.

The Fifth Members' Meeting of the Liverpool Architectural ociety will be held at the Law Library, 41 Castle Street, on Monday next, the 20th inst., at 6 P.M., when a paper will be ead by H. Bloomfield Bare, F.R.I.B.A., entitled "Notes on American Architecture," illustrated by limelight views, to be ollowed by a paper by James H. Cook on "New York Office Buildings," illustrated by drawings and photographs.

ST. GEORGE'S CHURCH, LIVERPOOL.

A MEETING of the finance committee of the Liverpool Corporation was held on the 16th inst. in the Municipal Offices, Sir Thomas Hughes presiding, when the subject of the removal of St. George's Church was considered and a deputation was received.

Councillor Dalton, on behalf of the ratepayers in Castle Street Ward and Peter Street Ward, expressed the opinion that if the church in its entirety were removed and the site made an open space, it would be beneficial not only to the ratepayers but also to property owners in the neighbourhood. It would certainly considerably improve the appearance of the city at that point.

Mr. T. D. Philip said his firm had been in South Castle Street for a period of sixty-five years, and he had been there for forty-eight years. The street had never been a good one, and the feeling in regard to it was that it could not progress. It was crowded with so many men standing outside buildings that it was sometimes not fit for ladies to proceed along the thoroughfare. He had complained over and over again to Captain Nott Bower and asked him could he not make the street a little more respectable.

The Chairman reminded Mr. Philip that they were not considering the question of men loitering about; with that they had nothing to do.

Mr. Philip pointed out that full advantage should be taken of the opportunity to remove the church altogether and convert the place into a garden or ornamental ground, which would beautify the town very much and improve all the property in South Castle Street. In the centre of the site might be placed a monument to Mr. Gladstone or to Mr. Rathbone. Further, it should be borne in mind that it was the site of the old castle of Liverpool, and therefore historical.

Mr. H. Young remarked that the present edifice was not the original church. The original church was a beautiful design and was erected on the old site of the castle, which stood just at the top of James Street and Derby Square. The chancel of the church was put actually on the rock, and the foundation of the old spire was put in the ditch, the castle moat. The building settled a great deal, and therefore had to be taken down. The present church was commenced in 1809, but was only completed in 1825. In his opinion it was not architecturally beautiful. The re-erection of the church was mentioned in Picton's history, and in Brooke's history it was stated that the new church did not bear much resemblance to the original church. The present church was comparatively modern. He did not think the interests of property owners should be the first consideration; in his view precedence should be given to the fact that it would be a great improvement and benefit to the town by having an open space there where the castle stood. Moreover, it would then be an historical landmark.

Mr. Bellwood said the general feeling of the ratepayers was that this site should be retained as an open space.

Sir Thomas Hughes said he did not know exactly what had prompted the deputation to go there, as he was not aware that either the committee or the Council had intimated one way or the other how this site was going to be dealt with.

Mr. Philip replied that there had been several meetings of ratepayers, and the feeling was that the church should be taken down altogether, so that no portion remained.

Sir Thomas Hughes said it had been decided that the church should come down, but a suggestion had been made that the tower and spire should remain. That you object to?

Mr. Philip: I think it would be very absurd to leave it.

Mr. H. Banner asked whether there would be any objection to a tramways station there?

Mr. Philip replied that they would like it laid out as a garden. There was no town in the country where there were so few open spaces as in Liverpool.

Sir Thomas Hughes: You think Castle Street should be galvanised into fresh life so far as business is concerned. You were always an advocate for a thoroughfare through the Custom House for that reason?

Mr. Philip admitted that that was the fact.

The Chairman thanked the deputation, and said the committee would take their arguments into consideration when they dealt with this question.

Mr. H. Peet, F.S.A., writing to the *Liverpool Courier*, says:—

Allow me to point out that until July 15, 1900, the church is in the hands of trustees, and the Corporation have no power to touch a single stone of the building. After that date the Corporation may consider the question.

In my paper, "Notes on the Churches of St. George and St. John," read before the Historic Society of Lancashire and Cheshire, I said:—"This spire, although possessing no great artistic merit, can in no way be considered an eyesore, and as it is a familiar landmark I should regret its complete disappearance. I venture to hope that the trustees and the Corporation will be able to come to some arrangement whereby

this portion of the building may be retained. It would be quite possible to treat it in a similar manner to the tower of St. Jacques, which forms such a pleasing architectural feature on the south side of the Rue de Rivoli in Paris." Permit me to supplement my remarks by suggesting to the influential gentlemen who formed the deputation that they examine any large map of Liverpool, and they will be surprised to see how small an area this tower occupies, not, indeed, as large as the base of a statue which one of them advocated should be erected on the site. If the tower be allowed to remain, and properly treated, it would form a very appropriate background for a statue of heroic proportions. It is absurd to contend that a detached campanile could in any way detract from the utility of the site as an "open space."

This tower and spire cost 10,000*l.*, the stonework is in a good state of preservation, it fulfils a useful purpose as a clock tower, and I have little doubt that the ground could be utilised in some way for the benefit of the citizens generally. Liverpool has unhappily too few associations with the past that it can afford to think lightly of sacrificing this tower, which if not hoary with age at least marks an historic site.

In conclusion, I wish to express a hope that the powers that be will, in the first instance, only remove the body of the church, allowing the tower and spire to remain for a time, in order that an opportunity may be afforded the deputation and others of studying the effect of a detached clock tower at this important centre, when I believe the cry for its destruction will cease, and instead we shall have a consensus of opinion that its presence greatly enhances the value of the site as an open space.

PUBLIC BATHS.*

(*Concluded from last week.*)

IN the most usual form of bath tank, the walls are constructed of cement concrete built battering on the outside, but I prefer brickwork in cement carefully calculated for strength and well buttressed. The bottoms must always be of cement concrete, and if the foundation is good, 12 inches is quite thick enough. Some advocate building the tank entirely separate from the walls of the bath hall to avoid any possible unequal pressure on particular parts, and consequent danger of settlement. But the immense strength necessary for holding the water alone leaves a very ample margin, and indeed the additional weights of roof, supports and floors help the stability.

It is, of course, of enormous importance to have the tank absolutely water-tight, and this can be obtained by two or three methods. One of the most usual, I believe, is to have a lining of asphalte behind the brick or tile facing, and in that construction it is very necessary to use only the best asphalte, and to have it applied in two layers. I do not think asphalte—vertical asphalte—is exactly a good surface for fixing tiles to, and that is no doubt why so many baths—even that fine one at Shoreditch—are lined with glazed bricks. Six-inch glazed tiles are surely preferable for appearance alone, and the introduction of coloured slips and painted tiles give us a field for decorative effect. A safe backing is obtained with two layers of plain flat tiles laid to break joint, and alternating with renderings in cement. This, together with the tile face, makes an absolutely impervious facing 3 inches thick, and I may add that I have never found the slightest leakage.

In forming the platform round a bath we have to bear in mind that it can never be kept dry, and splashings and the wet feet of bathers combined with mud from the boots of newcomers before undressing would soon render the footways dirty, slippery and dangerous unless they are frequently washed down with buckets of water and run over with the squeegee. They must, of course, be laid to a good fall away from the bath, not towards it, if only to prevent fouling the bath water. A gutter running down in front of the dressing-boxes will lead off the washings. There are more baths than one in London in which this gutter is placed at the back of the dressing-boxes, with pleasant consequences to the unwary bather who may happen to drop any article of clothing on the floor. To avoid this entirely I find it better to raise the dressing-box floors above the platform level, the floor sloping outwards to the channel.

A good curb, indeed the best, round the bath is formed with slate 3 inches or 4 inches thick, and if this overhangs the bath a few inches a wider footway can be obtained at very small comparative cost. It also prevents the bath-water splashing over the footways.

The gutter may be covered with a brass grating, but that is not absolutely necessary. Footways are usually paved with impervious material; wood and York stone have been advocated because they are essentially non-slippery, a matter of great importance. Bathers do not always walk sedately along the footways (in fact, from my observations the sedateness and dignity and statuesqueness affected by bathers are generally washed off in the first plunge), and running along an impervious surface covered with a film of water is dangerous. But it is a pity if we must come down to York paving, with its monotonous colour and cold surface. Tiles laid herring-bone and in small pieces do very well, and there is another flooring which I will not recommend you till I have tried it, but which I think will be better still.

Before we leave the bath itself, mention must be made of the safety rails, which should run round at least 4 inches above the water level. At the deep end the overflow trough serves the same purpose. At the shallow end there should be a spray-rail; that is, a hollow rail, pierced with a line of small holes, and connected with a high-pressure water-main. When the water is turned on occasionally, a regular and even spray is directed on to the surface of the water, which has the effect of cleansing it of scum and floating matter, which are driven down to the overflow-trough.

I must only briefly mention the desirability of marking along the sides of the baths, in plain figures, not only the various depths, but distance in yards from the deep end, and other devices to aid in swimming contests; also the necessity of diving-boards, step-ladders and water-chutes—the latter not being an unmixed blessing. All these matters have their importance, but a short visit to any modern bath will supply all such information.

Dressing-boxes are always placed along the two long sides of the bath hall, and sometimes one end or both as well. Even so, it is impossible to get enough of them in comparison to the size of the bath. At Marylebone we have some short "transepts," so to speak, with boxes on each side, but I do not like the idea. Dressing-boxes out of sight are always liable to be rifled. Want of adequate dressing-box accommodation must be met by some drastic alteration, and I have a glimmering notion or two of some such innovation. To meet this difficulty at the Hornsey Road Baths, the dressing-boxes are placed in a separate room adjoining the bath; but the same objection holds even to a greater extent than with respect to transepts.

A gallery is only necessary in the first-class or racing bath, and need not be more than 6 feet or 7 feet wide, unless we can afford such a one as that at the Shoreditch Baths. It is advisable to have at least two staircases from the platform level.

I do not propose to dilate here upon the various matters necessary to fit the bath hall for use as a concert-room, or for other public entertainments, further than to suggest that if we study the County Council regulations, and then satisfy the Council's surveyor, nothing much is left to be done; but it is vital to bear in mind that these regulations have most important bearings on the planning, and should, therefore, be studied from the very first.

Dressing-boxes for a first-class bath should not, if possible, have less than 12 square feet of area (or, say, 3 feet 6 inches square), although it is possible to do with as little as 9 feet. They may, and I think should, be constructed with wood-framed sides and doors well painted with enamel paint and varnished, or enamel slate divisions may be introduced. If we take care to keep the partitions well off the floor, there is no reason why they should rot. Of course the use of oak or teak is an improvement, but even then I would have it well varnished or lacquered.

When a bath is used for entertainments the boxes are of no use, and the room they occupy is much wanted. To meet this an ingenious arrangement has been lately patented which, although capable of some improvement in construction, enables us to fold the sides, doors and seats neatly and very quickly flat against the walls, where they form a fine panelled dado. They can be seen at the Shoreditch Baths.

With every swimming-bath there should be what is called a soap and spray bath, which may be just one of the dressing boxes fitted up with a foot-bath sunk in the floor with hot and cold shower over. Spray and douche arrangements may be added with advantage. Indeed, it is an advantage to elaborate and enlarge this provision.

As the result of a few remarks made in this room, I have had two long and interesting letters from a superintendent of baths in a Midland city. I shall have occasion to refer to one or two points he brought to my notice later on. But among other matters he described the soap bath of his establishment. He says in his first letter:—

"I like the increasing favour shown for the former [shower] kind of bath, and should be especially pleased to see it supersede our present arrangement of a soap bath as well as the slipper, as that can scarcely be considered a proper system which only allows one change of water for as many as four persons for each change (I am referring here to the soap bath). The same bath-room fitted with automatic feeding showers having a regulated warm temperature, also a separate corner for a cold shower, would hardly use any more water, and even

* A paper by Mr. A. Saxon Snell, read at the last meeting of the Architectural Association.

the dozen I have seen in at once were under the showers, ey would each at least have clean water."

Later on, in answer to my request for the dimensions, he ys :—

"The dimensions are 8 feet by 5 feet by 18 inches deep—ual depth of water 12 inches, therefore equal to about o gallons. A serious drawback, which I did not like to men- on in my last, is the fact that there is no shower with it, so ou may imagine the bathers plunging into the bath to clean iemselves of the soapy water, especially after some dozen or of moulders, mechanics, &c., have washed themselves."

He adds :—

"I am forced to believe that the soap bath is a serious ompetitor of the slipper on account of the cheap prices of the wimming."

Apparently the canny mechanics of the city think a two-enny swim, with the preliminary wash in this delectable soap ath thrown in, very good value for money. But fancy that oap bath after the third man has washed.

This soap bath is necessary not only for lower-class people. n warm weather no one who does not indulge in a daily bath and some who do) can keep their body—and especially feet—n just that state of absolute cleanliness in which—in deference to heir fellow bathers—they would wish to be before entering the ommon bath. Then, too, a cold douche is invigorating after he comparatively warm temperature of the bath.

With respect to swimming-baths, they should be lighted by large lantern with side-lights to open in the roof, and the valls should be lined with impervious material, glazed tiles or ricks for preference. A bath cannot be too well lighted. For entilation—and a bath wants plenty of it—it is desirable to ave an electrically-driven fan. These fans give a lot of trouble ecause they are so soon affected by the dampness. Perhaps ome form of water-driven fan will yet be devised.

Warm Baths.

We have next to consider the warm baths, provided only for washing purposes. The present form is almost invariably the ordinary slipper bath as it is called ; but—to be prophetic again—the days of its general use are numbered. Some of them will always be required, and it is worth while to describe them. The best form is, of course, the porcelain enamelled bath glazed inside and out, and sometimes with a glazed rolled edge. Personally, I always use those glazed inside only, and with a wood top (teak for preference), because the greatly increased cost of outside glazing never worth the better appearance ; and a roll edge, although cleanly, is uncomfortable, and may be dangerous. It also adds even more to the cost. The usual length is 5 feet 6 inches to 5 feet 7 inches from out to out. These baths are usually enclosed in front, for reasons which have never quite convinced me, and I am now omitting the casings. Each bath is fitted up in a very small room, which has an area of 36 feet, but better 40 feet, or as much larger as can be afforded. The walls are generally built up of slate slabs, 6 feet 6 inches to 7 feet high, sometimes left plain and more often highly finished in enamelling. Marble is also employed, but I do not recommend it, and for this reason—it is so necessary to keep these places absolutely clean that any surface which will hide even the appearance of dirt is to be avoided. Inversely, they should not only be clean, but look it, to inspire confidence. It is impossible to see at a glance whether marble is or is not perfectly clean.

Various other forms of partition wall are employed, and notably a thin, glazed both sides, brick wall. I prefer the slate, because with its use no woodwork at all is necessary, even as door-posts. Each bath should be fitted with hot and cold-water taps, fixed on to the front partition with the valve spindles taken through, so that the attendant outside can turn on or off the water. In the same way the waste valve should be operated by the attendant from the outside, but it is desirable to have the means of doing so also from the inside of the room. The floors of these compartments should, of course, be impervious to wet—tiles or mosaic if we can afford it, granolithic for economy. A disagreeable experience has taught me that these floors should be laid to fall. Bathers sometimes splash the water over the sides, and the baths also overflow at times.

Mr. Hessell Tiltman dwelt at some length upon the shower, or rain douche, baths which are in use in many continental towns, and advocated their adoption in this country. At the time, I mentioned that some form of it had been successfully inaugurated by a northern manufacturer for his workmen several years ago. I have since refreshed my memory, and will refer anyone who is interested in the details to a paper read before the Sanitary Institute Congress in 1888 at Worcester by Mr. Charles Clement Walker, F.R.A.S.

The main idea of these baths is that the bather shall not be compelled to bathe in water which has already been fouled by what we may describe as the first washing of his body, but that every drop of water, as it becomes soiled, should be carried wa at once. This idea was adopted over twenty-five years ago by Mr. H. Saxon Snell for lavatories in a poor-law industrial school. It has been improved and modified since in many ways, but the principle remains the same.

Another advantage of such baths is that they could be erected at about half the cost of the ordinary slipper bath, and it would be possible therefore to make a lower charge for their use, a matter of very considerable importance in the great work of reducing the numbers of that class which is facetiously dubbed the "Great Unwashed."

It is, however, very hard to wean the public from old-established customs, however salutary the innovation proposed. It is a good beginning to provide a hot and cold shower to the slipper baths, and in time, no doubt, we shall discard the bath itself. I say we, because I think most of us have a sneaking regard for the comfortable warmth of a casing 4 inches thick of warm water for a few moments, and some of us love the shower—the cold shower—more in theory than practice.

Before leaving the subject, it is well to note the necessity of light and ventilation, and plenty of both in the room. The amount of vapour alone given off from the baths will soon make everything clammy and the atmosphere foggy unless it can be quickly removed. A lantern with opening side-lights is generally sufficient.

I do not propose to deal with medicated, sitz, vapour and other special baths beyond noting that one or two may be included with advantage. Turkish baths in a public institution are as yet exceptional, but no doubt when their hygienic properties are more widely known and when they can be indulged in more cheaply no public baths will be complete without them. By the way, why should it be considered necessary to adopt exclusively Eastern forms and decoration in Turkish baths? They are none too soul-inspiring, and are certainly not "at home." Personally, I propose to break through the tradition in the Stratford Baths, and try the effect of the latest new humour in design. A fair-sized waiting-room, which should be comfortably furnished, is necessary to each set of baths, for there is much waiting to be endured at certain times in all establishments. Water-closets in the proportion of, say, one to fifteen baths should be provided, and they should have direct and separate light and ventilation.

The committee requested me to read a paper on "Public Baths," and I have assumed that the omission of "wash-houses," which are almost invariably associated with the subject, was intentional; and I felt profoundly thankful, because the subject of washhouses is a fairly large one in itself, and could not be adequately dealt with as part of another.

Towel Laundry.

Every set of public baths must, however, have a small, completely-fitted laundry as part of the establishment. This is required entirely for washing the hundreds—may be thousands—of towels and bathing-dresses used by the bathers. Towels, as they are used, are thrown by the bathing attendants into receptacles which are periodically emptied and taken to the laundry, washed and returned to the store or the pay-office. It follows then that there should be easy means of communication between the departments, and this is the best achieved by the subways. If it is possible to have a shoot from each department in these subways a basket or trolley can be placed under to receive the dirty towels, and some labour is saved thereby. With respect to the laundry-room itself, it is only necessary to say that the floor should be paved to falls, the walls should be faced, at least 6 feet or 7 feet high, with white glazed bricks, and there should be ample light and ventilation, mostly from the roof. The machinery should include the usual rotary washing-machines, centrifugal wringers, steeping and rinsing-tanks, and a few wash-tubs. Steam-heated drying horses are also required, and if there is not room for a fair number (and they take a disproportionate space) a cylindrical steam-drying and ironing-machine will do a very large amount of work for the space it occupies. As the machinery must be power-driven, it is always desirable to have the laundry not too far from the engine-room ; but it will be found desirable to keep the two departments quite separate, if women are employed in the laundry.

Engine-room and Boiler-house.

The engine-room and boiler-house should, in my opinion, be quite show-places in their way. Until quite late years these vital parts of the establishment have generally been consigned to odd corners or dark basements, in fact, wherever the ingenuity of the engineer can possibly fit up his boilers, &c. Only two or three years ago I went over a building, but just then erected, which comprised public baths, a gymnasium, free library and technical institute, in which the necessity of a boiler and engine-house had apparently been forgotten; indeed, I believe actually so. So the boilers were put in the subway, under part of the swimming-bath hall, and the engines and electrical plant were arranged in a line along the narrower part of the same subway. The towel laundry was 7 feet 6 inches high, with no light but what could be obtained from little areas

and the communication between it and the engine-room was a doorway 2 feet wide and 4 feet high. It could not be bigger without cutting too much out of the wall-piers. In the smallest institutions at least two steam boilers are required, and if three can be afforded all the better, because with three boilers it is possible to use one for the direct supply of hot water. The engine-room must, of course, be closed off from the boiler-house, and room will be required for an engine, boiler, feed-pumps, lathe and other tools.

The engine-room and boiler-house are, or should be, show places, and perhaps in saying so I am assuming in my professional brethren something of the keen pleasure I personally always feel in the contemplation of machinery and engineering work generally. Perhaps I may be permitted to add that we should none of us be worse architects for understanding a little of the subject. Short of this I do not see any better way of insuring that advance in building so desirable to keep pace with the marvellous development of engineering than a closer alliance with those who have made engineering their study and practice. Professional exclusiveness and jealousy may yet die down sufficiently for this. Already the majority of architects consult the other profession very largely, but not as much, I think, as they will in future. I have not much necessity to do so myself, because it is part of the tradition of my office to lay down the engineering schemes in all their details in all buildings. Yet that very fact has taught me how much this matter affects, or should affect, the design and details of a building. The profession of an architect calls for so wide and varied a knowledge of ever-increasing details that purely engineering work would appear a serious addition to our labours, but certainly the knowledge of so much as applies to the purposes of our own buildings is most desirable. Short of this, it is absolutely essential to acquire so much as will enable us to associate ourselves appreciatively with the professional engineer whom we consult. It would be to the advantage of the building work carried out by engineers (public bridges, for instance) if they would consult an architect—and a good one—and take his advice with respect to the architectural "trimmings." Probably the architect would say, "Don't have any"; but the work as a whole would not suffer.

Adjoining the boiler-house should be a large coal store, and, within bounds, the larger the better. It should have direct communication with the boiler-house and the public street.

Administration.

We arrive now at the administration of the building. The superintendent's apartments should be designed like any other private house, and it should have separate access to the public street. Six, or at most eight, rooms are all that are necessary, and, as I mentioned before, they should be comfortable and as roomy as can be afforded. A board or committee-room is necessary, and our clients will never complain if we lavish a little architectural display therein—and small blame to them. Unpaid public work deserves comfortable and, indeed, elegant surroundings. A superintendent's store for towels, soap and other necessaries is essential. It should scarcely have less area than 150 feet, and may be nearly twice that size with advantage.

If either of the baths are to be used at times for a gymnasium or public entertainments we can scarcely have too much rough storage room, which may be in the basement or even subways.

Without going into many other details which would occupy the rest of the evening to deal with exhaustively, I think it well to mention briefly the important matter of drainage, because there are special conditions to be met in public baths.

In the first place the swimming-bath drains should not be connected to the general system, and if possible each bath should drain direct into the public sewer, with the usual disconnecting trap, &c. If they are connected to the general system the enormous pressure and bulk of the bath-water will quickly choke back the flow from any other part of the building, if it does not even find its way up the pipe into the lower parts. A large sluice-valve is necessary close to the bath outlet. It is important, too, to bear in mind that the outlet should be covered with a close grating. Some few years since, in letting off a certain amount of water to lower its level in a swimming-bath, a boy was drawn by the strong suction right into the outlet-pipe and, of course, drowned. The warm baths may be taken direct into an ordinary drain, provided the latter discharges over an open trap. The end of the drain-pipe should be continued up in iron as a ventilator. A further precaution against foul air entering the room is to trap each bath.

The Midland superintendent I referred to writes me that at his establishment the wastes are carried untrapped through the floor into a subway, which leads the water off to a trap; but he adds that in this case the channel is too shallow, and so the bath water is practically discharged on to the subway floor with unpleasant results. I mention the matter as an instance of the want of that care and forethought which are so essential in dealing with the subject. It is not a bad idea to discharge over such a channel if it is only deep enough and can be regularly cleaned with a hose.

Finally, every part of the drainage should be easily accessible, for delay in removing a stoppage might seriously disorganise the work of the establishment.

Before I close my paper I should like to ask you to recognise the courtesy of the gentlemen who have so kindly lent me—I should say us—the plans which are hung round the rooms. In asking for them I took leave to say that I was sure you would, with me, feel indebted to them for their good nature. Personally, I always feel that it is a duty we architects owe to one another, to the world, or to our country, and not least to ourselves, not to hide our light under a bushel from a narrow spirit of caution (I will not say jealousy) lest others may draw some benefit from the products of our brains. I only regret that this narrowness of vision, or some other motive which I cannot fathom, has prevented one or two architects to whom I applied complying with my request for the drawings just for this evening. The loss is theirs no less than ours.

I fear on the whole I have treated the subject in a very inadequate manner, but if I have succeeded in placing before you matter for a full and interesting discussion I shall be more than content with my effort. The subject is a large one, and I have tried to impart to you in the short time at my disposal as much as possible, and I trust if I have told you anything new, you will in your turn give me of your knowledge in criticism.

The Chairman said it was surprising to find the Germans and Austrians were ahead of the English in the arrangement of their public baths. Foreigners as a rule found fault with the Britisher's love of bathing, but apparently in Austria and Germany the necessity of good baths was more recognised than in this country. It was rather difficult to determine what was the best arrangement to be followed, and there could not be a hard and fast rule laid down for the making of plans for such a building. The engineering work in the construction of a bath would have to be left to an engineer, as architects could not pretend to do such work, but it would be often well for the architect to seek the engineer's advice and work hand in hand with him. The Chairman proposed a vote of thanks to Mr. Saxon Snell for his paper.

Mr. T. Norman Dimviddy seconded the vote, which was supported by Messrs. H. T. Hare, C. H. Brodie, Ernest Herbert and Matt Garbutt.

Mr. Marchant, superintendent of the Marylebone baths, gave some of his experiences.

Mr. E. J. Wakeling, chairman of the Shoreditch baths committee, also joined in the discussion.

EDINBURGH ARCHITECTURAL ASSOCIATION.

At the meeting of the Edinburgh Architectural Association in the Royal Institution on the 8th inst., Mr. Harold Tarbolton read a paper on "Plasterwork of the Renaissance Period in Great Britain, and its Subsequent Phases." Mr. Tarbolton traced the history of plaster decoration from the somewhat isolated attempts of Italian craftsmen to pursue their art in England, and, on the death of their patron Henry VIII., the influx of Germans and Dutch with their strange and sometimes crude displays of decoration; and subsequently the introduction by Inigo Jones of the later and much modified Italian modes. The starting-point of all plaster-work was the moulding of old ceilings, which might be divided into two kinds—those with enrichments modelled in a cast from an impressionable medium such as clay, and those modelled *in situ*. Having described the two processes, Mr. Tarbolton remarked that no beautiful detail and delicacy of execution in plaster-work, as in every other craft, could condone any offence against proportion. Let them take all that was best in conception from the old work; they had magnificent examples within reach. He wished especially to emphasise the importance to architects of a personal and practical knowledge of the crafts. They could not fully understand the capabilities and limitations of any material until they knew its nature and ways of working. Until they had handled clay and worked with hawk and tool in hand and modelled *in situ*, it was next to impossible to appreciate the subtleties of the craft in plaster-work. Architects should at least know thoroughly the interpretation and manipulation of one or more crafts in their endeavour to catch the spirit and vigour of the earlier Renaissance workmen. A great work was being done in the School of Applied Art in Edinburgh in familiarising students with materials and their workings, and he was confident they would see the result in the work of the next few years. The paper was illustrated by limelight views of ceilings in England and Scotland.

The members of the Edinburgh Architectural Association visited Colinton Castle and Redhall on the 11th inst. by the kind permission of Colonel J. M. Trotter and Mr. D. Chalmers. On arriving at Colinton the party were met by

r. G. W. Balfour and Dr. Rowand Anderson, the latter of hom acted as leader at both places. On the way to Colinton astle the Episcopal church erected from the designs of Dr. nderson, and recently decorated in a very fine manner, was amined. Colonel and Mrs. Trotter received the visitors at e Castle, and a description of the ruin was read to the embers. At Redhall, after enjoying the hospitality of Mrs. id Miss Chalmers, Dr. Anderson gave a brief history of the wners of the property and of the destroyed Castle. On the otion of Mr. Thomas Ross, president, Colonel Trotter and [r. Chalmers were thanked for granting permission to visit ie Castle, and a vote of thanks was also passed to Dr. Ander- on for acting as leader of the party.

ARCHITECTURAL SOCIETY OF GLASGOW.

A LECTURE was delivered on Monday, the 13th inst., by Mr. James A. Love Tindal, writer, Glasgow, to the rchitectural branch of the Glasgow Philosophical Society at ie Society's rooms in Bath Street, Glasgow, his subject being "The Workmen's Compensation Act, 1897, so far as it affects uilders and Architects." There was a large attendance of iembers, and representatives from various insurance com- anies were present. Mr. P. Macgregor Chalmers, president, ccupied the chair. The lecturer said that the Workmen's ompensation Act of 1897 was the result of the resistless ressure of public opinion and social progress, which seemed o develop the idea that the State had a paternal responsibility n connection with the relations existing between employers and mployed. By that Act workmen were practically insured at he expense of their employers and the trade, and, as a necessary esult, at the expense of the consumers of the commodities roduced by that trade. So far as the 1897 Act was concerned he law of negligence might have had no existence, as a work- nan coming under the Act was entitled to compensation rrespective of negligence or carelessness on his part, so long is he was not proved to have been guilty of serious and wilful nisconduct. The Act was probably the commencement of a ystem of compulsory restrictions on the freedom hitherto exercised by employers and their workmen, and further legisla- ion extending and emphasising the principles which it promul- gated might be expected. Mr. Tindal thereafter took the Act clause by clause, explaining the effect of each specially with regard to the building trade, and pointed out various conditions which restricted the operation of the Act, particularly that its provisions would not apply unless the building being con- structed, repaired, or demolished exceeded 30 feet in height. A discussion followed, and a vote of thanks to the lecturer concluded the proceedings.

TESSERÆ.

The Beautiful and the Useful.

THE elegance of the ornament not unfrequently attests the stoutness of the fabric. Only into their most durable tissues did the Genoese embroiderers weave their delicate threads of gold; only on the hardest steel did the smiths of Milan damaskeen the gracious phantasies which still keep their armour among the heirlooms of royal halls, and guide the eye of the craftsman to numberless fresh applications of former art, though the armour itself be worn no more. The useful passes away with each generation into new uses. The beautiful remains a fixed unalterable standard of value, by which the useful itself is compelled to calculate the worth of its daily labours. This is a truth which to a superficial thinker will seem dubious. Every profound thinker will acknowledge it at once.

Talleyrand's Pictures.

The collection of cabinet pictures of the Flemish and Dutch schools, formed by Talleyrand, was considered one of the most select in France. It was composed of *chefs-d'œuvre* drawn from the various collections of Hesse Cassel, Malmaison, the Prince de Conti, the Duc de Valentinois, the Duc d'Alva, the Duc de Choisseuill, De Poullain, of Randon de Boisset, De Tolozan, Van Leyden, De Schmidt, Clos, Solirène, the Duc Dalberg and Robit, and had the advantage of being formed under the direction of M. le Brun, one of the most intelligent connoisseurs of the French capital. In the year 1817 Talleyrand having expressed himself inclined to dispose of his collection by private contract, William Buchanan waited upon him in Paris for the purpose of making proposals to purchase them. After a short conversation with Talleyrand, and having examined the collection, he agreed to give him the sum at which the collection had been valued, viz. 320,000 francs, provided he would reserve a Claude, which hung in a situation too high to be examined critically, and make a deduction of 30,000 francs for the same, being the sum at which it had been valued. To these terms Talleyrand would not consent at the time, and would make no deduction whatever; but he desired to take the proposition regarding the Claude into consideration, and to give an answer the following day. In the meantime a gentleman who had introduced Buchanan to Talleyrand wrote a letter to the secretary of the diplomatist, without the knowledge of the former, proposing some modification of the offer in regard to the collection without the Claude, which it appears had given offence either to Talleyrand himself or to his secretary; for on the following day Mr. Buchanan attended by appointment to conclude the transaction (and he had determined not to allow the affair of the Claude to stand in the way of it); he was informed that Talleyrand had gone from home, and that the pictures were no longer visible. Finding his views defeated from this casualty, and no probability of again having an interview with the proprietor himself, and being at the same time informed that Talleyrand had changed his intention of selling this fine collection of pictures, Buchanan returned to England, and had been there for several weeks when he was again informed that this collection was to be sold on July 7 by public sale in Paris, of which he received a printed catalogue. Having previously received intimation that something of this kind might be the case, Buchanan had taken care to have credits in readiness to operate on at a short notice, as one of the principal causes for not terminating the affair at the first interview with Talleyrand was his not having carried credits with him for a sum adequate to that which would have been required, *argent comptant*, had the terms proposed been agreed to; and the affair of the Claude was intended either to create a diminution on the aggregate sum, if accepted, or to keep the affair open until the proper arrangement for the payment of the whole should be made, and the money received from England. On the second occasion, therefore, as he was prepared for the affair, whatever shape it might assume, he set off immediately for Paris to negotiate with the gentleman who, he was informed, had been named as agent for the disposal of these pictures, being anxious to secure for this country so celebrated a collection if it were possible. On Buchanan's arrival in Paris he found that the pictures, although still on the walls of the Hôtel de Talleyrand, had been placed entirely under the control of M. Bonnemaison; and as he was informed that several competitors for them had come into the field, he lost no time in concluding a transaction with that gentleman by which he was to pay 320,000 francs for the collection as it stood described in the printed catalogue, which contained forty-six pictures, the greater proportion of which were of first-class quality.

The Belvedere Antinous or Mercury.

If the gods of Greece be considered not merely through the medium of popular fables, but in that light which the profounder interpretation of mythology reflects on them, then we may understand the otherwise unaccountable contradictions between their embodiment in art and their character in mythology. The human mind, conscious of high attributes in itself, felt the necessity of contemplating an objective ideal in which those attributes were unfolded to perfection as the source of influences to strengthen and exalt. The statue now before us has no apparent relation to the cajoling, thoroughly undignified Mercury, as he is presented by one aspect at least of his fabulous adventures; as the gracious messenger of the gods, the genius of eloquence, the inventor of the seven-chorded lyre, the heroic destroyer of the hundred-eyed Argus, we may recognise him in this statue. The expression is that of god-like clemency, that seems to look down auspicious and compassionate on the sorrows and infirmities of those who supplicate at his shrine. "There is no work of sculpture," says Visconti, "in which the appearance of the flesh is given with such perfection. The head does not yield in beauty of design and execution to any ever produced by the chisel, and has an air so tranquil and divine that the beholder is fascinated; no statue has combined so much robustness with so much elegance; none been imagined or executed in a bolder manner." Visconti was the first who declared this statue to be Mercury, after it had for two centuries been commonly called Antinous; whilst some suggested Theseus, others Hercules, others Meleager, as its intended subject. An antique formerly in the Farnese Palace was found to resemble this so exactly, whilst the subject was evident in the former from the *talari* on the feet and *caduceus* in the hand, that their correspondence as statues of Mercury become unquestionable. The preference given by Nicholas Poussin to this statue as a model of the finest proportions in the human figure is well known; and the number of copies still existing attest the value in which the original (and the marble before us is unquestionably no other) was held by the ancients. A defect in the exterior contour of the limbs has been occasioned by the clumsy expedient adopted in restoring and partly piecing together this statue. The upper part of the leg did not correspond with the outline of the lower, as the fragments had been joined and the surface both of the limb and ankle was rasped in order to reduce it to equality. The trunk of a palm-

tree, serving as a support to the figure, is allusive to the use made by Mercury of its leaves, on which the letters invented by him were inscribed.

The Last Days of Turner.

The death of the great painter was as dismal as his life. He had disappeared, nobody knew where, from Queen Anne Street. Chance glimpses of him were seen from time to time, principally in suburban public-houses, from which the tremulous old figure vanished as soon as it was recognised. His friends, his "Joney" and brother Academicians, would have sought him out had it perhaps been anybody's business, or had there been any clue to his whereabouts. At last his old housekeeper, employing the wits which possibly some woeful vestige of old love or jealousy quickened, discovered the retreat at Chelsea in which the old man had found another dismal bower of Armida. When he was discovered he was dying. He had sent for a doctor from Margate in whom he had confidence who told him his end was near. "Go downstairs, doctor," said the trembling patient with a wistful appeal to the arbiter of life and death most tragic in its serio-comedy and faltering attempt at a jest; "take a glass of sherry, and then look at me again." But this propitiation did not alter the dread verdict; and thus, always sordid in his poor surroundings, apparently preferring the meanest aspect of things domestic, in a house no better nor more refined than his Covent Garden birthplace, the great painter died nameless. They say that in these last dreary days the lonely old man would start from his bed and stumble up with tottering steps to the cottage roof, from which he could see that dark river weltering between its familiar banks which had twined a glistening thread of natural tenderness through his barren life. Despairing feeble eyes, before which the gloom of night was gathering, turned wistful on that stream where still the golden sunshine glories shone upon the darkened tide. Refuged like a wild creature in that obscurity, fled from his vain fame, his useless hoards, the familiar circumstances of his long unlovely life, what thoughts possessed the dumb soul, mutely defiant of all human influences, in that dying gaze upon the light which had no pity upon his failing vision? Too dark for imagination to enter upon, pitiful enough to silence even the necessary verdict of justice, is that last scene in the dark drama. The tragedy was over when the black gleaming Thames, all muddy and miserable, yet glorified with light from heaven, faded from the closing eyelids of the old painter, upon whose murky life a light almost as glorious and as profoundly alien to the turbid stream it shone on had blazed and glistened; but the tragedy is only ineffably pitiful, sad with real human failure and misery—not heroic, nor touched with the elevation of sorrow. No compensation beautifies the dismal loss there consummated and brought to a conclusion. The heart aches that turns away from that dark spectacle. No throb of human conquest over death and forgetfulness, no consciousness of genius triumphant over the obstacles that have fretted its path, swells the breast of the spectator as he turns from that melancholy death-scene. Let the darkest curtain fall over the lost life. Here died a man to whom, by strangest accident, had fallen such a glorious gift of genius as might have indemnified a human creature for all the agonies of existence.

The Palace of Caserta.

About 13 miles from Naples is one of the finest kingly residences in Europe—so say all the guide books, and they are right. Vanvitelli is the very Michel Angelo of palace-rearing. The building was constructed in 1752. Its shape is a parallelogram approaching to a square. Counting mezzanines, it has six storeys besides the attic, and is pierced with no less than 1,700 windows. Its stair, the very perfection of that sort of construction, is vast in all its dimensions and so very easy that you look down from its summit admiring with untried lungs the enormous height you have reached. It starts double from the ground, and twenty persons might ascend either branch abreast and meet one another at the spot where it begins to return upon itself, so that the noble octagonal landing above finds itself just over the starting-place below. From this post four large windows command four spacious courts, and the simple construction of this gigantic edifice stands unveiled. You now begin your journey through vast, lofty, magnificently marbled and very ill-furnished apartments, of which, before you have completed the half circuit of a single floor, you are heartily tired, for beyond the architecture there is nothing to see. The commonest broker's shop would furnish better pictures. Boar hunts, of course, to represent how Neapolitan kings kill boars at Portici, and shoot wild ducks on the Lago di Fusina. There is also an ample historical fresco on the ceiling of the antechamber to the throne-room, on which Murat had caused to be represented some notable charge where he proved victorious; but after he was shot, Ferdinand, with great taste, judgment and good feeling, erased, interpolated and altered the picture into a harmless battle of Trojans against Greeks, or some such thing. The palace has two theatres and a chapel, and you must change your conductor four times if you would be led through the whole. Caserta has cost 7,000,000 scudi. It may have something of the formality of Versailles or Chantilly, but its leading features are essentially English; its thickets and copses abound in hares and pheasants. The ilex attains twice the height we remember to have seen it reach elsewhere. Its islands and fishponds, its kitchen and flower-gardens, put one in mind of a first-rate English country seat. The ornamental water is fetched by an aqueduct worthy of old Rome from mountains 7 miles off, first emptying its whole charge over a high ledge of rock, making a waterfall (which you see from the drawing-room window) over a series of steps and terraces, which get wider as they get lower, till they terminate in a superb basin within a quarter of a mile of the palace, where the water makes its last bound, and forms a broad lake fit for Diana and her nymphs, amidst woods fit for Actæon and his dogs.

CORRESPONDENCE.

Lincrusta-Walton.

SIR,—Having seen in your issue of 3rd inst. the account of the interesting paper about Lincrusta-Walton, which was read on 23rd ult. before the Society of Architects by Mr. Norris for Mr. F. F. Scruby (who is the agent of some foreign manufacturers of Lincrusta-Walton), we would ask you to kindly permit us (so as to remove any erroneous impression) to point out that we, Fredk. Walton & Co., Limited, are the original and sole patentees and manufacturers in Great Britain of Lincrusta-Walton (the Sunbury Wall Decoration); that Mr. Frederick Walton, the inventor of this material, is himself a member of our board and has a very large interest in this company; and that our head office and show-rooms have been for ten years past and still are at 2 Newman Street, Oxford Street, London, W.; and further that this is our only London address, our works being at Sunbury-on-Thames.

Thanking you in anticipation for your courtesy in inserting this letter in your paper,—I am, dear Sir, yours faithfully,

FRED. EGERTON HINE, General Manager and Secretary.
(Fredk. Walton & Co., Limited.)

[We have much pleasure in confirming the above statement.—ED.]

GENERAL.

The Exhibition of the Institute of Painters in Water-Colours will be opened to the public on Monday next.

Mr. W. Clifton, professor of painting at the Royal Artillery Institution, Woolwich, will shortly issue a volume entitled "Notes on Colour: showing how the Laws which regulate Monochrome can in most cases be applied to Colour when Painting."

An "Old Blue," who desires to conceal his identity, has, the *City Press* understands, sent a cheque for 1,500*l.* to the treasurer, through the architects, to defray the cost of providing an organ for the chapel in the new buildings for Christ's Hospital at Horsham.

A Claim for Compensation in respect of a ground-rent of 895*l.*, secured on land in Shepherdess Walk, City Road, E.C., was tried on Tuesday. The jury fixed the value of the ground-rent at thirty-five years' purchase, 31,325*l.*, from which they deducted 1,174*l.* in respect of the reduced rent during the first seven years of an agreement which had been entered into, leaving 30,151*l.*, to which they added the usual 10 per cent. for compulsory sale (3,015*l.*), making a total award of 33,166*l.*

A Paper was read by Mr. W. N. Twelvetrees, M.I.M.E., on "The Mechanical Purification of Public Water Supplies," at the meeting of the Civil and Mechanical Engineers' Society at the Hotel Victoria yesterday evening. Mr. B. Baines Dadley, president, was in the chair.

The next ordinary meeting of the Surveyors' Institution will be held on Monday next, the 20th inst., when a paper will he read by Colonel G. W. Raikes (Fellow), on "The Report (No. 2) of the Royal Commission on Local Taxation, especially dealing with Valuation and Rating in respect of Tithe Rent-Charge." The chair will be taken at eight o'clock.

By a Majority of eight votes to four against, the Selby Urban Council have decided to apply to the Local Government Board for sanction to borrow a loan of 5,000*l.* for erecting baths in the Park at Selby.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

ABERDEEN.—March 23.—For additions to steadings at Piketillam and North Ardgrain, and dwelling-house at Moss of Ellon Croft. Mr. Hugh M'Donald, land steward, Ellon.

AXBRIDGE.—March 20.—For alterations and additions to the Weston-super-Mare casual wards. Mr. A. Powell, 3 Unity Street, College Green, Bristol.

BANGOR.—March 20.—For alterations to premises, No. 249 High Street, for Messrs. Briggs & Co., Leicester. Mr. Richard Hall, architect, Bangor, North Wales.

BASLOW.—For alterations and enlargements of The Cottage. Mr. W. Cecil Jackson, architect, 29 Knifesmith Gate, Chesterfield.

BELFAST.—For erection of two shops and three dwelling-houses, Oldpark Road. Mr. W. J. Moore, architect, Whitehall Buildings, Ann Street, Belfast.

BELFAST.—March 21.—For construction of a retaining-wall, with parapet, at M'Clure Street. Sir Samuel Black, town clerk, Belfast.

BELFAST.—March 27.—For erection of fourteen single one-storey cottages at level crossings between Belfast and Richhill, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

BOGNOR.—March 20.—For erection of stables, cartsheds, workshops and boundary wall at the Council's depôt in Circus Road, Bognor, and the erection of two cottages on land adjoining. Mr. A. H. Bridges, town surveyor, Bognor.

BRADFORD.—For erection of a warehouse. Messrs. James Young & Co., architects, 62 Market Street, Bradford.

BRADFORD.—March 24.—For erection of barrel washing and drying works and cellarage in Brewery Street. Messrs. T. C. Hope & Son, architects, 23 Bank Street.

BRAINTREE.—March 22.—For erection of a dwelling-house. Messrs. Clare & Ross, architects, 66 Duke Street, Chelmsford.

BRAMPTON.—March 21.—For erection of a Wesleyan church and schools at Brampton, Cumberland. Mr. Thos. Pattinson, Townley Place, Brampton.

BRENTFORD.—March 21.—For extension of the market at Kew Bridge, Brentford. Mr. Stephen Woodbridge, clerk, New Brentford.

BRIDLINGTON QUAY.—March 27.—For erection of three houses in Cambridge Street. Messrs. Brodrick, Lowther & Walker, architects, Central Chambers, Bridlington Quay.

BRIDLINGTON QUAY.—March 20.—For insertion of a new shop front and other alterations to 12 King Street. Messrs. Brodrick, Lowther & Walker, architects and surveyors, Central Chambers, Bridlington Quay.

BRISTOL.—For additions to premises, Broadmead. Mr. James Hart, Liverpool Chambers, Corn Street, Bristol.

BRISTOL.—March 20.—For erection of transit shed, Welsh Back. The Secretary of the Docks Committee, 19 Queen Square, Bristol.

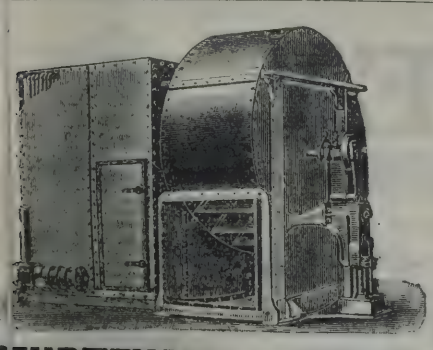
BRISTOL.—March 21.—For erection of a fire station at Northcote Road, St. George. Mr. T. H. Yabbicom, city engineer, 63 Queen Square, Bristol.

CAMBERWELL.—March 20.—For alterations to the Vestry Hall. Mr. W. Oxtoby, surveyor, Vestry Hall, Peckham Road.

CARDIFF.—March 27.—For erection of Welsh Calvinistic Methodist Chapel, Crwys Road. Mr. John H. Phillips, architect, St. John's Chambers, Cardiff.

CARLISLE.—March 23.—For erection of a Wesleyan school chapel at Aspatria. Mr. J. S. Moffat, architect, Whitehaven.

CROYDON.—March 20.—For erection of a workshop at the workhouse, Queen's Road. Mr. E. West, surveyor, 23 Coombe Road, Croydon.



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DENBY DALE.—March 23.—For alterations to the passenger station and goods yard and construction of subway, &c., at Denby Dale, for the Lancashire and Yorkshire Railway Company. Mr. C. W. Bayley, secretary, Hunt's Bank, Manchester.

DERBY.—For erection of seven cottages, Nottingham Road. Mr. E. R. Ridgway, architect, Long Eaton.

DEWSBURY.—March 23.—For erection of a detached house at Savile Town. Messrs. C. H. Marriott & Son, architects, West Park Street, Dewsbury.

DEWSBURY.—March 23.—For erection of two dwelling-houses and a shop in Halifax Road. Mr. F. W. Ridgway, architect, Dewsbury.

DEWSBURY.—March 25.—For extension of the electric-lighting station. Mr. Hy. Dearden, borough surveyor, Town Hall, Dewsbury.

DUBLIN.—March 20.—For erection of labourers' cottages, in two lots, viz. twenty-four in Rathfarnham and twenty-six in Clondalkin electoral divisions. Mr. Thomas Phelan, sanitary officer, Board Room, James's Street, Dublin.

DUBLIN.—March 22.—For alterations and additions to the Children's Home, Cabra. Mr. Morris, clerk of works, 21 Cabra Parade.

DUDLEY.—For erection of temperance institute. Messrs. Wood & Kendrick, architects, West Bromwich.

DUNMOW.—March 24.—For erection of a post office at Dunmow and enlargement of the ironmonger's buildings. Mr. B. J. Capell, architect, 70 Whitechapel Road, London, E.

DURHAM.—March 25.—For erection of twelve houses or more at Chopwell, and dwelling-house, coachhouse, stables, &c, at Blackhall Mill. Mr. D. M. Spence, architect, Ashmount, Shotley Bridge.

DURHAM.—April 11.—For erection of the Johnston Electric School. Messrs. Oliver & Leeson, architects, Bank Chambers, Mosley Street, Newcastle-on-Tyne.

ENGLEFIELD GREEN.—April 1.—For enlarging boys' school, asphalting boys and girls' playgrounds, altering and enlarging offices, improving drainage arrangements, &c., at the Englefield Green schools, Surrey. Mr. W. Menzies, architect, Englefield Green, Surrey.

FENNY COMPTON.—March 21.—For erection of a cottage at Fenny Compton station, Warwickshire, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

FRASERBURGH, N.B.—March 20.—For erection of teacher's house, Rosehearty. Mr. Charles Stevenson, clerk, Pitsligo School Board, Rosehearty.

GATESHEAD.—March 20.—For erection of Rose Street schools. Messrs. Thompson & Dunn, architects, St. Nicholas's Buildings, Newcastle.

GLASGOW.—March 24.—For erection of public baths at Whitevale Street. Mr. John Lindsay, interim clerk, City Chambers, Glasgow.

GRANTHAM.—March 23.—For pulling down, removal and rebuilding of the parish church of Long Bennington. Mr. Wm. Scorer, architect, Bank Street Chambers, Lincoln.

HALSTEAD.—For erection of four pairs of cottages near King's Road. Messrs. Goodey & Cressall, architects and surveyors, 2 Victoria Chambers, Colchester.

HANLEY.—For erection of shop premises and house in Keeling's Lane, Northwood. Mr. A. P. Miller, architect, Frederick Street, Hanley.

HANLEY.—March 21.—For erection of St. Jude's parish church in Victoria Road. Messrs. R. Scrivener & Sons, architects, Hanley.

HIGHGATE.—March 27.—For alterations and additions to the steam laundry at the infirmary, Archway Road, N., comprising a Cornish boiler, the alteration and rearrangement of the drying closet, repairs to hydro-extractors, new 9 feet ironing machine, &c. Mr. John Buley, engineer, Suffolk House, Laurence Pountney Hill, E.C.

HUDDERSFIELD.—March 20.—For erection of a dwelling-house at Springdale. Mr. J. Berry, architect, 9 Queen Street, Huddersfield.

HUDDERSFIELD.—March 27.—For erection of Station Street Buildings. Messrs. Abbey & Hanson, architects, 20 Ramsden Street, Huddersfield.

HUDDERSFIELD.—March 28.—For erection of an assembly hall in connection with the Wesleyan church at Linthwaite. Messrs. John Kirk & Sons, architects, Huddersfield.

HUNTINGDON.—March 22.—For alterations and additions to the Court Hall, Godmanchester, near Huntingdon. Messrs. Townsend & Fordham, architects, Cross Street, Peterborough.

IPSWICH.—April 1.—For alterations and additions to w.c.s and bathroom on male side at the borough asylum. Mr. E. Buckham, borough surveyor, Town Hall, Ipswich.

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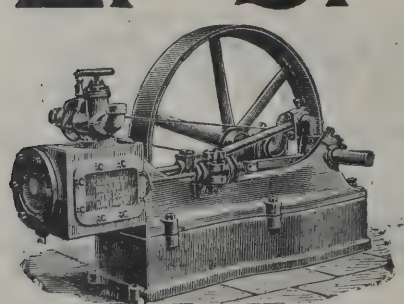
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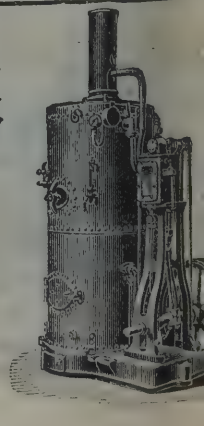
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[*Mention this Journal.*]



IPSWICH.—For new shop-front and alterations to premises in Westgate Street. Mr. Thos. Wm. Cotman, architect, Northgate Street, Ipswich.

IRELAND.—For rebuilding business premises in Ballynahinch. Plans and specifications can be seen at the hotel, Ballynahinch.

IRELAND.—March 20.—For erection of two semi-detached villas at Craigavad, co. Down. Mr. John H. Delbridge, architect, 16 Chichester Street, Belfast.

IRELAND.—March 20.—For erection of an auxiliary at Ranelly for the Beragh Co-operative Agricultural and Dairy Society, Limited. Mr. John Johnston, secretary, Commercial Hotel, Boragh, co. Tyrone.

IRELAND.—March 25.—For erection of a sacristy at Croom R.C. church. Mr. Moriarty, Main Street, Croom.

IRELAND.—March 28.—For altering and extending the parish church. Mr. S. P. Close, architect, Donegal Square Buildings, Belfast.

KINGSTON-ON-THAMES.—March 28.—For erection of a female infirmary, &c., at the workhouse. Mr. William H. Hope, architect, Union Offices, Portsmouth Road, Kingston-on-Thames.

LANCHESTER.—April 5.—For construction of a bridge over New House Burn. Mr. W. H. Ritson, clerk, Lanchester, Durham.

LEEDS.—March 29.—For addition of an apse, clergy vestry, nave roof, new seating, &c., at St. George's Church. Mr. Henry Walker, architect, 8 Upper Fountaine Street, Leeds.

LEYTON.—April 4.—For erection of public baths. Messrs. Harrap & Duffield, architects, 34 Queen Street, E.C.

LIVERPOOL.—March 28.—For alterations to the public washhouses at Burroughs Garden. Mr. W. R. Court, engineer, Cornwallis Street.

LUTON.—March 21.—For erection of school buildings in connection with the Waller Street Wesleyan chapel. Messrs. J. R. Brown & Son, architects, 17 Market Hill, Luton.

MACCLESFIELD.—March 25.—For laying out, fencing and draining the new playground in connection with the school, and for taking down the present offices and out-buildings, and the erection of new ones, for the managers of the Broken Cross National school. Messrs. Whittaker & Bradburn, architects, 19 King Edward Street, Macclesfield.

MANCHESTER.—March 20.—For erection of twenty-two cottages at Miles Platting. City Surveyor, Municipal Offices, Manchester.

MORECAMBE.—March 20.—For erection of mineral-water works off Thornton Road, Morecambe. Mr. A. Lancelot Lang, architect, 12A Pedder Street, Morecambe.

NELSON.—March 23.—For erection of concrete and masonry walls to abutments of bridge, and four stone pillars to bridge, to be erected in the Victoria Park. Mr. B. Ball, surveyor, Town Hall, Nelson.

NOTTINGHAM.—March 21.—For erection of premises at Carlton. Mr. R. Whitbread, architect, Carlton, near Nottingham.

PLYMOUTH.—March 20.—For erection and completion of a factory with chimney-shaft at Mount Batten. Mr. James Ford, C.E., architect, 1 George Street, Plymouth.

PONTYPOOL.—March 25.—For erection of a pair of semi-detached villas, Station Field. Mr. D. J. Lougher, architect, Bank Chambers, Pontypool.

POPLAR.—March 28.—For erection of a coroner's court, public mortuaries and shelters at High Street. Messrs. Lansdell & Harrison, architects, 38 Bow Lane, Cheapside, E.C.

PUDSEY.—For erection of five small through houses in Somerset Road, Richardshaw Lane. Mr. George D. Goforth, Richardshaw Lane, Pudsey, Yorks.

ROTHBURY.—March 20.—For erection of a house adjoining the Queen's Head hotel. Mr. J. Wake, Rothbury.

RUGBY.—March 27.—For erection of a corrugated iron building at the cattle market. Mr. D. G. Macdonald, surveyor, Rugby.

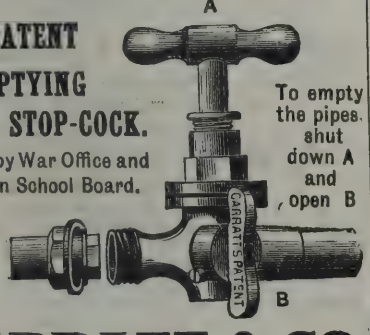
RUGELEY.—For erection of a bakery, slaughter-house, stables, &c., in Bow Street and Taylor's Lane. Mr. William Price, secretary, Co-operative Wholesale Society, Limited, Albion Street, Rugeley.

SANDWICH.—March 20.—For erection of public offices, mortuary, boiler-house, &c., at the gasworks. Mr. Chas. J. Conquest, borough surveyor, Sandwich.

SCOTLAND.—March 20.—For erection of a cottage at Bellabeg, Strathdon. Messrs. M'Millan, architects, 211 Union Street, Aberdeen.

SCOTLAND.—March 21.—For erection of a mission hall at Drumlemble. Mr. Donald M'Nair, Campbeltown.

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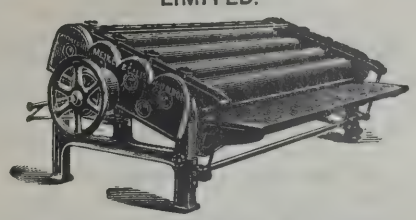
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SCOTLAND.—April 3.—For addition to Ardrossan Academy, Ardrossan. Mr. John Armour, jun., architect, Irvine.

SCOTLAND.—For erection of an addition to Eriskay public school to accommodate twenty scholars, South Uist. Mr. John Wedderspoon, architect, Inverness.

SHIPLEY.—For erection of a combing-shed. Mr. John Jackson, architect, Barry Street, Bradford.

SLEAFORD.—April 4.—For erection of the superstructure of the new lunatic asylum at Rauceby, near Sleaford. Mr. George T. Hine, architect, 35 Parliament Street, Westminster, S.W.

SOUTH KIRKBY.—March 25.—For erection of Wesleyan church. Mr. George F. Pennington, architect, Central Chambers, Castleford.

SOUTH SHIELDS.—March 21.—For erection of extensions to the engine-house and the boiler-house and bunkers at the electricity works, West Holborn. Mr. Fred. Rennoldson, architect, Union Chambers, King Street, South Shields.

SOUTH WRAXALL.—March 21.—For additions to South Wraxall schools, Wilts. Mr. W. H. Stanley, architect, Market House Chambers, Trowbridge.

ST. ALBANS.—March 20.—For additions and alterations to the St. Albans hospital. Mr. F. Hibbert, secretary, 45 St. Peter's Street, St. Albans.

ST. STEPHEN'S-BY-SALTASH.—March 28.—For providing and laying in the parish of St. Stephen's-by-Saltash about 4,500 yards of 5, 4 and 3-inch water-mains, with sluice-valves, hydrants, &c. Mr. Fred. Wm. Cleverton, clerk, 4 Buckland Terrace, Plymouth.

STOKE-ON-TRENT.—March 20.—For erection of a cooking classroom at the Bucknall Board schools. Messrs. R. Scrivener & Sons, architects, Hanley.

STONHAM PARVA.—For erection of a small house in the parish of Stonham Parva. Mr. Walter Durrant, Hermon Lodge, Felixstowe.

STROUD GREEN.—April 10.—For erection of buildings for a branch public library. Mr. E. J. Lovegrove, surveyor, Southwood Lane, Highgate, N.

THORNHAM.—For repairing the nave roof of the Thornham church, Norfolk. For particulars apply to Vicar or Churchwardens.

THORPE-LE-SOKEN.—March 20.—For erection of a witnesses' room and for general repairs at the police-station at Thorpe-le-Soken, Essex. Mr. Herbert W. Gibson, deputy-clerk of the peace, Shire Hall, Chelmsford.

TIPTON.—April 6.—For erection of a block of schools at Ocker Hill, Tipton. Mr. Alfred Long, architect, 21 High Street, West Bromwich.

TOOTING.—March 28.—For erection of stabling and cottage at the dust destructor at Alston Road. Mr. Henry George Hills, clerk to the Board, East Hill, Wandsworth.

WAKEFIELD.—March 20.—For erection of six dwelling-houses, Potovens Lane, Potovens. Mr. Willie Wrigley, architect, 6 Westgate, Wakefield.

WALES.—For rebuilding of and additions to the Navigation Hotel, Merthyr Vale. Mr. Morgan Griffiths, at the hotel.

WALES.—For erection of fifty cottages, for the Port Talbot Development Company, Limited. Mr. David C. Salmond, architect, 7 Windsor Place, Cardiff.

WALES.—March 20.—For erection of a Conservative club at Station Street, Barry Docks. Mr. George Thomas, architect, Queen's Chambers, Cardiff.

WALES.—March 22.—For erection of a hotel at Aber, near Caerphilly. Mr. Illtyd Thomas, architect and surveyor, 17 Quay Street, Cardiff.

WALES.—March 24.—For erection of twenty-five cottages at the docks, Port Talbot, Glamorgan. Mr. Frank B. Smith, architect, Port Talbot.

WALES.—March 24.—For erection of two shops, with dwelling-houses, Hall Street, Rhos. Mr. Benjamin Owen, 11 Penybryn, Wrexham.

WALES.—March 27.—For erection of Ainon Baptist chapel, Treorky. Rev. S. Morgan, 3 Bute Street, Treorky.

WEST NORWOOD.—March 22.—For erection of two bath-rooms at the Lambeth School Infirmary, Elder Road. Mr. W. Thurnall, clerk, offices of the Guardians, Brook Street, Kennington Road.

WESTON-SUPER-MARE.—March 22.—For alterations to the Bristol Hotel. Messrs. S. J. Wilde & Fry, architects, Boulevard Chambers, Weston-super-Mare.

WINCHMORE HILL.—March 29.—For erection of a boiler and engine-house, &c., at the Northern Hospital. Messrs. Pennington & Son, architects, Hastings House, Norfolk Street, Strand, W.C.

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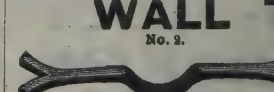
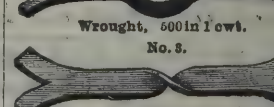
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WOLVERHAMPTON.—For erection of schools in Gatis Street. Mr. F. Hunter Lynes, architect, Gresham Chambers, Lichfield Street, Wolverhampton.

WORKINGTON.—March 22.—For erection of Appletree Inn, Finkle Street. Mr. W. J. Eaglesfield, borough surveyor, Town Hall, Workington.

WREXHAM.—For re-erection of central stores, Bridge Street and Brook Street. Messrs. Morison & Son, architects, King Street, Wrexham.

THE church of the Good Shepherd, Murrayfield, which has been erected on a suitable site for the convenience of Scottish Episcopalian worshippers in the Murrayfield district of Edinburgh, was opened on the 4th inst. and consecrated by Bishop Dowden. The church stands picturesquely on the east side of Murrayfield Avenue, having a grove of trees on its south side and a considerable amount of garden ground around it. The church at present consists merely of nave and chancel, with wing for vestries, &c. Ultimately a north aisle and organ transept will be added, and a square tower will be carried up over the vestry wing. The nave is entered by a porch at the south-west corner of the building. At the west end is the font, beneath a large six-light window. The nave is treated with the utmost simplicity, and consists of five bays with plain barrel wood roof. To the north side is the arcade to the future aisle. The pulpit is in the north-east corner of the nave and is of oak, with linen fold-panelling on the wall behind. This is a gift from the Hon. Mrs. Montgomery in memory of the late dean. The west part of the chancel is occupied by the choir, which is one step above the nave. The reredos, reaching 15 feet up from the floor, is in the form of a triptych, the centre panel being carried up above the rest. It is surrounded by a pierced and carved frame, with the dove in a halo of rays at the apex, flanked on each side by angelic figures. At the sides are green stamped velvet wings hanging from iron rods. The colour treatment of the whole is in dull red and gold. In the centre light of the east window is the Crucifixion. The background is filled with diapered lattice glass. The heads of the side lights contain the sacred initials on crowned shields within wreaths. At the base of the window are four crowned shields with the symbols of the Passion. Mr. R. S. Lorimer is the architect.

TENDERS.

ABERDEEN.

For erection of bank-house in New Deer. Mr. R. G. WILSON, architect, 181A Union Street, Aberdeen.

Accepted tenders.

W. Davidson, mason.
G. Davidson, carpenter.
J. Dickie, slater.
A. Craig, plasterer.
Murray & Mitchell, painter.
A. B. Robertson, plumber.

ALNWICK.

For repairs to Denwick Bridge. Mr. GEOFFREY WILSON, town surveyor.

W. Weatheritt	£115 0 0
J. WHINHAM, Alnwick (*accepted*)	83 0 0

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J. RIDYARD, Ashton-under-Lyne (*accepted*)	1,225 0 0

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For alterations and additions to Hollowgates, Sackville Street. Mr. HERBERT CRAWSHAW, architect, 13 Regent Street, Barnsley.

Accepted tenders.

C. W. Squire, Sheffield Old Road, mason.
England Bros., Summer Lane, joiner.
H. Ashworth, Back Queen Street, plumber.
C. Dryden, Doncaster Road, plasterer.

BETHNAL GREEN.

For alterations at the College Arms. Mr. EDWARD BROWN, architect, 161 Commercial Street, Bishopsgate.

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For alteration of shops in Market Street. Messrs. MILNES & FRANCE, architects, Bradford.

Accepted tenders.

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G. Demain & Son, joiner.
T. C. Nichol, plumber.
T. Cordingley & Sons, plasterer.
R. Waygood & Co., London, electric light and motor, &c.

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A. Krauss & Son	1,739 0 0
J. Perkins	1,695 0 0
Hughes & Weekes	1,660 0 0
Wilkins & Gosling	1,628 0 0
R. Wilkins & Son	1,550 0 0
T. Hatherley	1,500 0 0
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From 12 in. to 42 in. diam.
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JAMES W. BUTLER, Manager and Secretary.

CHIPPENHAM.

For erection of technical and secondary schools. Mr. ROBERT E. BRINKWORTH, architect, Chippenham, Wilts.

Hayward & Wooster, Bath	£7,599 10 0
Smith & Light, Chippenham	7,330 0 0
J. Long & Sons, Bath	7,290 0 0
Downing & Rudman, Chippenham	7,071 15 3
W. Webb, Bath	6,363 0 0
G. Moore, Trowbridge	6,338 0 0

CREWE.

For works at the West Ward playgrounds, for the Town Council.

Accepted tenders.

F. T. Bennie, Crewe, for laying out and drainage	£609 14 10
Michlebright & Sons, for erecting shelters and convenience	196 13 1

CROXDALE.

For alterations to Croxdale P.M. chapel.

J. W. Hintson	£643 3 10
G. T. Manners	567 0 0
J. Ross	433 8 4

EAST MOLESEY.

For construction of an iron and concrete footbridge and other incidental work over the river Ember in Summer Road. Mr. JOHN STEVENSON, surveyor.

S. Kavanagh	£457 0 0

GOSPEL OAK.

For erection of a church at Gospel Oak. Mr. BERESFORD PITE, architect, Harley Street, W.

W. King	£5,936 0 0
Coulson & Marks	5,720 0 0
Patman & Fotheringham	5,692 0 0
G. Neal	5,687 0 0
F. T. Chinchen	5,639 0 0
Houghton Bros.	5,600 0 0
H. Wall & Co.	5,585 0 0
Parker	5,569 0 0
Godson & Sons	5,566 0 0
F. J. Coxhead	5,363 0 0

HANDBOROUGH.

For alterations and improvements to National Schools. Mr. G. CASTLE, architect, Woodstock.

WASTIE BROS., Handborough (*accepted*)	£132 16 0

HARROW.

For road and sewer, Parkfield estate, Harrow.

Dupont	£2,050 0 0
Neave	1,911 0 0
Adams	1,833 6 0
Wimpey	1,799 0 0
Killingback	1,797 0 0
Free & Son	1,760 0 0

HEBBURN-ON-TYNE.

For erection of a house and shop, Carr Street. Mr. J. W. WARDLE, architect, South Shields.

C. Henderson	£559 15 0
Cooper & Henderson	538 0 0
T. Lumsden	500 0 0
S. CRAIG, Jarrow-on-Tyne (*accepted*)	498 5 3

ILKLEY.

For channelling, edging, ballasting, tar macadam and other works required in the making-up of Wells Walk.

Asphaltic Limestone Concrete Co.	£278 9 6
J. J. Ingham	223 10 7
J. Farrar	198 14 3
T. EGAN & SONS, 33 Victor Road, Manningham, Bradford (*accepted*)	190 4 3
D. Wood	165 0 3

JARROW.

For excavating and paving East Back Nansen Street, Back Blackett Street, Back Croft Terrace, back street between Randolph Street and Dee Street, and paving, &c., South View. Mr. J. PETREE, borough surveyor.

G. Maughan	£872 7 4
T. Callaghan	750 12 0
J. ADAMS, Commercial Road, Jarrow (*acceptea*)	719 10 0

LIVERPOOL.

For painting St. John's Market and the weighing-machine office at the Old Haymarket

W. TOMKINSON & SONS (*accepted*)	£719 0 0

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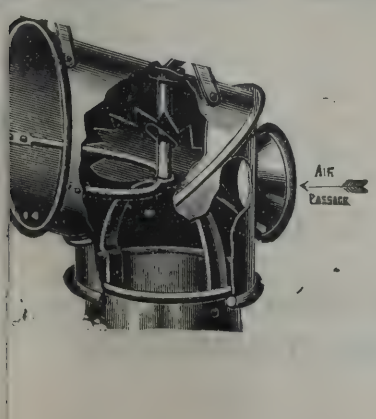
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"I consider your cowl far above any other cowl in the market, and have much pleasure in recommending it to anyone suffering from smoky chimneys."

"Forward the 10-inch cowls on order at once; we have fixed the others and find they give every satisfaction."

"Your cowl has proved a complete success, no matter which way the wind blows. Please forward me another one at once."

THE SMETHWICK VENTILATING CO., DESPATCH WORKS, SMETHWICK, NEAR BIRMINGHAM.

London Agents—NOYES & CO., 76 Old Street, E.C.

LICHFIELD.

For construction of about 2,000 lineal yards of earthenware pipe sewers in the Birmingham Road, Gaia Lane and Stafford Road, with manholes, lampholes, flushing-chambers, &c. Mr. C. J. CORRIE, city surveyor.

H. HOLLOWAY, Wolverhampton (*accepted*)	£817 0 0

For erection of additional rooms to the curator's premises at the museum. Mr. C. J. CORRIE, city surveyor.

MORRIS & RIDGWAY, Lichfield (*accepted*)	£166 5 0

LITTLEHAMPTON.

For alterations and additions to the steam laundry in Gloucester Road. Mr. H. HOWARD, architect, Town Offices, Littlehampton.

LINFIELD & SON, Littlehampton (*accepted*)	£447 0 0

LONDON.

For rebuilding warehouse premises in Fountain Court, Aldermanbury, E.C. Mr. HOWARD CHATFEILD CLARKE, architect, 63 Bishopsgate Street Within, E.C.

Brown, Son & Blomfield	£12,118 0 0
Woodward & Co.	11,901 0 0
Hall, Beddall & Co.	11,875 0 0
C. Lawrance & Sons	11,571 0 0
B. C. Nightingale	11,535 0 0
CLARKE & BRACY (*accepted*)	11,247 0 0

LONDON SCHOOL BOARD.

For special school for forty children, Mansfield Road.

T. L. Green	£3,089 0 0
McCormick & Sons	3,067 0 0
H. Wall & Co.	2,931 0 0
F. Gough & Co.*	2,854 0 0

For manual training-centre for forty children, "Alma."

W. V. Goad	£1,231 5 0
Rice & Son	1,165 0 0
T. Hooper & Son	1,163 0 0
Staines & Son	1,130 0 0
W. Akers & Co.	1,129 0 0
F. T. Chinchen	1,074 0 0
J. Garrett & Son	1,046 0 0
W. Hammond	1,016 0 0
W. Downs	1,007 0 0
E. Triggs	1,000 0 0
J. Marsland*	988 0 0

* Recommended for acceptance.

LONDON SCHOOL BOARD—*continued.*

For enlargement, Riley Street. The plans include hall, staircases, cloak-rooms and teachers' room for each department, redividing and restepping existing classrooms, new water-closets and drainage scheme, new schoolkeeper's house, and enclosing, draining and tar-paving the additional land.

T. L. Green	£19,125 0 0
Treasure & Son	18,710 0 0
L. H. & R. Roberts	18,431 0 0
C. Miskin & Sons	18,409 6 7
E. Lawrance & Sons	17,980 0 0
F. & H. F. Higgs	17,545 0 0
Stimpson & Co.	17,477 0 0
G. E. Wallis & Sons	17,476 0 0
B. E. Nightingale*	17,079 0 0

For providing new drainage system, refitting offices (all departments) with separate pans and syphon cisterns, and providing new wastes and channels under lavatories, Broad Street.

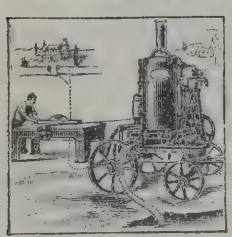
J. W. Falkner & Sons	£3,890 0 0
J. & C. Bowyer	3,117 0 0
W. Scrivener & Co.	3,098 0 0
J. Carmichael	3,007 0 0
W. Akers & Co.	2,995 0 0
McCormick & Sons	2,982 10 0
Johnson & Co.	2,970 0 0
E. Lawrance & Sons	2,953 0 0
E. Triggs	2,909 0 0
Ashby & Horner	2,849 10 0
F. G. Minter	2,792 0 0
Lathey Bros.*	2,791 0 0

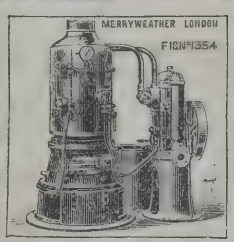
For providing and fixing swivel sash partitions to divide the large classroom in each department, boys and girls, Capland Street.

Stevens Bros.	£210 0 0
F. T. Chinchen	208 10 0
T. Cruwys	195 0 0
Marchant & Hirst	189 10 0
J. Stones	182 14 0
Thompson & Beveridge	155 0 0
McCormick & Sons	146 0 0
F. Britton*	133 0 0

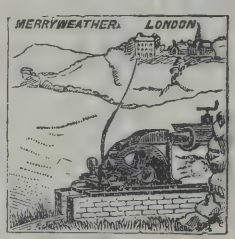
* Recommended for acceptance.

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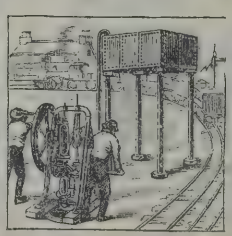

"Estate" Steam Pumping and Driving Engine.

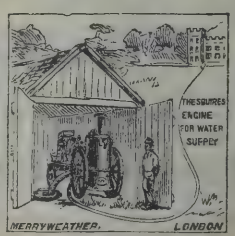


Light Pumping Engine and Boiler.



Water Wheel Pumps.

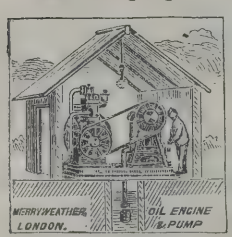

"India" Pattern Pumping Engine.



"Squire" Portable Fire Engine.



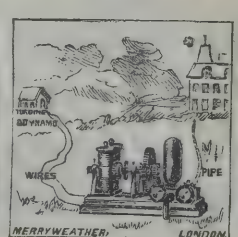
Windmill Pump.



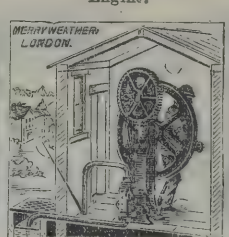
Oil Engine and Pump.



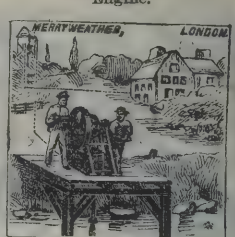
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MERRYWEATHERS sink Wells, lay Pipes, build Reservoirs, erect Filters, provide and fix Water-wheels and Pumps, Windmills and Pumps, Gas or Oil-engines and Pumps, Steam, Electric, Animal or Hand-power Pumps, Domestic Supplies, Hot-water Heating Plant, Fire Protective Plant, &c. Also Combined Electric Lighting, Motive Power and Water Supply Plant, &c. Write for 7th edition "Water Supply" pamphlet.

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GREENWICH ROAD S.E., & 63 LONG ACRE, W.C., LONDON; AND AT MANCHESTER.

LONDON SCHOOL BOARD—*continued.*

For providing additional light and ventilation to classrooms on ground-floor; refitting male infants' w.c.s and extending urinal; refitting all lavatories; removing teachers' w.c.s on first floor and erecting new w.c.'s on ground-floor; alterations to drainage, &c, Old Castle Street.

G. Parker	£1,710 0 0
Johnson & Co.	1,690 0 0
J. W. Falkner & Sons	1,679 0 0
T. Cruwys	1,678 0 0
Stevens Bros.	1,629 0 0
McCormick & Sons	1,545 0 0
Ashby Bros.	1,535 0 0
E. Triggs	1,505 0 0
Lathey Bros.*	1,417 0 0

For removing present partition separating rooms B and C in the boys and girls' departments, and providing sliding glazed partitions to redivide the rooms into three rooms in each case. Also providing stepped flooring in classroom A (infants' department), Holland Street.

J. Harvey	£453 0 0
H. Line	445 0 0
Johnson & Co.	420 0 0
W. Hornett	387 0 0
J. Stones	351 15 0
T. F. Ford	297 0 0
J. Marsland	265 0 0
Wake & Dean	265 0 0
B. E. Nightingale*	222 0 0

For providing and fixing low-pressure hot-water apparatus for ground, first and second floor halls and six classrooms, drawing classroom, corridors, cloak-rooms and lavatories, Grove Vale.

H. C. Price Lea & Co.	£570 0 0
A. Dougill & Co., Limited	560 0 0
E. Oldroyd & Co., Limited	466 0 0
Dargue, Griffiths & Co., Limited	435 10 0
J. Wontner-Smith, Gray & Co.	432 0 0
Wenham & Waters, Limited	425 0 0
W. G. Cannon & Sons	399 0 0
J. Grundy	371 16 0
Duffield & Co.	360 0 0
W. Truswell & Son	331 8 0
A. J. Kallaway & Co., Limited*	315 0 0

* Recommended for acceptance.

LONDON SCHOOL BOARD—*continued.*

For providing and fixing low-pressure hot-water apparatus for ground, first and second floor halls; also for six classrooms (boys, girls and infants), drawing classrooms, corridors, cloak-rooms and lavatories, "Paragon."

A. Dougill & Co., Limited	£690 0 0
H. C. Price Lea & Co.	570 0 0
J. & F. May	545 0 0
E. Oldroyd & Co., Limited	535 0 0
C. Kite & Co.	475 0 0
Strode & Co.	467 0 0
Dargue, Griffiths & Co., Limited	435 10 0
J. C. & J. S. Ellis, Limited	419 0 0
W. G. Cannon & Sons	399 0 0
J. Grundy	371 16 0
Russell & Co.	359 10 0
Duffield & Co.*	355 0 0

For providing and fixing low-pressure hot-water apparatus for ground, first and second floor halls, and six classrooms, drawing classroom, corridors, cloakrooms and lavatories, Essendine Road.

H. C. Price Lea & Co.	£596 0 0
B. Harlow & Son	589 0 0
J. & F. May	490 0 0
Strode & Co.	445 0 0
Wippell Bros. & Row	425 0 0
G. Davis	420 0 0
J. Wontner-Smith, Gray & Co.	397 0 0
Wenham & Waters, Limited	396 0 0
Bates & Pearce	388 0 0
J. C. & J. S. Ellis, Limited	385 0 0
T. S. Knight & Sons	384 0 0
Russell & Co.*	329 10 0

* Recommended for acceptance.

For drainage and sanitary work, Hanbury Street.

G. Godson & Sons	£1,718 0 0
C. W. Killingback & Co.	1,713 0 0
W. V. Goad	1,624 10 0
Unsigned	1,556 9 0
Willmott & Sons	1,538 0 0
Lathey Bros.	1,479 0 0
Ashby Bros.	1,478 0 0
F. & F. J. Wood	1,420 0 0
F. Britton (*accepted*)	1,320 0 0

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QUARRIES. BOX GROUND. COMBE DOWN. STOKE GROUND. WESTWOOD GROUND.
MONK'S PARK Registered TRADE MARK

MALTON.

For rebuilding of new stone bridge at Hovingham, near Matton. Mr. WALKER STEAD, country surveyor.

T. Hodgson	£505 14 0
Whitaker Bros.	430 4 0
W. BLACKBURN, Broughton, Malton (*accepted*)	230 13 0

NOTTINGHAM.

For construction of a boundary wall and entrances to Holy Trinity churchyard, in Burton, Milton, North and Trinity Streets. Mr. ARTHUR BROWN, city engineer.

Ward & Atkins	£2,610 0 0
Hodson & Son	2,437 0 0
Pickthall & Son	2,381 0 0
J. Hutchinson	2,350 0 0
J. G. Thomas	2,257 17 0
J. H. Williamson & Co.	2,202 11 0
T. WOOLSTON, Crocus Street, Nottingham (*accepted*)	2,070 0 0
J. J. Adams	2,000 0 0

PORTISHEAD.

For erection of a stable and coachhouse for Mr. F. W. Sinnock. Mr. T. J. MOSS FLOWER, architect, Carlton Chambers, Bristol, and 26 Victoria Street, Westminster.

Small	£386 15 6
Heffer	380 0 0
G. Biss & Son, Portishead *	377 10 0

* Accepted with modifications.

For reconstruction of drainage at Northwoods, for Miss Butterworth. Mr. T. J. MOSS FLOWER, 28 Victoria Street, Westminster.

Jenkins	£72 0 0
Woolford	56 0 0
G. Bliss & Son, Portishead *	49 16 0

* Accepted with schedule of prices for all additional works.

SCARBOROUGH.

For construction of an underground public convenience at the junction of Seamer Road and Falsgrave Road. Mr. HARRY W. SMITH, borough engineer.

J. BARRY, Westbrook, Scarborough (*accepted*).

SCOTLAND.

For construction of additional filters and clear-water reservoir, &c., at Crail. Messrs. BELFRAGE & CARFRAE, engineers, 1 Erskine Place, Edinburgh.

J. Martin	£831 1 0
J. McKnight & Son	770 7 0
G. Mackay & Son	745 6 0
A. M. White	718 4 2
J. Angus	688 0 7
G. DICK, jun., Dunfermline (*accepted*)	661 6 6

For improvements on gamekeeper's house, &c., at Blackwater Lodge, near Dufftown. Mr. ANDREW THOMSON, architect, Fife-Keith.

Accepted tenders.

A. & W. Davidson, builder	£138 9 0
W. Smith & Co., carpenter	63 0 0
J. Wilson, slater	57 5 6
Sutherland & Reid, plasterer	26 0 0

SOWERBY BRIDGE.

For erection of a four-storeyed warehouse at Mearclough, Sowerby Bridge. Messrs. JACKSON & FOX, architects, 7 Rawson Street, Halifax.

Accepted tenders.

T. Pickles, mason	£371 8 0
G. Greenwood & Son, concretor	55 0 0
W. Robinson & Son, slater	27 0 0
J. Stafford, plumber, &c.	19 2 0

STONESFIELD.

For erection of classroom and out-offices at the National schools. Mr. G. CASTLE, architect, Woodstock, Oxon.

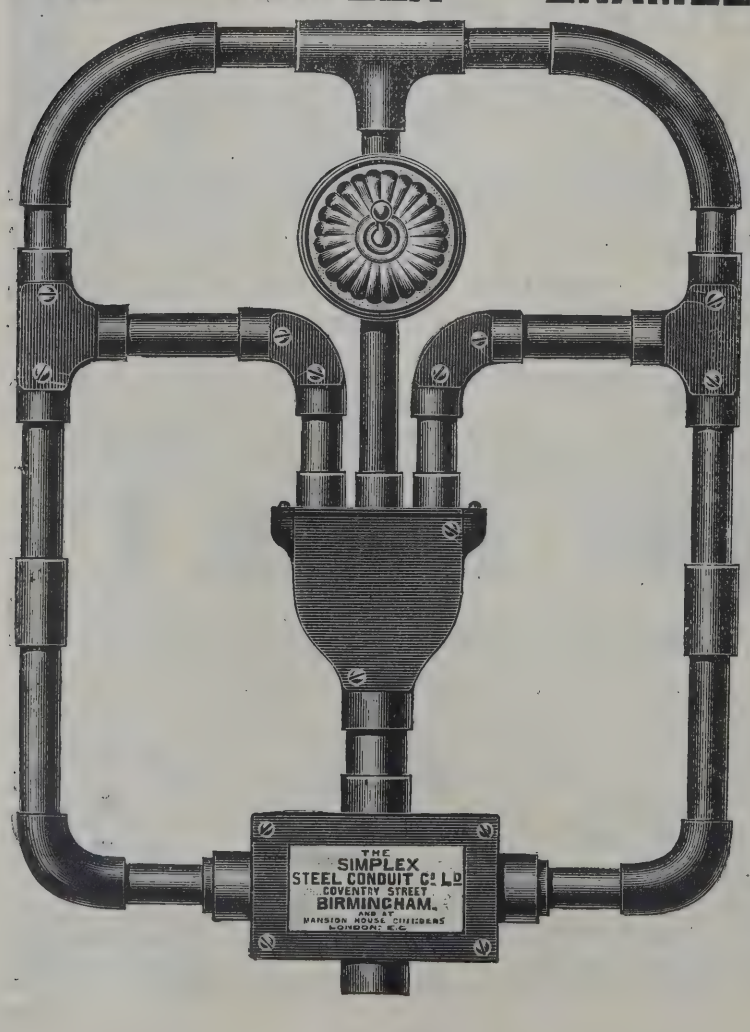
J. Walters	£180 0 0
P. Austin	141 5 0
Ward & Son	130 15 0
WASTIE BROS., Handborough (*accepted*)	128 16 0

ST. JAMES'S PARK.

For ventilating work, including the installation of electrical fans, at Bridgewater House. Messrs. O'GORMAN & COZENS-HARDY, engineers.

GRAHTRYX VENTILATING & ENGINEERING CO., LIMITED, 23 Sutterton Street (*accepted*) £1,250 0 0

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PRIVATE BALL-ROOM, THE HAGUE.

UXBRIDGE.

or erection of additional bathrooms at the workhouse, Hillingdon East. Mr. W. L. EVES, architect, 54 High Street, Uxbridge.

Battrum	£538 10 0
Kearley	513 0 0
Ward	460 0 0
PRATT, Uxbridge (*accepted*)	376 15 0

WALES.

or repairing and decorating Sion Chapel (C.M.), Bryn Eglwys.

E. JONES, Liverpool (*accepted*)	£70 0 0

or alterations and additions to their schools at Abergwynfi to accommodate 264 children. Mr. GEORGE F. LAMBERT, architect, Bridgend.

Mathias & Edwards	£2,719 14 0
H. David & Son	2,390 0 0
J. W. Jackson	2,383 0 0
D. Lloyd	2,355 0 0
R. Francis	2,330 10 0
E. Preece	2,305 0 0
J. Davies	2,290 0 0
E. Thomas	2,249 0 0
P. GAYLARD, Bridgend (*accepted*)	2,190 0 0

WAREHAM.

or erection of farmhouse at East Stoke. Mr. W. WATTS FOOKES, architect and surveyor, Wareham, Dorset.
BURT & VICK, Buffalo Works, Poole (*accepted*).

WEST KENSINGTON.

For foundations for central savings bank, for the Commissioners of H.M. Works and Public Buildings.

		A
M. Wells & Co.	£15,500 0 0	£200 0 0
J. Mowlem & Co.	14,102 0 0	5 0 0
W. H. Lorden & Son	13,444 0 0	1,222 0 0
J. Smith & Sons	12,967 0 0	735 0 0
C. Ford	12,600 0 0	—
Leslie & Co., Limited	12,485 0 0	235 0 0
R. W. Pattinson & Sons	12,382 0 0	1,197 0 0
Kirk & Randall	12,220 0 0	262 0 0
B. E. Nightingale	11,985 0 0	400 0 0
C. J. Hinsley	11,800 0 0	500 0 0
H. Lovatt	11,121 0 0	1,133 0 0
J. Mears	10,670 0 0	1,000 0 0
FOSTER & DICKSEE (*accepted*)	10,100 0 0	1,110 0 0
R. Hockley & Son	9,950 0 0	—

A. Old materials.

WHITECHAPEL.

For erection of stables, &c., for the Victoria Wine Company, at Berner Street. Mr. GEORGE WAYMOUTH, architect, 23 Moorgate Street, E.C.

Bristow & Sons	£2,286 0 0
W. Gladding	1,919 0 0
Barlow & Roberts	1,850 0 0
STEVENS BROS. (*accepted*)	1,765 0 0

WOODSTOCK.

For repairs, &c., to Fletcher's House. Mr. G. CASTLE, architect, Woodstock.

Repairs.

J. J. Mitchell	£159 0 0
W. H. Taylor	150 0 0
WASTIE BROS., Handborough (*accepted*)	122 10 0

Plumbing.

W. H. MAISEY, Woodstock (*accepted*)	87 0 0

Painting.

Farley & Sons	110 0 0
C. HAYNES, Woodstock (*accepted*)	69 17 6

O ARCHITECTS, SURVEYORS, &c.

The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent") having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

Beg to call the attention of the Profession to the following fact:—

The only Perfect Ventilators have the Patentees' MONOGRAM CAST IN the front, and the only GUARANTEED NOISELESS is Ching's NEW PATENT SILENT Chimney Breast Ventilator with the NAME and MONOGRAM CAST IN.

TRADE MARK.

Any Infringement of the above Patent or Trade Mark Monogram will be subject to an action at law.

ARCHITECTS SHOULD SPECIFY

CHING'S Patent Mica Valve Chimney Breast Ventilator, or CHING'S New Patent Silent Chimney Breast Ventilator.

TO BE HAD OF ALL IRONMONGERS AND VENTILATING ENGINEERS IN THE UNITED KINGDOM.

TRADE NOTES.

THE extensions to the Ingham Infirmary, South Shields, are being warmed and ventilated by means of Shorlands' patent Manchester stoves with descending smoke flues, by Messrs. E. H. Shorland & Brother, of Manchester.

MR. JOHN GRUNDY, of heating apparatus renown, has sent us on a budget, in book form, of testimonials which he has from time to time received. They number somewhere under 1,000, and it need hardly be said are all highly complimentary. One of the writers even breaks into rhyme in acknowledgment of the virtues of Mr. Grundy's system.

THE ventilation of Cardonald school, now in course of erection (Messrs. Kerr & Watson Johnstone, architects), is being carried out by means of a Mackay's patent direct-acting ventilator of a large size and of special ornamental design, manufactured by the sole makers and patentees, Messrs. Cousland & Mackay, 150 Hope Street, Glasgow. This firm are also carrying out the mechanical ventilation of Messrs. Hay, Nisbet & Co.'s, Limited, printing works by means of electrically driven air-fans.

A FINE new large illuminated turret clock, showing the time upon four external dials 8 feet each in diameter, which are lighted up by electricity, and which is turned on and off by an automatic apparatus, was formally set going on Saturday afternoon by the Rev. Dr. Gibson, D.D., vicar of Leeds, in the presence of the clergy and churchwardens connected with the Leeds parish church. The work has been carried out by Messrs. W. Potts & Sons, clock manufacturers of Guildford Street, Leeds, under the supervision of Mr. C. R. Chorley, F.R.I.B.A., J.P., architect, one of the churchwardens.

"VETROPAKE" is the name given by Messrs. Woolliscroft & Son to a new wall decoration invented by them, which, from its suitability for ecclesiastical decoration, has already aroused considerable interest in clerical circles, and the two panels representing St. Peter and St. John exhibited at the Bradford Congress Art Exhibition effectively demonstrated its capabilities. "Vetropake," which possesses the advantage of impervious ness to the humidity of the atmosphere, is composed of a special plastic body, made or moulded into the required shapes, and fired at high temperatures and fixed in situ in cement of a special character, by which means an indestructible surface which becomes identical with the structure, defying time, is produced. Messrs. Woolliscroft & Son are also the proprietors and manufacturers of special tiles designed for the purpose of lining unsightly walls at a comparatively low cost. They are called "Fresco" tiles. Unlike the ordinary glazed tiles, they present a dead mat surface, and can be produced in numerous colours and to any design.

ELECTRIC NOTES.

IT is announced that the great firm of New York builders presided over by Tom Johnson, the trolley magnate, is engaged in the execution of an extensive order for electric tramways for London.

THE Institute of Electrical Engineers have opened their doors for the first time to a woman, and invited Mrs. Ayrton, wife of Professor Ayrton, to read a paper on Thursday, the 23rd inst., upon "The Hissing of the Electric Arc."

THE interim report of the Brush Company for the half-year ended December 31 last states that the further extensions at the company's works at Loughborough, rendered necessary by the increasing demand for plant and rolling-stock for electric traction purposes, are making satisfactory progress. Various important contracts in connection with electric-lighting and electric-traction undertakings have been secured and are in hand. An interim dividend for the half-year at the rate of 6 per cent. per annum has been declared on the preference shares.

THE municipal electrical installation at Canterbury was formally opened on the 10th inst. at a gathering which was attended by the representatives of the Hackney Vestry, the mayors of most of the Kentish boroughs, and deputations from Gloucester, Newport (Mon.), Leamington, Morley, Bath and Coventry. A sum of just under 20,000*l.* has been spent upon the installation and an additional 3,000*l.* upon a refuse cremator in connection with the works, which, however, is not yet quite completed. The installation was designed by Mr. Robert Hammond. The demand for the current for lighting and for energy has proved quite exceptional, and already a further extension, costing 12,000*l.*, is in contemplation. The light was switched on by the Mayor of Canterbury.

THE necessary work in connection with the supply of electric light to West Hartlepool is proceeding satisfactorily. The position now is that work on dynamos, engines, &c., is well advanced; that tenders for feeders, mains and arc-light heads have been accepted; and that tenders for the erection of the generating station and other necessary buildings will be sub-

ENGLAND
MUST NOT BE BEHIND IN THE MANUFACTURE OF
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Have laid down the latest *Joinery Plant*, the *only one* of its kind *in England*. Its turn-out is the largest in the Un Kingdom.

Builders and Contractors, before placing their orders, will find it to their advantage to communicate with the Compa London or Birmingham Representatives, who will wait upon them and give estimates for large or small quantities of Joiner Hard or Soft Woods.

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THE LARGEST MANUFACTURERS OF WOOD CHIMNEY-PIECES IN THE KINGDOM
ESTABLISHED OVER 20 YEARS.

itted to a special meeting of the Town Council at an early ite. Great hopes are being built upon this scheme, not only ecause it will give the town an excellent lighting system, but ecause it is expected that it will before many years bring in a ood profit, which will go towards the reduction of the rates.

BUILDING AND BUILDERS.

HE finance committee of the Newcastle Corporation had nder consideration at a recent meeting the alterations in the eat and provision markets, sanctioned by the Council at a st of 7,000*l*. The alterations involve a new roof and nprovements in the wide alley. The city engineer asked to e allowed to seek tenders for the work, and it was agreed that e should do so.

IT is proposed to erect at the Leicester Corporation's dust-estroying depôt a tipping-shed, boiler and engine-rooms, n-room, chimney-stack, inclined approach to the furnaces, ores, smiths' shop, mess-room, &c., at an estimated cost of 000*l*. The total cost of the works (exclusive of the value of e land) amounts to 13,156*l*.

AT Wolverhampton, on the 8th inst., a brickkiln in course erection on the Bilston Road, belonging to Mr. Herbert olloway, contractor, fell in. Six men were buried beneath a ass of débris. They were conveyed to the General Hospital, here some of them lie in a precarious condition. Two sons Mr. Holloway are among the injured.

THE plans have been passed and approved for the new heatre which Mr. James Kiernan is about to build in Overton treet, Edgehill, Liverpool. The theatre, which is to be a andsome and commodious edifice, is to be called the Queen's. will be fitted with all the most modern improvements for the mfort of the audience and the artistic completeness of the age effects, and it will be beautifully decorated. The work of uilding will be proceeded with at once, and the theatre is xpected to be opened on Boxing Night.

AT a meeting of the finance committee of the Newcastle orporation, the question of the proposed chilling accommoda-on which the Council had agreed to provide at the sanatorium t St. Peter's came up for consideration. The original estimate f the cost was 3,000*l*., but it was now stated that it would pro-ably be from 7,000*l*. to 9,000*l*. In view of this large pro-pective expenditure, the matter was allowed to stand over.

VARIETIES.

THE newly-erected Wesleyan chapel, adjoining the Village Hall, Addlestone, was opened on the 9th inst.

THE value of the estate of the late Mr. George Pearson, railway contractor, formerly of Bradford, Yorkshire, who died recently at his Hertfordshire seat, is 250,000*l*.

THE new English church at Lucerne, which has been erected by the Colonial and Continental Church Society, is to be dedicated on April 14.

A FREEHOLD of about 1,600 feet in Crutched Friars, and abutting on the new street now in course of construction between Fenchurch Street and Crutched Friars, has been sold by private treaty for about 9,000*l*.

THE third Furnishing Trades Exhibition and Market will be held from March 17 to 28 at the Royal Agricultural Hall, London, N., and will occupy every available foot of space. Offices: Broad Street House, E.C.

THE ancient Independent chapel in Fetter Lane is, says the *City Press*, to be pulled down to make way for the extension of the premises occupied by a printing firm. The chapel was established so long ago as 1660. The existing building dates from the year 1732.

THE formal opening of the Leeds new Dead Meat Market and Abattoir has been deferred for some time, but at the last meeting of the markets committee it was stated that possession of the Meat Market will be obtained on Easter Monday (April 3).

AT the second annual general meeting of the Society of Aberdeen Architects, held on the 7th inst., the office-bearers and council for the ensuing year were elected as follows, viz.:—Mr. James Souttar, president; Mr. Arthur Clyne, vice-president; Mr. John Rust and Mr. A. H. L. M'Kinnon, joint hon. secretaries and treasurers; committee—Messrs. William Kelly, A. Marshall Mackenzie, George Marr, George Watt and Robert G. Wilson.

MR. JOHN PILLING, who has held the post of assistant engineer at the Bolton Corporation electricity works since their origination, has been appointed borough electrical engineer at King's Lynn, Norfolk. There were 110 applicants, but finally Mr. Pilling was elected unanimously. The salary attached to the post is 200*l*. per annum, but the works are not yet in operation. With the removal of Mr. Pilling the original personnel of the staff at the Spa Road works will have been completely changed.

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(D.W. FOUNDER & LATE MANAGER WILSON ENGINEERING Co Lp)
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To SUIT ALL STYLES of DECORATION.

SELL'S "Commercial Intelligence," which has now attained its twenty-first issue, shows a marked expansion of its scope; the news matter, the quantity of which appears to have grown, is even more diversified than it was, and to business men the paper, which has now donned a coloured wrapper, will be found of great utility.

"THE Practical Electrician's Pocket Book," just published by Messrs. S. Rentell & Co, will be found of the greatest utility to the craft to which it is addressed. Of a convenient size and strongly leather-bound, it is replete with useful information on the subject which it professes to treat, and this information is made the clearer by explanatory diagrams. The little work is admirably printed, but unfortunately, with a view to reduce bulk the paper used is terribly thin, which in a considerable measure detracts from the value of this quality.

THE building committee of the Scarborough Board of Guardians have reported to the Board that the additions and alterations at the workhouse have now been completed, at a cost of 10,246*l.* 18*s.* 11*d.*, being 356*l.* more than the original estimates. The scheme included the building of a new board-room, the extension of the infirmary, a new laundry, and completely new baking and cooking apparatus.

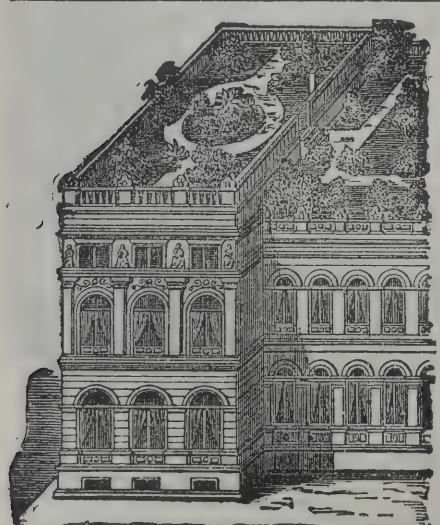
THE committee of management of the Art Gallery have adopted a scheme for the improvement of the gallery at Schoolhill. It will embrace the placing of cupolas in the side roofs, the laying of the floor with pitch pine blocks, the erection of an orchestra gallery over the doorway, and the construction of turnstiles at the entrance hall. The improvements are to be carried out forthwith, with the exception of the flooring, for the laying of which there is not time until after the forthcoming exhibition in connection with the Trades Council.

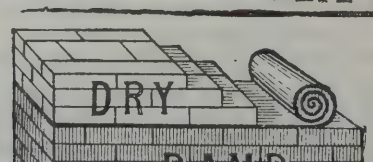
THE Department of Science and Art has received through the Foreign Office a communication from the Director of the Commercial Museum, Philadelphia, calling attention to a Universal Commercial Congress and Exposition to be held there under its auspices during the autumn of the present year. There is being erected for the purposes of the Exposition a series of buildings in which will be displayed such American manufactures as are most representative and best adapted to foreign requirements; but it is intended also to accept as exhibits similar articles from European manufacturers, in order to afford an opportunity for a thorough and comparative study of the world's industries. The Congress will be presided over by the President of the United States at the opening session on October 10, and all nations will have an opportunity of being represented and having a voice and vote in its deliberations through duly accredited delegates sent by the various Governments and commercial organisations.

THE Alexandra Palace will reopen for the season on Good Friday with a performance of "The Messiah" in the afternoon, and a miscellaneous concert in the evening. The artistes already engaged are Madame Marie Duma, Madame Belle Cole, Madame Alice Gomez, Mr. Herbert Grover and Mr. Charles Copland. The Palace Choral Society, which has been greatly strengthened, under the directorship of Mr. George Riseley, will, with the orchestra, number nearly 1,200. There are several novel attractions for the forthcoming season, which will include the "Dickens" Bazaar (built to represent scenes from the famous novelist's works), a Japanese village and a "Naval Spectacle" on the lake.

A LARGE number of Midland employers of labour and about fifty members of the Birmingham Association of Mechanical Engineers recently attended at the New Conveyor Company's Works at Smethwick to take part in the official opening of the new duplicate workshops. The visitors were received by Mr. Gilbert Little (chairman and managing director), Mr. E. J. Forster (director), Mr. Pritchard (secretary), Mr. Archie Little, and the heads of the departments. Councillor Jabez Lones, J.P., welcomed the visitors to Smethwick. The new workshops are fitted with more powerful tools than the premises first erected and completed about two years ago. One feature of the new premises is the large hydraulic plant to stamp the Conveyor troughs, elevator buckets and castings, hoppers, shoots and other appliances for the automatic handling of materials. This hydraulic plant consists of very powerful three-throw pumps, accumulators and twin-presses, with rams 6 in., 8 in., 12 in. and 16 in. diameter, with all the dies and accessories for light and heavy stampings. There have also been installed three large punching and shearing machines, radial drills, angle, tee, channel and irregular section iron-cutters and trimmers; large cold saw, for buckstaves and girders, plate mangling rollers; joggling and straightening tools of the strongest build, to enable the company to do the heaviest gas, colliery and general engineering work. After the inspection of the premises and machinery the large party of visitors were hospitably entertained in the new millwright shop, when speeches were delivered by Councillor Jabez Lones and Mr. Gilbert Little.

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The temperature of the rooms immediately beneath the roof is more even in winter and sum than under any other roof. When properly laid repairs are never required, and all roofs guaranteed. The roof-surface can be used as a garden, or for any other purpose. The co construction is less than even for a slate or tiled roof.

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NEW CATALOGUES.

handsome new illustrated catalogue of Lincrusta wall rations, just issued by Messrs. Frederick Walton & Co., ited, will be found of the greatest value to architects and rators, containing, as it does, specimens in sharp relief, in scale of 2 inches to the foot, of the numerous patterns ados, filling, friezes, ceilings, panels, &c., produced by the pany. The method of embossing employed gives an llent result, exceedingly artistic and beautiful, and at the e time conveying an accurate idea of the effect produced he various designs, many of which are quite new, and not w of which, while eminently artistic and effective, are arkably cheap. There are, for instance, no less than thirty-n patterns (dados, filling and ceilings) as low as 1s. per . Of the durability and other excellent qualities of rusta-Walton it is too late in the day to speak, as they well known and widely appreciated, and all those who have use for such a material will be well advised to apply for py of the catalogue in question.

THE new illustrated price-list of the Berkfeld Filter Com- has just reached us. It contains full descriptions of the us filters manufactured by the firm, to the excellence of se wares we have already from time to time had occasion ear witness, and the illustrations include sketches of some patterns which have been recently added to the stock.

ELECTRO-GLAZING.

E months ago, when writing of the Luxfer Prisms, intro-d into this country from America, where they had already ved a very high reputation, by the British Luxfer Prism pany, Limited, of Hill Street, Finsbury, we had occasion nlarge on the merits of their patent system of electro-ng, which at that time was regarded as little more than of the many admirable features of their system of lighting interiors. Since then this particular feature has taken itself a position of enhanced importance, and has proved f a very valuable agent for the prevention of fire. Of this have recently had practical demonstration, and as it is a er of the utmost importance not only to architects but to community at large, it may be well to describe in detail system of glazing. The pieces of glass, which may of any colour or description, and can be cut to geometrical shape, have placed between their edges strips of copper of a less width than the thickness of the glass. These strips are held at their junctures by touches of solder to keep them in a measure firm. The sheets thus formed are placed in an electro bath and suffered to remain there for a matter of about forty hours, during which time a copper deposit is formed on the edges of the copper strips, which effectively closes all the interstices and renders the sheet perfectly homogeneous and rigid. By this means an admirably neat appearance is gained, the maximum of light obtained, and the strength of the glass materially enhanced. In fact, it is not too much to say that every advantage of lead glazing is obtained with absolutely none of its drawbacks.

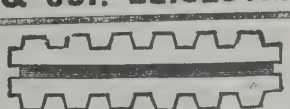
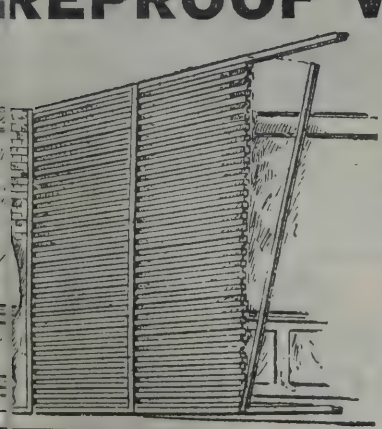
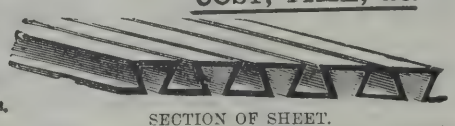
It is, however, with its aspect as a fire-resister that we are at present concerned, and its value in this respect is extremely noteworthy. In the demonstration to which we referred above a sheet of this glazing of the dimensions of and resembling an ordinary window, and with glass of perfectly ordinary description and weight, was subjected to the assaults of a fierce fire alternated with heavy douches of cold water from a hose, without breaking or appearing to suffer any loss of strength; and another specimen which we saw had been subjected for eight hours to treatment of this description, the only result of which was that the glass was to a certain extent devitrified and in some cases cracked, but the whole was held firmly together by the copper strands, and would in practical use effectually prevent the passage of flame from without, or the admission of air to feed an internal fire, either of which, it need hardly be said, is a fruitful cause of the spread of conflagrations.

REBUILDING IN CRETE.

THE Marquis of Salisbury has informed the Duke of Westminster, chairman of the Cretan distress committee, that Major-General Sir Herbert Chermside has reported by telegraph that the whole of the Mahomedan families who had settled on the farms and occupied the shops and houses of Cretan Christians in the Candia province have now evacuated them. The reconstruction of five villages is now proceeding on a small scale. Sir Herbert Chermside would be glad if further assistance could be sent at once. The committee, being anxious to accelerate the work of rebuilding, earnestly appeals to all who are able to assist the Cretans in settling down and giving them a fair start under favourable conditions to contribute towards raising a sum of 5,000*l.* for the purpose of extending building operations and for purchasing seed-corn

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and sulphur for the vines, which now require dressing. Sir Herbert Chermside has kindly undertaken to distribute grants to the most necessitous families—Moslem as well as Christian.

THE DAVY IMPROVED ARC-LAMP.

WE had an opportunity a few days since of inspecting, at the offices of Messrs. Eldon, Edmonds & Hayward, Finsbury House, Blomfield Street, E.C., a new arc-lamp invented by Mr. W. Davy, and came away very favourably disposed towards it by reason of its simplicity, its efficiency and the many other advantages over the older arc-lamps which it possesses. An objectionable feature of other arc-lamps (especially when fed by alternating currents) is the humming or buzzing noise with which the public are familiar. Even with lamps of the enclosed type there is always the danger of fire from their imperfect insulation, while with lamps of the open type the danger is accentuated by the constant escape of red-hot particles of carbon. The Davy Lamp is hermetically sealed, therefore no particles can fall and no deleterious gases can escape into the room where the lamp is installed. These improvements render the Davy Lamp peculiarly suitable for drapers' and other establishments where the stock is of a more or less inflammable character. The Davy Arc-Lamp may be used with advantage in domestic lighting, but is quite as suitable as any other form of arc-lamp for street or external lighting; and it is economical, as whereas the incandescent electric lamp consumes four watts per candle, the Davy Improved Arc-Lamp consumes only half a watt per candle. Another reason why the arc-lamp has not become popular for interior lighting is its great weight, large size and clumsy appearance. The Davy Lamp is only about 2 feet in length, weighs only 12 lbs. (as compared with the 30 or 40 lbs. of other arc-lamps), is of a decorative character, and only requires trimming every 200 hours or so, instead of every 8 hours, as in the case of lamps of the open type. While it may be said to be greatly superior to any other lamp at present on the market, the cost of production, owing to its simplicity, is so low that it is difficult to believe it can fail to successfully compete with arc-lamps of any other type whatever. It has furthermore the great recommendation that it can be run on alternating or direct currents at will, and complies with the Board of Trade and insurance companies' regulations.

We were especially impressed by the brilliancy, purity an steadiness of the light, the absolute absence, as before mentione of the objectionable buzzing which is so conspicuous in a ordinary arc-lamp, the absence of carbon deposit on the glas and the extreme simplicity (which, however, as mentioned abov is characteristic of the whole lamp) by which the glass is he firmly in position and is yet instantaneously removable whe necessary for cleaning or other purposes.

THE NATIONAL SYSTEM OF ELECTRIC WIRING.

THE National Electric Free Wiring Company, Limited, Charing Cross Road, claim to be the proprietors of th cheapest, safest and most durable system of electric light present before the public, and as at the present moment electr works are springing up on all sides, and electric lighting i creasing by leaps and bounds, a short description of the syste in question will not be out of place. The wire is compose of twin conductors, insulated from each other and from th lead sheathing with which they are enveloped, the insulatin material being a special impregnated paper. In the 2½ an 5-ampere cables the conductors are solid, and made having semicircular section. In the larger cables the conductors a formed of stranded wires. The conductors are laid up with rapid spiral to insure flexibility, covered with a sheathing of le solid drawn under hydraulic pressure, and completely fill with the conductors and their insulation.

Where the cables are run under floors or buried in plast they are fixed by means of insulated saddle staples or w hooks; where they are run on the face of walls the system fixing is by suitable brass saddles and nails. In every ca where the cable is terminated for a switch, ceiling rose similar fitting, a hollow metal base or wood block containing metal cup is provided, to which the lead covering of the cab is soldered, the base being filled with insulating compoun thus rendering the whole absolutely water-tight. Special d tributing fuse boxes, end connections, &c., are used, but ordinary lampholders, switches, ceiling roses, &c., are suitabl

As a few amongst the many special advantages claimed this system we may cite the following:—Absolute safe leakage of electricity is impossible; less space is occupied th by other systems; great durability; little or no cutting away making good is necessary; no wood casing or other protecti

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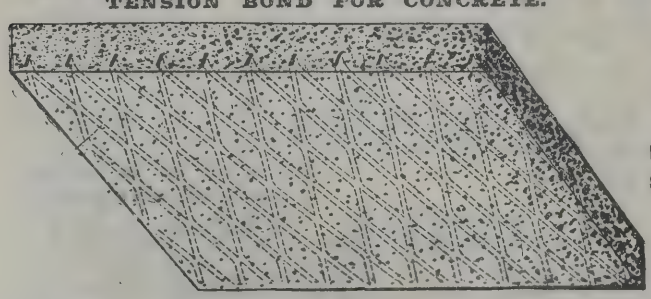
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equired; high capacity; extremely moderate cost. Safety n fire is assured by the fact that leakage of electricity is not sible. The very high capacity is most important, and ecially is this valuable on alternating current systems. No d casing or other perishable materials being necessary there othing to decay or to absorb moisture; the cables are as ctive in damp situations as in dry ones, and they can, if essary, be buried direct in wet plaster.

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THE AUCTIONEERS' INSTITUTE.

spring meeting of the Auctioneers' Institute of the United gdom was held at Derby on the 10th inst., the attendance g unusually large. The morning was devoted to inspecting ous objects of local interest, and at two o'clock members mbled in the Guildhall under the presidency of Alderman ard Dobson, of Bradford. The proceedings opened with address of welcome by the Mayor of Derby, who was ac-panied by Alderman Sir Henry Bemrose, M.P., after which Council of the Institute went on to the transaction of routine ness. Questions relating to commissions on sales were rred to a committee to obtain information as to custom. he evening a banquet was held at the Royal Hotel. Alder- Dobson again presided, and the attendance included many -known local gentlemen. Mr. James F. Field, a past ident of the Institute, proposed the toast of "Imperial liament," to which Sir Henry Bemrose, M.P., responded, st Sir Thomas Roe submitted "Success to the Auctioneers' itute," the President returning thanks. Other toasts of an ropriate character followed, and an excellent musical pro-nme was also provided.

MANCHESTER PLUMBERS' ASSOCIATION.

annual general meeting of the Council for Manchester District of the National Registration of Plumbers was held he 10th inst. at the technical school, Princess Street. Mr. H. Munroe presided.

The report, submitted by Mr. J. W. Hirst, secretary, stated that the prize competition and exhibition held during the year had given a considerable fillip to the registration movement, whilst in providing the nucleus of a permanent sanitary museum in the city the Council had benefited the building and plumbing trades of the district. A deputation from the Council had, it was stated, waited upon the sanitary committee of the Manchester Corporation for the purpose of securing their assistance in advocating the adoption of the Plumbers' Registration Bill by the Government. All town councils in the district were also approached and asked to take similar action, and promises of support had already been obtained from Oldham, Eccles and Knutsford. It was understood that upwards of seventy town, medical and other councils had memorialised the Government separately, and it was confidently hoped that if the Government could be induced to introduce a Bill it would soon become law.

A satisfactory financial statement was also presented, and this, together with the report, was adopted.

The Council and auditors having been elected for the ensuing year, the meeting proceeded to consider a suggestion that the present age limit of forty-five should be reduced for the admittance to the register, without examination, of plumbers who were well known and produced satisfactory evidence of ability. Eventually the matter was referred to the Council.

A discussion on the registration movement was opened by Mr. J. P. Cox, of Knutsford.

THE LATE JOHN JOWETT.

By the death of Mr. John Jowett, of 29 Tithebarn Road, Southport, at the age of 61 years, there has passed away a gentleman who was well known as a contractor for public works throughout the country. Mr. Jowett was a native of Yorkshire, and carried out many extensive water and sewage schemes in the country, among them the Batley Main, over twenty-one miles in extent; the Wakefield Corporation Waterworks, which comprised forty miles of main; large service reservoir and main for Mottram and Hollingwood; while he contracted for many other public works, mainly in the West Riding. He practically laid out the whole of the streets of Ravensthorp and Brighouse. Mr. Jowett carried out a section (twenty-one miles of 42-inch

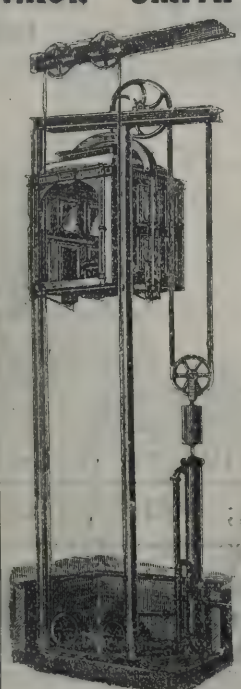
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main) of the Liverpool Corporation great Vyrnwy scheme, and he had charge of extensive waterworks schemes in South Wales. For a long period he resided at Turvey, in Bedfordshire, where he occupied the Grove Farm for seven years and the Priory Farm for ten years, altogether cultivating 750 acres. Latterly he carried out the Lathom and Burscough and Tarleton water schemes, and had at the time of his death practically completed the Aughton sewage works. Altogether he had been in active work as a contractor for nearly forty years, and was well and favourably known to many of the public engineers of this country. It is calculated that he had in his time laid 250 miles of water mains alone. A little over two years ago he went to reside at Southport.

THE NEW EALING THEATRE.

THIS building is being erected on the site of the old Lyric Hall, with a good frontage, and admirably situated in the Broadway, close to the Great Western and District Railway stations.

Entering direct from the Broadway by one of four spacious doorways one finds oneself in an outer vestible (32 feet by 21 feet), the right hand of which branches to the grand corridor; from here, ascending a few steps, is reached the reception lounge, which will run at the rear of the grand circle across the entire breadth of the theatre; from either side of the grand circle access is obtained to the stalls, and to the balcony or family circle access is likewise gained from the outer vestibule. A corridor direct from the Broadway will lead to the pit. The theatre is being constructed to seat 1,400 persons and is being built without columns, so that an uninterrupted view of the stage will be given from all parts of the auditorium. Special attention is to be paid to the stage, which has a superficial area of 2,700 feet. The whole building is to be of entirely fireproof construction, and electricity solely will be employed for illumination and stage effects. The comfort of the artists appearing at the theatre is not being overlooked, and the dressing-rooms (which are in a self-contained block, and separated from the main building by fireproof doors) will be well appointed and up to date. The County Council's stringent, but necessary, rules relative to exits are being rigidly observed, and the site is well situate for these. The ample and commodious entrances to every portion of the theatre are to be duplicated by a simi number of special exits to be used in case of emergency. T internal fitments and decorations are to be of the most orn and chaste design. The saucer-domed ceiling and the fro of the grand and upper circles will be treated in the ea Grecian Classic period. Panels of wedgwood representi Thespian subjects, divided by small Corinthian columns, are be introduced in the grand circle front; whilst Grecian va alternate with the upper circle panels, the figures of which, low relief, will represent the Fine Arts. The proscenium frar being square and gilded solid, will resemble a huge pict frame, and a representation of a tapestry from the well-kno Baranth collection for an act drop will artistically complete scheme.

In addition to the theatre, the building will contain restaurant, several suites of ball and recreation-rooms, Masonic temple, a grill-room, a café, a billiard-room, a bu and a reading-room. The kitchens, larders, glass and sil pantries, services, &c., will be in the central top portion the building, and connect with service and wine-stock roo on each floor, while the basement will contain an extens range of cellarage.

The building is being erected from plans by Mr. G. Pargeter and Mr. Walter Emden, who is the consulting arc tect for the theatre portion, and Messrs Beer & Gash, Wharf Road, City Road, are the contractors for the wh block.

The Broadway elevation is being built in biscuit-colou terra-cotta by Messrs. Doulton, and the back elevation being treated in fancy brickwork. The north-west corner be capped by an open-domed top turret.

SALE OF AN OLD MANCHESTER CHAPEL.

A MEETING of the trustees, members of the former congre tion, and others interested in the Coldhouse Baptist cha Thorniley Brow, Shudehill, Manchester, was held on the inst., to consider the question of the proposed sale of chapel. Situated off a narrow side street, says the *Manche Guardian*, the visitor to the chapel has to grope his way t through a dark passage, in the middle of which there is a s flight of stairs. The chapel has an interesting history, there are associated with it the names of many well-kn

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ple who lived in Shudehill in the days when it was a sant residential district. The original chapel dated back to year 1672, and the present building was erected in 1740. congregation which formerly worshipped in it erected a chapel in Rochdale Road, but some of the older people nected with the Coldhouse chapel continued to worship it until about twelve years ago. Then it was closed, to-day it is in a very dilapidated condition, the forms ered with a thick layer of dust, and the side windows and circular window in the roof all broken. Such light as required by the dozen people who formed the meeting furnished by candles stuck in bottles and placed on the ge of the small part of the rostrum that now remains.

Mr. O. Knott, who is acting for the trustees, read the ice calling the meeting, and produced a plan of the proposed w chapel.

Mr. T. E. Hart, who was called upon to preside, moved, hat this meeting of the trustees, members of the former gregation, and others interested in the Coldhouse Baptist pel, Thorniley Brow, in the city of Manchester, hereby resses approval of the application of the surviving trustees posed to be made to the Board of Charity Commissioners England and Wales for authority to effect the sale of the d premises to Mr. James Thomas Pendlebury for the sum of l., and that the proceeds of sale be applied towards the chase of land situate at the corner of School Lane and aver Road, in the parish of Manchester, and the erection reon of a Baptist chapel and school, to be conveyed upon nilar trusts to those upon which the Coldhouse chapel is w held."

In support of this motion, the Chairman said that in view of ancient history of the place it seemed that some one must ve been remiss to allow it to get into its present condition. t they had to deal with the place as it stood, and the trustees ought that what was proposed in the resolution was the best ng that could be done with it.

Mr. C. T. Tallent-Bateman seconded the motion.

Mr. Felix Winnard, an old member of the former congrega-n, who was invited to express his views, warmly protested ainst those present, who were nearly all strangers to him, ning in and taking such action as was now proposed.

Mrs. Helen Platt, another old member, who had been inter-ting various emphatic observations while the other speakers re discussing the matter, joined in this protest. She said e considered it shocking that the chapel should be taken away from a working-class district and placed in a neighbourhood the residents in which could well afford to pay for a chapel for themselves.

Mr. Winnard and Mrs. Platt were informed that the new chapel would be erected in the working-class part of Didsbury, and that if they still objected, after further consideration of the question, they would have ample opportunity of stating their views to the Charity Commissioners. The motion was then put to the meeting and declared carried *nem. con.*, although Mr. Winnard and Mrs. Platt continued to protest vehemently against the whole proceedings. It is understood that the old chapel, if the Charity Commissioners should sanction the sale of it, is to be used as a jeweller's workshop. The building will have to be entirely demolished, however, so that the 550*l.* mentioned in the resolution really represents the value of the site, or at any rate the highest price that was offered for it when it was recently put up for sale by auction.

FIRE APPLIANCES, BALMORAL CASTLE.

On the invitation of Mr. Forbes, Her Majesty's Commissioner, Mr. William Inkster, firemaster of Aberdeen, has visited Balmoral with the view of inspecting and reporting on the fire appliances at the Castle and the various offices connected with it. Owing to an engagement in the south Mr. Forbes was unable to be present, but he had made every arrangement for the visit of the firemaster, who, accompanied by Bailie Lyon, convener of the watching and lighting and fires committee of the Town Council, left by first train, and reached the royal residence at half-past eleven. Here they were met by Mr. Anderson, clerk of the works, and Mr. Reid, household superintendent; and, after luncheon at Craig-Gowan, the commissioner's residence, the visitors were conducted over the numerous buildings forming the establishment. At various points round the Castle proper it was found that there are about a dozen hydrants, the most of them having all the needful accessories, such as standpipes, hose and nozzles. The water supply, which comes from Lochnagar, is stored in a reservoir on an adjoining hill about 150 feet above the Castle. It runs with a pressure of about 50 lbs. to the square inch, and is thus equal to the force which the city itself has for such purposes. Inside the building, however, the arrangements are not so adequate. With the exception of several chemical extincteurs,

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none of the many corridors either upstairs or downstairs is provided with apparatus to grapple with a serious outbreak. Corridor engines, in the shape of hand pumps, and an increased supply of chemical extincteurs of modern type, will probably be recommended. The Castle is at present partly lighted by electricity, and by May the installation will have been carried to the upper rooms. This, of course, will still further reduce the risk of fire. Much time was spent in this part of the inspection. The latest addition to the buildings at Balmoral—the Garden Cottage—where Her Majesty frequently breakfasts, was also visited. Bailie Lyon and Mr. Inkster were likewise shown over Karim Cottage, the private residence of the Indian secretary, which has no appliances at hand for the suppression of fire. The byres, stables, laundry and gardener's cottage were also carefully inspected in turn, and their requirements noted; and before leaving Mr. Inkster drilled the servants on the estate in the use of the fire apparatus. Mr. Inkster will prepare a detailed report for Mr. Forbes, making such suggestions as he thinks are requisite for the due protection of the royal residence and its appurtenances.

THE LATE ROBERT NEILL.

WE regret to announce the death on the 5th inst. of Mr. Robert Neill at his residence in Higher Broughton.

An honourable place must be assigned to Mr. Neill amongst the ranks of self-made men. The annals of Manchester supply the names of many citizens who, starting life without adventitious advantages of any kind, have worked their way to wealth and influence by native energy, prudence and sagacity. Of such was Mr. Robert Neill, who was a native of Moffat, Dumfriesshire, and was born in the year 1817. He was one of a large family who all in turn, as they grew up, came southwards, becoming in several cases singularly successful in their respective occupations. Mr. Neill's first engagement on settling in Manchester was in the workshop of Mrs. Trees, a well-known joiner and builder in Strangeways. After occupying for some years the position of a foreman, he began business on his own account in the year 1842. His connection rapidly increasing, numerous and extensive additions were made to plant and works until the appliances and engagements of Robert Neill & Sons attained a place among the largest concerns of the kind in England. Of the numerous and important buildings entrusted to the firm it is impossible here to speak, but a reference may be made to the erection of the Manchester Jubilee Exhibition of 1887. The extraordinary rapidity with which the work was executed was often the subject of complimentary observation by the executive committee of the exhibition. Mr. Neill was induced in 1852 to become a candidate for the Town Council, and was elected as a representative of Cheetham Ward. Ten years later he was made an alderman and assigned to St. Michael's Ward. In 1866 Mr. Neill was nominated for the mayoralty, and at the close of the year's office he was re-elected. During the second term the foundation-stone of the town hall, of which Mr. Waterhouse, R.A., was architect, was laid. In 1888-89 Mr. Neill served as High Sheriff of the county of Rutland.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

4273. John Ebenezer Hill, for "Certain improvements in window-sash fasteners."

4328. Joseph Francis Ebner, for "Improvements in parquetry and wood-block flooring."

4342. James Tyrrell Newell, for "An improvement connected with glass tiles or slabs for architectural and like uses."

4353. Henri Piquet and Frank Bradley Smith, for "An improved latch for the purpose of fastening doors, gates, windows and the like."

4389. Robert Adams, for "Improvements in means or apparatus for lifting, regulating, and otherwise operating fanlights and the like, also applicable for lifting or controlling other objects or articles."

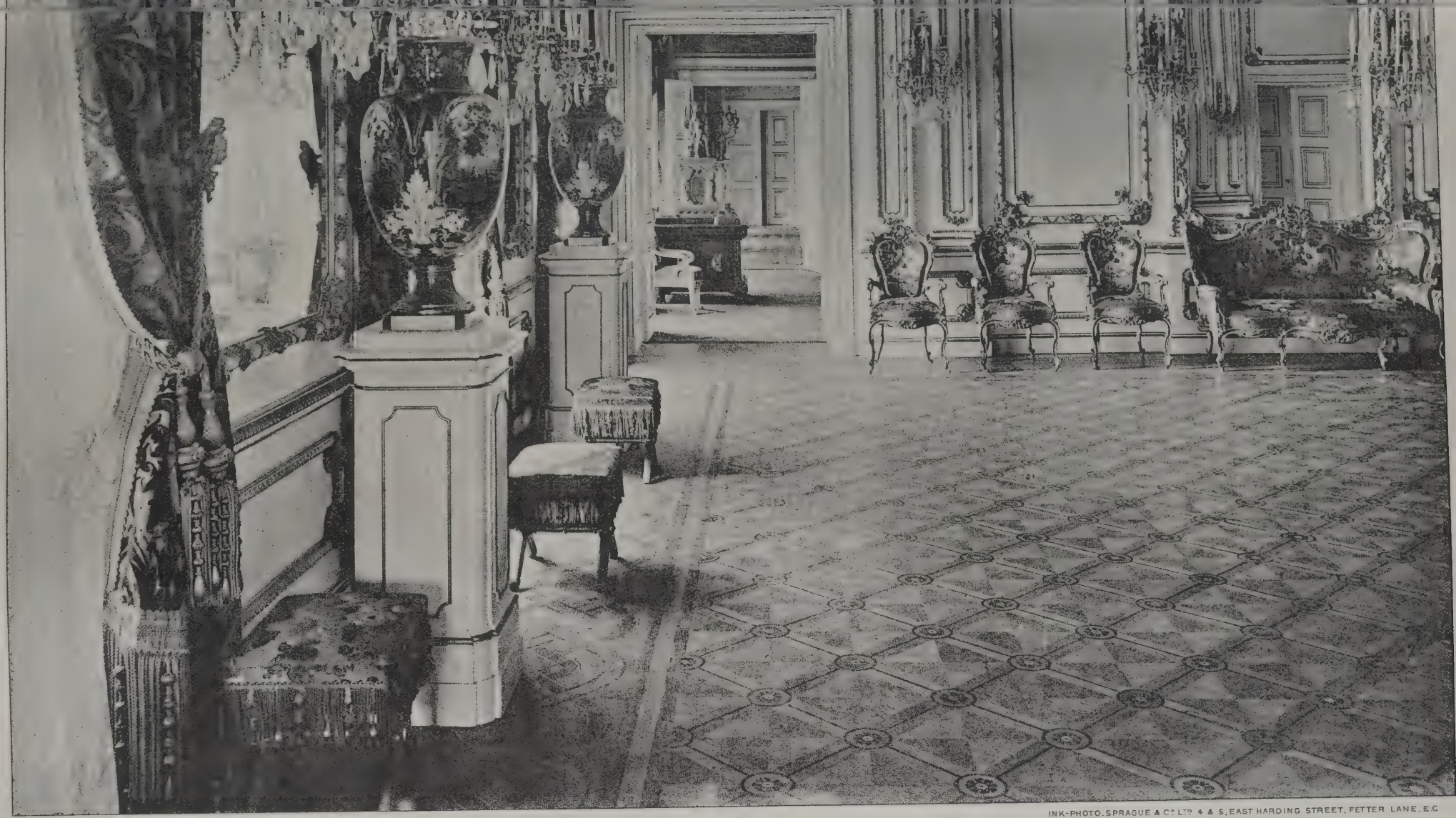
4427. Stanislaus von Kosinski, for "Improvements in apparatus for drying newly erected buildings."

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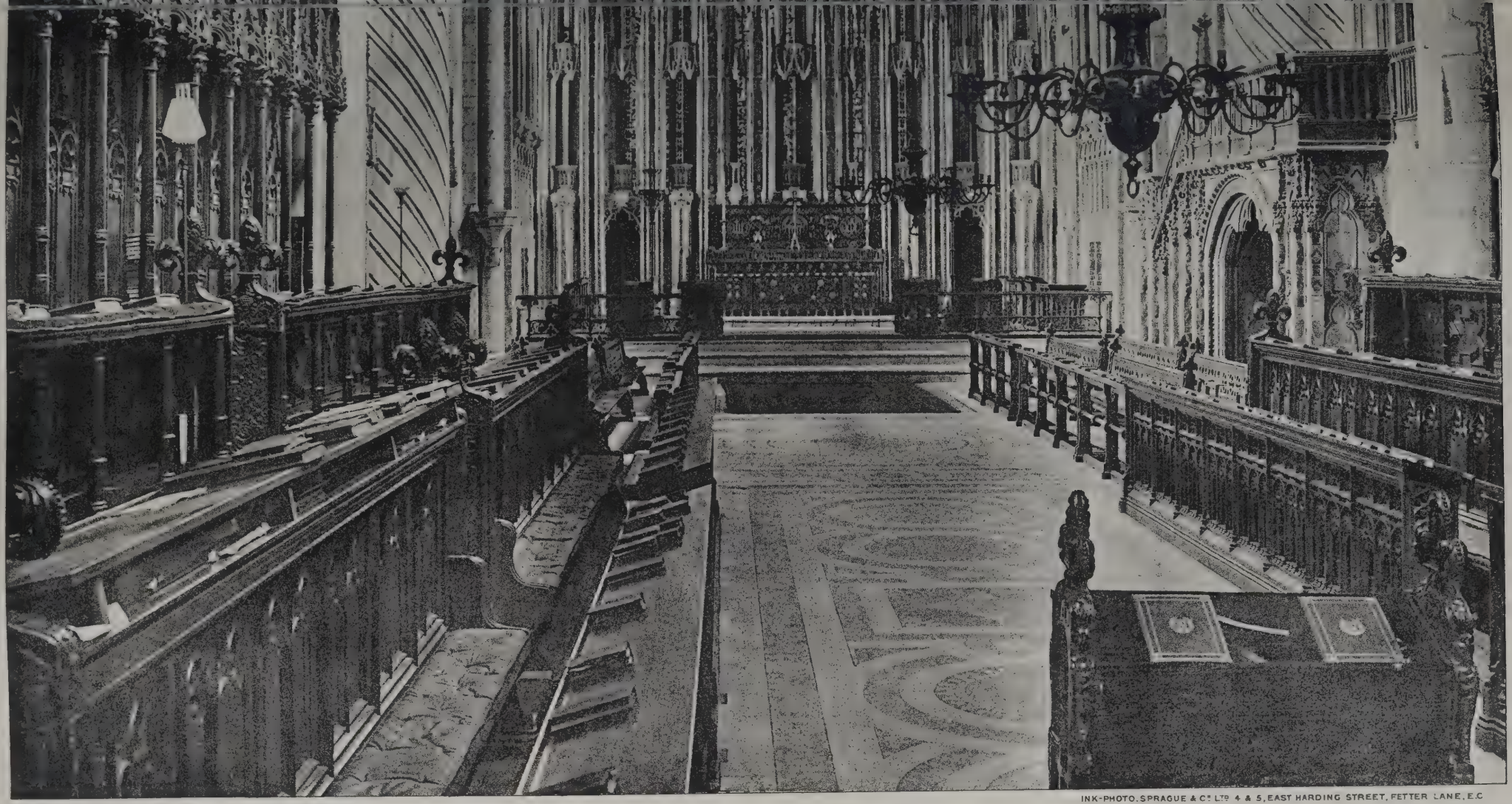
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CATHEDRAL SERIES, No. 213.—DURHAM: CHOIR VAULTING, LOOKING WEST.

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CATHEDRAL SERIES, No. 212.—DURHAM: CHOIR, LOOKING EAST.

The Architect.

THE WEEK.

It was a wise act of the Government to exhibit the experimental attempts of Mr. J. M. Brydon and Mr. W. Young to deal with the most important problem of the new Government Offices. The general opinion on the sketches when seen in the Tea Room of the House of Commons on Tuesday was favourable. What first engages attention is the manifest effort to enhance the interest of the existing buildings. Sir Gilbert Scott's Home and Colonial and Foreign Offices, which have been hypercriticised, appear with towers which would undoubtedly add to the effect of the blocks. The introduction of arches to form entrances to Downing and Charles Streets would also impart dignity to the existing buildings. On the east side of Whitehall Inigo Jones's building, which, as our readers know, is only part of a noble scheme, is turned to account by appearing as a pendant to a duplicate Banqueting Hall, with a grandiose central building. There is at present less architectural variety on the east side of Whitehall, and Mr. Young was desirous to make the most of Jones's work; but it is hardly likely any direct imitation of Inigo's building would be tolerated. In adapting Classic or rather Italian precedents we see a different spirit to Kent's, Holland's, Barry's or Scott's. Mr. Brydon, having a larger and more rectangular site than was assigned to Mr. Young, is able to show more impressive elevations. He has not, apparently, made such sacrifices to gain external effect as was necessary for Scott, who was often charged with making his windows on the first floor too tall in order to satisfy critics like Lord Palmerston. The five storeys shown in both designs present satisfactory offices, and in the highest and the lowest there will probably be not much grumbling from the occupants. Mr. Brydon prefers Ionic and Mr. Young Corinthian. Considered as tentative efforts the sketches are most creditable, and reveal a praiseworthy endeavour to make the most of the opportunities and in an unselfish spirit.

On Tuesday the London County Council adopted Mr. W. E. Riley as Mr. Blashill's successor. The new official has not an enviable position. Having had experience as one of the civil architects of the Admiralty, Mr. Riley must be acquainted with the routine of a large Government department, and should therefore be able to perform all the duties required of the superintending architect. But the appointment will come as a surprise to many. One of Mr. Riley's qualifications in the eyes of the Council is that he has carried out works without the intervention of a contractor, and would therefore be able to assist the Works Department. But we hope he will not allow himself to be inveigled into aiding and abetting the production of worthless estimates. There were forty-three applicants for the office. It is hard on Mr. Riley that Mr. T. G. Jackson, R.A., should have proposed in the *Times* the appointment of a surveyor as superintending architect at a much smaller salary than 2,000*l.* a year. Whenever anybody was required on extraordinary occasions Mr. Jackson would have "some artist from outside—architect, sculptor, or painter—and so get the best advice the profession of art can give."

A few weeks ago we described the difficulty of Mr. C. A. Neville, stipendiary magistrate at Bilston, in determining whether electricity could be considered under the Factory Act as "an article." The District Council have premises where the light used for lighting the market-hall is produced. If it were a factory, then a copy of the Factory Act should have been posted in it; and for the omission the inspector summoned the Council. On behalf of the Council it was contended that electricity was not an article within the description of articles contained in the Factory Act, and that, even if it were, there was no sale of electricity by the District Council. The most that could be said was that the cost of the electricity was included in the rent of the stalls; but that this was a hiring and not a sale. Mr. Neville deferred giving judgment until he had examined the subject. On Tuesday he said that, according to the dictionary an article was a commodity, and a commodity was that which was useful or advantageous. Electricity being made at the works required mechanical power and manual labour, and it would therefore come within the meaning of the Factory and Workshops Act if it was an article—as he believed it was—and was used for the purpose of gain. The object of the Act was to include everything it possibly could under its provisions. Electricity was similar to many other things—it could be manufactured, stored, moved about, converted into different uses, and stolen, and that description applied to articles and commodities. The Council gained a benefit by producing the light in the market, and it must be said to be a gain within the meaning of the Act. A penalty of 2*s.* 6*d.* was imposed, with costs 1*l.* 17*s.* 6*d.*

It is rather late to revoke arrangements which were entered into for the Paris Exhibition of 1900, but when the numerous subjects which disturb French minds are considered we can understand how courageous men would be daunted by the extent of the works which must be completed within a year. Among the works which were intended for sacrifice were the pylons and groups of sculpture which were to adorn the Pont Alexandre III. The architects, MM. Cassien-Bernard and Cousin, made them an important feature in their design, and the eminent sculptors, MM. Fremiet, Marqueste, Coutan, Michel and Lenoir, had accepted commissions for the figures. The masses of masonry and bronze were not intended to be merely ornamental, for their weight was expected to resist part of the pressure of the steel arches. A month ago Frenchmen had made up their minds about the necessity of the removal of all ornamental features from the bridge, but the usual reaction has followed, and now the Chamber has insisted on their preservation. We suppose after such an experience the Municipal Council of Paris will no longer hesitate about the erection of the fine palace designed by MM. Gravigny and Lagrave, under the direction of M. Bouvard, which is intended to display the unsurpassed variety of works which the Council have undertaken.

For about a year a by-law has been in operation in Chicago which requires that all plans submitted to the Department of Buildings for building above a certain grade must be stamped and sealed by licensed State architects. If not permits will be withheld for the erection or alteration of the buildings. The requirement has given an impetus to the procedure enacted by an Act which makes registration and licensing a necessity. It appears that up to December last sixty applications were made for examination. Two were withdrawn, eighteen were approved in class examinations, six were rejected, twenty-seven appeared to have been issued without examination and seven have yet to be dealt with. Forty-three licenses were paid for. The Board of Examiners say, "The number of persons who had taken out license was so greatly in excess of what had been anticipated that it was evident that very few men who claimed to be architects in this State had continued to practise in defiance of the law, and had failed to make applications for license and have their cases passed upon by the Board. The results have shown a general acceptance of and acquiescence with the requirements of the law." It is admitted, however, that many persons act as architects without troubling themselves about the law. They cannot be reached. The Board say that to prosecute them would be expensive, and there is no clause in the Act authorising any expenditure for that object. It is also necessary to pay renewal fees to be kept on the register, but a very large proportion of architects are opposed to that form of taxation.

We learn that about fifty architects and engineers have become members of the Irish Club, although it is only a few weeks in existence. The club rooms are at 13, Henrietta Street, Covent Garden. Several architects come to London from Ireland from time to time, and they may be glad to know that a comfortable rendezvous is available and at a cheap rate of subscription. The club is non-political, and on that account is likely to be a success among men whose thoughts are turned to business.

THE TRAINING OF BUILDERS' WORKMEN.

IN our last number we published the recommendations of a special sub-committee appointed by the London County Council to hold an "inquiry into the educational requirements of members of the building trades," but the subject is one which will bear more notice. Why the County Council should assume any responsibility for education in construction, rather than in divinity, law and medicine, is not apparent. The Council was not established for that purpose. It is probably assumed that as the money which is so liberally expended by the Council is derived from taxes on houses, some return is due to the men who erect them. By modern legislation large sums are available for what is called technical education, and a part of it can be disposed of as readily among youths who are ambitious to be builders as among those who please themselves by attempting other callings.

We are not opposed to the communication of knowledge by competent teachers, whether belonging to county councils or universities. We should also like to have more known by the public about architecture and construction, so long as the "little knowledge"—for it can be nothing else—does not make its possessors fussy and disposed to interfere with the work of architects and builders. But we are not disposed to maintain that, unless County Councils and other institutions hasten to the rescue, it will soon be impossible, owing to the ignorance of the workmen, to raise a satisfactory building in Great Britain. It is as easy to obtain excellent work to-day as it was in Mediæval times. But a corresponding price must be paid. If the standard adopted is that of the cheap suburban villas which are to be let on short leases, no one has a right to expect walls, floors, and roofs which will endure for centuries. What the philanthropists and educationalists appear to desire is a religious brotherhood of builders, with members of a self-sacrificing turn who seek no more than a pittance for food and clothing. The Earl of Wemyss this week indicated the kind of workmen which are required. In a letter to the *Times*, apropos of the absurd strike of the plasterers, his lordship advocates that Japanese woodwork should be substituted for English plaster-work, as it is cheaper, for "the pay of these truly artistic Japanese workmen being 7*d.* a day, on which pittance they manage to live and thrive, though their food consists only of rice daily *plus* two or three times a week the heads and tails of fish; they cannot afford to buy the bodies also." Now, although we are not blind to the folly of the plasterers and other building workmen, we have no desire to see them dependent on such a fish diet as Lord Wemyss admires. "Give every man his deserts, and who shall 'scape whipping?" And who knows whether, if aliment were proportioned to the services rendered, that his lordship would not be restricted to heads or tails, and allowed only to enjoy both on feast days? The Japanese workman's reward is very small because in many trades there is an excess of competent labourers, and there is a host of distributors between him and the buyer. It will be time enough, when we have workmen in England who can sustain themselves on fish-bones, to think about the model builders of which so many good people have visions. Meanwhile there must be a relation between the prices paid and the character of the work executed. But those who are eager to build can be assured that nothing has been done in construction which is beyond the resources of English contractors at the present day.

A statement was presented by Mr. Rowland Plumbe to the sub-committee which by itself should allay the apprehensions of those who are panic-stricken about the fate of English building. Of the bricklayers he says:—"Generally the quantity of work done is considerably less than previously. The quality of the work is, I think, better. I should say the men are not so rough as formerly; they seem to me a more intelligent race of men." According to Mr. Plumbe, "Smiths and metal-workers seem to attain great skill in their trade without so much preparatory technical educational work being required, and they are taught more by actually working at their trade." It is said of the plumbers that they seem "really to have tried to get a proper knowledge of their work." Mr. Plumbe, it will be seen, testifies to the proper quality of the work. As to the quantity, there is, as everybody knows, a diminution, which unfortunately is being magnified every year. That, however, arises from causes against which the ordinary courses of technical education are inoperative; indeed, we have no assurance that increased knowledge will not make workmen less disposed to continuous exertion.

That doubt arises from a great many considerations. In the first place, there is no definition of the craftsman that advocates of education have in their mind's eye. We fear he is a very hazy personage. The model working man is not adapted to modern requirements or to modern conditions of society. A builder's staff is like a complicated machine or a multiple organism. Individuality is not of much account. Trades unions cannot tolerate it, and the division of labour can dispense with it. A man may find more inconvenience in doing little than by allowing his force full play, but he dare not exceed the amount of work which the weakest workman can produce. An employer has also to accommodate himself to circumstances and to make the best of men, although they may have less than the average capacity for work. Again, the division of labour is more developed in London and the larger provincial towns than in villages, and on that account a common standard is not easily fixed. As well as we can make out, what is required by the amateurs who profess to have the most intimate knowledge of the builder's business is to make every workman so independent and versatile that he can serve as foreman, clerk of works, employer, surveyor, and architect, without the least hesitation. We shall render due admiration to those Admirable Crichtons when they are produced, but their fitting place is where primitive conditions of life prevail, as in the embryo towns of a colony, rather than on a London builder's job. In endeavouring to create many-sided individuals we appear to be going back to the time of Ulysses, who was a twenty branch hand, according to his own account. It is, we grant, a more pleasing sight to see a workman studying strains than killing time in a beerhouse, but statics of a evening do not next day create an aversion to the rul which limits the output of labour.

It would have been an advantage if the sub-committe had invited a larger number of master builders to giv evidence about the position and prospects of workmen i England. Only two, Mr. Holloway and Mr. Howar Colls, attended the inquiry. The questions asked were thos which were likely to insure answers that would be favou able to the projects of the County Council as an authori on education. But, in spite of the tact exercised examination, there were replies which should have be taken as revelations of some important conditions modern labour. Mr. Colls, for example, said "t brickwork done now was better than ever it h been"—a proof that absence from technical class does not injuriously affect the workmen's ability. Bric layers, he added, could be good men without being able read drawings, and nine out of ten never looked at drawing. A builder's foreman explained the indifferen to drawings by saying that "their work made their ha too rough for manipulating drawing instruments." T chance of qualifying themselves to become foremen d not count for much with them, for, as Mr. Colls s "Carpenters had more opportunity of becoming foremen they invariably remained from the beginning to the end a large piece of work, whereas bricklayers were consta changed." It may be considered desirable that carpen should not retain a monopoly of the foreman's office, men who are subject to changes from the character of t work cannot be more eligible for the appointments. bricklayer's work is hard, and he is hampered by his tr union. If he has to leave off at three instead of at fiv consequence of rain, he dare not endeavour to find c pensation for his loss of time by working on another until seven. It would be necessary in that case to pay at an overtime rate. There is so much which is disag able about the trade it is no wonder that, accor to Mr. Holloway, "Few bricklayers had served apprenticeship, consequently only a small percentage c do good face work and properly understand sanitary w We are afraid the County Council's classes do not pro a remedy for such a state of affairs.

If the subject were investigated, it would be found the conditions of modern life impose restrictions on other building trades. "The plasterers," said Mr. Ho

WAY, "used to cast their own moulding, whereas now it is done by specialists and supplied to the builders." Mr. COLLS also stated that "Much woodwork that used to be done entirely by hand was now done by machinery, and the workman only joins it together. The work done in this way was as good as formerly, in some cases perhaps better." There is no use in contending against machinery, but apparently it is supposed by teachers that workmen are in the same position and should resemble their predecessors, who lived in days when neither steam nor electricity set tools in motion. Besides, as we have said, division of labour has assumed the character of a machine. Trades unionism is no less potent. There are, too, conditions of contract which affect labour. For instance, Mr. HOLLOWAY said, "With regard to a painter, it would be almost a waste of time to teach him anything, as the higher class of painting came under the designation of 'decoration,' and was, strictly speaking, an art. The mixing of colours was generally done by a man who had a special aptitude for the work." These are only glimpses of facts which are well known to all who have much experience with builders' work. They should be, however, of sufficient value to reveal that by attending courses of lectures in technical schools and receiving certificates of successful examinations a student will not necessarily gain higher wages in any of the building trades. He may be utilised occasionally for exceptional work, but, unless he can set up business on his own account, he must expect to be treated like the workmen who have followed the ordinary routine. Young people are deluded when the realities of business are concealed from them, and we are afraid the technical schools are creating a class of men who cannot fail to become more discontented than the workmen who now create trouble for architects and builders.

If we could be assured that the effect of teaching in the classes of the London County Council would make youths enamoured of building processes, and induce them to become apprentices of one of the trades, our opinion might be changed. Apprenticeship is the best of schools for a builder, and it is a serious matter to learn that not more than one in ten of the building workmen of London has served as an apprentice. According to Mr. HOLLOWAY, the majority of those who are bound are the sons of warehousemen, clerks, and tradespeople. The workmen prefer to see their sons in offices rather than working at a bench or on scaffolding. How to attract apprentices is a social question which can only be answered after an inquiry in which the subject is not incidental. Mr. HOLLOWAY suggests the creation of a central authority with adequate funds to deal with apprentices and their training. But so long as parents believe there are more short cuts to attaining wealth and position than are to be found in the building trades—in which all engaged, from architects to apprentices, are insufficiently rewarded—we cannot expect builders will be worried with applications to accept apprentices. Nor is it likely the technical schools will provide substitutes; so long, at least, as the teachers resemble the gentleman described by Mr. HOLLOWAY. He came as an "improver," but as he was found to be incapable of learning he was sent away. He then accepted the position of instructor of a technical class, and, for all we know, may be one of the new professors who descant upon the ignorance of architects about practical work.

COUNT CAYLUS.

IF when delivering the annual address to the students of the Academy in December next Sir EDWARD POYNTER were to refer to an engraving or etching by a French nobleman, of which they all possessed copies, there would be general consternation. But when Sir JOSHUA REYNOLDS, in his first discourse, was extolling the conscientious care of RAPHAEL in following exactly the model which was before him, even in unimportant details of costume, he relied for evidence on a print from one of the painter's studies for the *Dispute of the Sacrament*, which was, he said, by Count CAYLUS and "in all hands." At that time, 1769, the count was no longer living; he had passed away four years earlier. To artists his prints were as well known throughout Europe as BRAUN'S photographs are now. He had produced with his own hand, according to a dictionary of engravings which appeared in 1767, no less than 200 prints, after drawings by the great masters, in the "Royal Cabinet;" a collection of about 300 heads from originals possessed by M. CROZAT; another series from drawings, mostly caricatures, by LEONARDO DA VINCI; a variety of pieces after BOUCHARDON, and others not named. The numbers do not express more than a fraction of CAYLUS'S work on copper.

The Louvre possesses a catalogue of his etchings in four folio volumes, which he prepared himself. It contains 663 pages, and on each there are from two to eight prints. CAYLUS believed he had engraved about 3,000 subjects, and experts say he underestimated the quantity. He also assisted some of the professional engravers whenever they were engaged on subjects which appeared likely to promote the purpose he had in view. For it is well to remember that Count CAYLUS did not produce plates as commercial transactions. He was a stubborn, some would say a pig-headed, man who insisted on realising his own ideas, regardless of the labour and expense to himself. Having arrived at the conclusion that artists would derive more advantages from the possession of copies of studies, by great masters, than from occasional visits to public galleries to see the paintings, he became an engraver. He believed in deeds rather than words, as became a soldier; and so much success was attained in distributing his copies, Sir JOSHUA REYNOLDS was able to speak of the prints as if they were possessed by all English students of art.

At the time the President of the new Royal Academy mentioned the Count as a well-known amateur, CAYLUS was a subject for consideration by students of philosophy in all parts of Germany. It was not as a benevolent friend to artists who was willing to work with his hands to benefit them that he was noticed in Germany, but as a classic archæologist who had put forth theories which afforded subjects for endless discussion. One of the controversialists became renowned. In 1766 LESSING published his "Laocoon." To say it was an era-making book would be only employing a commonplace expression. But when we know that GOETHE credited it with being a powerful factor in the formation of his mind, and that MACAULAY owned he learned more from its pages than he ever learned elsewhere, we may conclude that over many inferior men the "Laocoon" has exercised an influence that is incalculable. Now the book is mainly a reply to three writers. One was the Rev. JOSEPH SPENCE, whose "Polymetis," or inquiry concerning the agreement between the works of the Roman poets and the ancient artists, although considered as obsolete, should be possessed by every student of classic art; the second was the Abbé WINCKELMANN, in whose essay on the imitation of Greek works in painting and sculpture the remarks are found which served as a text for LESSING'S book; the third was Count CAYLUS, who had published a collection of plates entitled "Tableaux tirés de l'Iliade, de l'Odysée d'Homère et de l'Enéide de Virgile, avec des Observations générales sur le Costume."

Between LESSING and WINCKELMANN there was not much difference. The Abbé's offence was venial, for all he said was that VIRGIL was not as refined as SOPHOCLES in describing LAOCOON as roaring like a wounded bull when he found he was imprisoned in the coils of the serpents. The sculptor, on the contrary, treated the subject, as SOPHOCLES had done in the case of PHILOCTETES, by representing the priest as uttering a constrained sigh. SPENCE, on the other hand, was guilty of proposing the heretical doctrine that VIRGIL had derived his description from the group of sculpture, and in doing so he followed the practice of the ancient poets who owed their inspirations to paintings and statues. Count CAYLUS extended SPENCE'S theory, for he maintained that the best test of a poem was in affording subjects for pictures. From the success with which that test was borne by the "Iliad" and the "Odyssey" he advised all painters to study HOMER, who could supply them with innumerable subjects. In other words, the poet had preserved records of ancient art; and by illustrating his scenes, painters and sculptors were restoring the works of their early predecessors. If generally accepted, such a theory would put an end to all subjective poetry, which is the most expressive to the German mind; and Englishmen

must be always on the side of LESSING, and against their countryman SPENCE, in opposing conclusions which would be fatal to whatever is emotional in their literature. When LESSING asked whether, if HOMER's works were lost, and we were forced to be content with illustrations like those prepared by CAYLUS, should we be as much impressed by them as we are by the poet's words, he could have no doubt of the answer of the German race. Art has its own province, so has literature, and each can be advantageous to the other. To supersede either would be folly, and LESSING was justified in his endeavours to define the limitations between the two.

There is, however, some excuse for CAYLUS. He was overcome with the greatness of ancient art, and wished that the world should admit its supremacy. Like all zealots he could not be impartial, for his mind was under the sway of a bias which was not to be overcome by reason. It should also be remembered that the education of CAYLUS was rather fortuitous. It was through art he was enabled to realise there was in life something of more interest than animal pleasures, and that his existence could be made useful for his contemporaries without any loss of individuality.

For as an archæologist Count CAYLUS was as self-opinionated as he had been in engraving drawings. He anticipated CARLYLE in believing that the knowledge or connoisseurship which holds good for working was alone worth having. Public galleries and royal cabinets might be filled with ancient objects which would excite amazement; he sought to obtain those which would convey lessons or suggestions to artists. He was enabled to gain the aid of an Italian Abbé named PACIAUDI, and almost drove the poor man distracted with his requirements. All the accepted principles of collecting were set aside. At one time he was more eager to have fragments than a perfect object, for he maintained there was more knowledge to be derived from them. At another time he professed indifference to masterpieces. Where was the modern artist who was likely to rival them? Give him common everyday productions which could at least be imitated. PACIAUDI was a scholar of experience, and, moreover, he was honest. He endeavoured to carry out his patron's instructions, but repeatedly he sent things to Paris which were more adapted for an ordinary collection of curios. The dealers in course of time were able to supply what he sought, but CAYLUS was more sharp-sighted and realised that his agent was victimised. In those days the manufacture of antiquities was a recognised industry. CAYLUS dealt with the forgeries in a philosophic and businesslike manner. He despatched them to England or Germany, where they realised far higher prices than he had paid for them. Collectors must not be tried by ordinary ethics in the acquisition or disposal of treasures.

If we inquire into the circumstances which made CAYLUS an amateur, a puzzle awaits us. He did not belong to a family that respected the arts. His family was ancient, but at the time of his birth their position was not exalted. His father was too coarse to be allowed near the court, and, as if he were a bear, LOUIS XIV. ordered him off to a remote region of the Pyrenees. His mother belonged to a Huguenot family, and was treated as a niece of Madame DE MAINTENON. When he was twelve his father died, leaving his mother poor and unable to provide for him. But Madame DE MAINTENON's influence was equal to a fortune. CAYLUS was able to enter the army when he was fifteen, and he took part at Malplaquet in those furious and repeated charges of the famous "Maison du Roy," which Colonel ESMOND has described. Like the Colonel, the young Count escaped unhurt, and when he returned to Versailles King LOUIS took him on his knees and petted him as a hero who had slain one of the royal enemies. In a year or two he was a colonel, and before he was out of his teens CAYLUS was considered to be a soldier who would be justified in expecting a marshal's baton. Just then there was a reaction. France was wearied of glory, and was glad to have peace. CAYLUS became disgusted with the prospect of settling down as a quiet citizen. He decided to leave a country that was unworthy of so promising a warrior. He travelled in Italy and Germany, and then came back to play the part of an affectionate son.

Eight months afterwards an opportunity occurred which enabled him to visit Ephesus. The sight of the temple appeared to work a revolution in the mind of CAYLUS, who was then about twenty-four. All his notions of ancient art were changed. He next visited Greece in the hope of discovering Troy, but he had not pursued his explorations far before home-sickness again seized him and he returned to Paris. The Luxembourg then served, like Hampton Court, to shelter people who were very poor and very proud. Madame DE CAYLUS was among them, and her son was glad to share her apartment.

His experiences in Greece created a love of art in his breast. He made the acquaintance of MARIETTE, the collector, who was the son of an engraver and with CROZAT, who was the patron of WATTEAU. The artist found a pleasure in teaching CAYLUS, who gradually became known as an amateur who had more claims to be considered as an authority than the majority of his class. He began to acquire studies. JERVAS, the English painter, was said to possess a hundred of RAPHAEL's drawings. CAYLUS came to London to negotiate for them. He was disappointed with the English amateurs. They possessed precious things, but were unable to appreciate them. Lord PEMBROKE was said to have a collection of drawings ranging from CIMABUE to CARLO MARATTI. But some were destroyed, others were torn or cut. If a drawing was too large for a portfolio it was folded in four, although it might be the work of RAPHAEL or CORREGGIO. The voyage to London apparently cured CAYLUS of all desire to travel outside French boundaries.

On his return to Paris the Count appears to have taken up the production of engravings after the drawings of the old Italians with ardour. What happened in England might happen in France, and drawings like those of Lord PEMBROKE disappear without any means to recall their appearance. He resolved to do something towards providing a record. He seems to have become possessed of wealth, and he devoted a large part of it to sustaining his hobby. In 1731 there was a recognition of his services, for he was elected a honorary member of the Académie Royale.

It is remarkable to find that in a society containing many able artists CAYLUS should become so much of a power as in course of time to be considered the representative man of the Academy. His essays received most attention; his suggestions were adopted without the usual dissensions; his decisions were accepted without any appeal. What was the secret of so much authority, which exceeded that exercised by COLBERT, who was the greatest benefactor of the Académie? In a great measure it must have been owing to the sincerity of CAYLUS's interest in artists. Apparently he had no desire to impress his fellow-aristocrats with the belief that he was a man of genius. He cared little for his own order or for society. There was no pretension with him of ability or of virtue. But he loved art, and was willing to show his affection in any manner that was desired by the artists. It was for that reason he took up collecting, advocated the study of HOMER, and founded prizes for students. The Count realised the full extent of the reaction which followed the reign of LOUIS XIV.; and as he was afraid that French artists were by degrees descending to common life for subjects, he endeavoured to bring them back to the austere grandeur of which NICOLAS POUSSIN was a representative. That was the more remarkable, for in his own daily life he was prone to sinking to a low level.

In the new Academy of Inscriptions he was no less of a magnate than in the Academy of Painting. In France every generation presented a succession of men to whom the ancients were of more importance than their contemporaries. But their knowledge was based on the statements found in books, and they did not consider they were under obligations to test what was recorded. CAYLUS cared little for book learning, unless it was applicable to support some of his own theories. He preferred experimental archæology. There were whole classes of statements relating to laws, institutions, religions, manners, which he could not verify. But if there was the least allusion to an art or manufacture CAYLUS was able to test it, and from the results could draw inferences about much else. He demonstrated, for example, that two of PLINY'S varieties of encaustic painting could be executed.

But there were also two varieties for which the instructions given were of no avail. What more was needed to warn readers against the general acceptance of all PLINY's statements? On another occasion Roman swords were found which, as they were made of an alloy of copper, were supposed to be merely intended for use in ceremonies. CAYLUS produced a similar alloy, and turned it into swords which were found to be adapted for attack and defence. It was inevitable that he must often be erroneous in his conclusions. As he believed he understood the technical descriptions of ancient writers more exactly than other interpreters, he attempted a restoration of the Mausoleum. As an architectural work it is not successful, and it has not been in the least details corroborated by the remains of the monument which were subsequently found, and are now in the British Museum.

CAYLUS, by his peculiar system of applying science to archæology, should have a place in history. But his fame depends on a few lines in a biographical dictionary. His efforts to have antiquity subjected to "a dry light" in which imagination was no element are forgotten. This is the more remarkable because WINCKELMANN, who was much indebted to him, is assumed to have been the true revealer of antiquity and art to the people of modern Europe. The German Abbé was not more enthusiastic about art than the French nobleman, and he was far more unreasonable in his conclusions. But in one case the errors were expressed in words more or less vague, while CAYLUS, who never was wanting in courage, expressed conclusions by his own designs, which are not comparable with FLAXMAN'S. It was through his draughtsmanship that CAYLUS'S reputation is so insignificant, but, after all, his indirect influence on the future may not be less than that of his rival.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Professor Aitchison, R.A., president, in the chair.

The Hon. Secretary announced the decease of the two following members who were Associates:—Frederick Mew, elected 1859, and William Reddall, elected 1874.

Mr. John Bilson read a paper, illustrated by many lantern slides, on

The Beginnings of Gothic Architecture: Norman Vaulting in England.

By way of preface to his subject Mr. Bilson contributed a paper in a recent number of the Institute "Journal," in which he reviewed some modern investigations of French archæologists into the origin and development of Gothic architecture. The following were the principal works referred to:—"L'Architecture religieuse dans l'ancien Diocèse de Soissons au XI^e^ et au XII^e^ Siècle," by E. Lefèvre-Pontalis; "L'Art gothique," by Louis Gonse; "La Transition," by Anthyme Saint-Paul, in the *Revue de l'Art Chrétien*; "Monumens religieux de l'Architecture romane et de Transition dans la Région picarde," by C. Enlart; and "Die Anfänge des gothischen Baustils; zur Kritik des gegenwärtigen Standes der Frage," by G. Dehio, in the *Repertorium für Kunstwissenschaft*. The author commended these researches to the attention of English students still prone to accept as final the judgments of earlier writers, such as Viollet-le-Duc, some of which have been found untenable in the light of more recent inquiry. Mr. Bilson stated that in his prefatory paper he had made free use of Herr Dehio's masterly treatise, the general conclusions of which must, in the main, eventually win acceptance even among the younger French school of inquirers.

In opening his paper on "Norman Vaulting in England" the author touched upon the development of Norman Romanesque resulting from the revival of architecture in Normandy early in the eleventh century, and noted some of its most striking characteristics. Available literary evidence tends to show that some of the Norman methods were already in use in England before the Conquest, but we are not justified in believing that the design of these English buildings was marked by the logical precision so characteristic of Norman work, or that the English had taken any step in the direction of vaulting over their churches.

In studying the development of vaulting, as illustrated by English examples between the Norman Conquest and the middle of the twelfth century, the author dealt first with the vaults of the lower parts of churches, such as aisles and crypts, citing existing examples of the various forms described.

The ground vault in its simplest form results from the intersection of two semi-cylindrical vaults at right angles to one another—a survival, in fact, of the Roman groined vault. Generally, however, these ground vaults are banded by semi-circular transverse arches or "doubleaux," usually of simple square section, and forming a kind of permanent centering. The adoption of these doubleaux, however, involved considerable inconvenience in the construction of the springing of the groin. In the Roman groined vault and its imitations the groin springs from the external angle of the pier or pilaster. In many of the early Norman vaults the groin springs either from the internal angle formed by the junction of the transverse arch at its springing with the wall-face, or from the face of the wall or arch close to the angle. As the vaults were constructed of rubble masonry with thick joints and covered with plaster, this method of springing the groin was obviously defective as a matter of construction. Consequently we find the difficulty met at a very early date by a further development in the membering of the supporting pier; the pilaster which carries the transverse arch is flanked on each side by a secondary pilaster, which affords an independent support for the groin. In some crypts where the vaulting is supported by single cylindrical shafts the springing of the vault is subdivided in a similar manner, so as to give a separate projection for the springing of the groin. A further advance consisted in the substitution of a shaft for the square pilaster which supported the groin. At Saint-Etienne, Caen, and at Winchester Cathedral, an improvement is found in the construction of certain of the vaults. The haunches of the vault for a short distance above the springing are constructed of ashlar, above which the vault is of rubble, plastered.

Having described the modification the simple groined vault underwent when necessitated by the oblong or irregular plan of the bays to be vaulted, the author passed to his main subject, the ribbed vault. Wherever it originated, or whatever the circumstances under which it was evolved, the advantage gained by the introduction of the rib was obvious. It afforded a permanent centering for the groin, the weakness of which in vaults over wide spans must always have rendered them liable to failure. It completed the membering of the vault which had commenced when the transverse arch was added to the Roman groined vault. The new expedient was readily adopted and rapidly developed by the Normans, in England as well as in Normandy.

The cathedral church of Durham is the most complete early example of the adoption of the ribbed vault in England. Contemporary chroniclers record that every part of the church was covered with ribbed vaulting between 1093 and 1133. The plan of the choir and east side of the transepts shows that it was the intention from the first to cover both the aisles and the main spans with the vaults which were actually constructed. The aisle vaults of choir and transepts (the various features of which were described in detail by the author), constructed under Bishop William between 1093 and 1096, are clearly part of the original work; masonry and mouldings correspond in character with those of the choir arcades, and for constructional reasons the aisle vaults must, as usual, have been erected along with the main walls. The vaults of the nave aisles, the characteristics of which were next discussed, are the work of Bishop Ralph Flambard (1099-1128); and as he completed the nave as far as the high vault, the aisle vaults may safely be attributed to the first decade of the twelfth century. They correspond in character with the aisle vaults of choir and transepts, except in a few minor points.

The next dated example of ribbed vaulting is to be found in the reconstructed parts of the transepts of Winchester Cathedral. The original work in these transepts belongs to the church which Bishop Walkelin commenced in 1079, and which the monks entered in 1093. The works of reconstruction necessitated by the fall of the cathedral tower in 1107 are easily distinguishable from the original work by the different thickness of the masonry joints. The date of these ribbed vaults may be put within two or three years after the tower fell.

Peterborough Cathedral presents examples of ribbed vaults, the date of which is proved by documentary evidence. The earlier church was destroyed by fire in 1116, and the present building was commenced in 1117 or 1118. In 1140 or 1143 the monks entered the new church. The parts then completed include the choir and east side of the transepts (except, perhaps, the clerestories). The aisles of choir and transepts throughout are covered with ribbed vaults, the distinctive features of which the author described.

The paper then went on to discuss M. Félix de Verneilh's conclusions with regard to the Peterborough vaults, on which M. Lefèvre-Pontalis based his statement that the ribs were added afterwards in the second half of the twelfth century. M. de Verneilh's theory was that the supporting shafts were designed to receive the projecting groins of unribbed vaults, and that the actual ribs were added afterwards. In the recent taking down and rebuilding of the central tower, however, no evidence whatever was found to support this theory. It is

clear that these Peterborough vaults are original, from the fact that they do not stand alone, but are analogous in their method and construction to a large number of vaults which cannot all be the result of such an alteration as M. de Verneilh suggested.

The author then passed to the consideration of examples of similar ribbed vaults, to which, in default of documentary evidence, approximate dates only can be assigned from the character of the work. The following examples were discussed:—The vaulting over the north aisle of the nave of Gloucester Cathedral, which may be safely assigned to the first twenty years of the twelfth century; Avening Church, Gloucestershire, ribbed vaults, *c.* 1120-1130; Southwell Minster, the aisles of the nave of which are covered with ribbed vaults, *c.* 1120; the Priory Church of Lindisfarne, built by Ædward (who died, probably, near the end of Ralph Flambard's Episcopate, 1128)—this church throughout was covered with ribbed vaults, and its design is evidently inspired by Durham; the nave of the abbey church of Dunfermline, also inspired by Durham, probably erected soon after the accession of David I. (1124); Selby abbey church, whose eastern bays of the nave also afford marked indications of Durham influence; Romsey abbey church, vaults of choir aisles, and the church at Lessay, Normandy—examples interesting as showing how the idea of the ribbed vault was introduced, during the course of construction, in works originally planned only for unribbed vaults; the two churches at Devizes, Wiltshire, affording examples of aisleless chancels covered with ribbed vaults, and to be attributed, with some probability, to the architectural influence of Bishop Roger of Salisbury, and dated approximately *c.* 1125-1130, St. John's being slightly earlier than St. Mary's.

The difficulties which confronted the builders of these early ribbed vaults, so long as they employed only semicircular or semi-elliptical curves for the ribs, were entirely surmounted by the adoption of the pointed arch for the doubleaux. The nave aisles of Malmesbury abbey church have been frequently quoted as the earliest example in England of this new method of construction, and have been attributed to Bishop Roger of Salisbury; it is scarcely probable, however, that the rebuilding of the church was commenced before the bishop's death in 1139; it must, nevertheless, have closely followed that event, and the existing nave cannot be assigned to a later date than the middle of the twelfth century. There is no evidence whatever to support Mr. C. H. Moore's assertion that the vaulting is an imitation of French work. The style of Malmesbury is purely Anglo-Norman, and shows no trace of the influence of such French work as the chapel of Bellefontaine and St. Denis. At the same time the Malmesbury aisle-vaults bring us to the threshold of the complete Gothic vaulting system, and almost to the time when French influence undoubtedly began to affect English work.

In treating of the vaults over the principal spans of churches, the author said that the Normans aimed at covering all parts with stone vaults. The plans of piers sufficiently indicate that the vaulting of the principal spans was intended to follow the vaulting of the aisles. The choir-piers of St. Nicolas, Caen, and St. Georges de Bosherville were cited as typical examples. Each shows a group of three shafts on each side of the pier to carry the arch-orders of the main arcades, a single shaft which receives the transverse arch of the unribbed side vault, and a corresponding shaft towards the main span. It is not improbable that the failure which naturally attended the construction of the earliest vaults over wide spans may in some cases have rendered subsequent reconstruction a necessity. Very few early examples of vaults over wide spans have survived. The earliest instance in England of a ribbed vault over the principal span of a great church is the choir vault of Durham Cathedral, though here the original vault was replaced by the existing vault in the fifteenth century. The vault over the north transept of Durham is probably the earliest of such vaults still existing. The evidence of the structure itself, the analogy of the other vaults of the church, and the documentary evidence, taken together, enable one to speak with some approach to certainty of the character and date of the original choir vault of Durham. The plan of the choir, consisting of two double bays, is a type usually associated with a sexpartite vault. But the date is much too early for this kind of vaulting. There can be no doubt that the original choir vault was a ribbed vault, and it may safely be concluded that the choir was originally covered with a double quadripartite vault over each double bay, closely resembling the vault of the north transept, erected almost immediately afterwards.

The vaults of transepts and nave at Durham next came under examination, and were discussed at length, the author showing that the character of the work indicated that the vaulting idea was present in the earlier parts of the structure, and that it was abandoned and again taken up while the work was still in progress. Touching the date of the nave vault of Durham, there is absolutely no authority for Billings's statement, repeated by later writers, that it was constructed between 1233 and 1244 in the Norman style. Symeon's continuator proves that the nave was vaulted between 1128 and 1133 and this is borne out by the character of the masonry of the vault itself.

Durham affords complete proof of the ability of Norman builders to construct ribbed vaults over the principal spans of a great church, and to abut the thrust of these vaults by arches across the triforium, of which the flying buttress is merely a development. Evidences quoted by the author indicate that the choir vault was constructed by 1104; the vault of the north transept may be assigned to a date within the first decade of the twelfth century, and that of the south transept within the first quarter of the century; while the nave vault, with its pointed transverse arches, was constructed between 1128 and 1133. Examples of vaults showing the influence of Durham were cited in the priory church of Lindisfarne, no part of which appears to be later than the middle of the twelfth century, and, on a small scale, Warkworth Church (Northumberland).

The nave of Lincoln was vaulted before the middle of the twelfth century. It was built by Remigius, and dedicated in 1092, was injured by fire in 1141, and Giraldus Cambrensis states that it was vaulted by Bishop Alexander. Henry of Huntingdon places the date of this work at 1146. What this vault was like may be gathered from the chancel of Stow Church, Lincolnshire, the detail of which so closely resembles Alexander's work at Lincoln as to prove that it was executed by the same school of masons. The evidence here indicates that Alexander's nave-vault at Lincoln must have been ribbed.

The following early examples of ribbed vaults to apses were referred to, and their characteristics described—the small apsidal chapel on the east side of the south transept of Christchurch, Hants, appearing to date from early in the twelfth century; the apsidal chapel on the east side of the south transept of Tewkesbury abbey church, which may be assigned to the first twenty years of the twelfth century; Birkin Church, Yorkshire, middle of the twelfth century; the octopartite vault of the treasury of Canterbury Cathedral; the apse vault of the chapter-house of Durham Cathedral, a larger and more advanced example, finished by Bishop Geoffrey Rufus, 1113-1140. The last-named was partly destroyed by fire in 1796, but Carter's drawings have preserved an accurate record of it.

The author concluded his paper with some observations on the bearing of the English evidence on the general question discussed in the prefatory paper above referred to. Before the introduction of the rib, the Normans were already developing the articulation of their construction to an extent quite unknown in the Ile-de-France. The earliest ribbed vaults exhibit a system which is slightly less advanced than even the primitive vaults over the aisles of Saint-Etienne, Beauvais. The large number of ribbed vaults still remaining proves the existence of an active school, which had already accomplished much before the introduction of the pointed arch. It is remarkable that all these English vaults are quadripartite. No example is met with either of the sexpartite vault or of the intermediate form — quadripartite cut by a secondary transverse rib — both of which occur in the group of churches in and around Caen. Obviously the quadripartite vault was the earliest form, and varieties could not have been developed if the quadripartite vault had not previously been known. The evidence of the rib sections points in the same direction. As in their system, so also in the profiles of the rib mouldings, the earlier ribbed vaults in England come into line with the quadripartite vaults at Lessay, and represent an earlier stage than the vaults of the Caen group. These latter, whether sexpartite or of the intermediate form, show one easily recognisedtype of rib section, a more refined and clearly later type, not found in England until the octopartite vault over the Treasury at Canterbury Cathedral, probably erected soon after 1130. The approximate date of 1130 suggested for the earliest vaults of the Caen group seems probable enough, and the experiments which the builder of these vaults tried in setting out the curves of the ribs indicate that they were not adopting ready-made a system already worked out elsewhere. Apart from the English evidence, the authenticated dates of the earliest ribbed vaults prove that influence from the Ile-de-France is quite impossible, and show the complete independence of the Norman school up to, at any rate, the end of the first third of the twelfth century.

Mr. Rhenè Spiers, who proposed a vote of thanks to the author of the paper, said there were some features in the buildings in Normandy which would prove them to be of later date than the English examples. The character of the carving, to would support this theory. As Mr. Bilson had precisely left out those portions of his paper which dealt with the example in Normandy, and on which he (the speaker) could say a few words, he dare not presume to criticise the paper at great length.

Mr. Francis Bond, M.A., seconded the vote, which was supported by Messrs. W. H. St. John Hope and E. W. Hudson.

Mr. Bilson briefly replied.

Thackeray's House (No. 16 Young Street, Kensington) was sold on Tuesday by auction for 3,350*l.*

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

THE monthly meeting of the Society was held at the School of Art on the 14th inst. There were present Mr. J. Smith, vice-president, in the chair, Mr. C. Hadfield, Mr. E. M. Gibbs, Mr. C. J. Innocent, Mr. Thomas Winder, Mr. Hadfield, junr., Mr. Innocent, junr., Mr. Tether, and others. Apologies for absence were received from Messrs. R. W. Fowler (president) and William C. Fenton (hon. secretary). Five gentlemen were nominated for membership, and will be balloted for at the next meeting. Messrs. E. Winder, junr., and C. M. Hadfield were elected auditors.

Mr. E. Prioleau Warren, then gave a lecture on the subject "Theory, Practice and Tradition." He said the value of theories in the training of students of architecture is twofold. Theories provide an excellent mental exercise and incitement to study; and such of them as are of approved authenticity, logical quality and obvious derivation from experience pass into tradition, become axiomatic, and form part of the necessary groundwork of all architectural training. They are practically statements of first principles, and should form the initial exercises of the student. They are, to use a military parallel, the exercises of the drill ground, and the preliminary essentials of future and more extended manœuvres. The appliance of first principles must, to be really useful, become instinctive, almost unconscious, and is never more valuable than in the critical consideration of architecture, old or new. A sound theory, soundly remembered and applied, is an admirable corrective of appreciation or depreciation too thoughtlessly bestowed. Few things, after the prime necessities of trained imagination and constructive instinct, can be of more importance to an architect than the discriminating, the critical faculty, and it could never have been of greater importance than to-day. We have inherited the legacy of nigh upon a century of architectural unrest; we are beset by such a profusion of conflicting literature; we have reached such a chaos of conflicting styles, tastes, ideas and examples, that the course of the student is a maze of confusion. He needs the moral compass of trained discrimination, with its needle of principle ever veering to the north point of truth; provided with this, he can afford to make a few experimental divagations—he can always recover his true direction. It is often said that the profession of an architect is a modern one; it appears to be understood that he has evolved himself, has created his profession and its modern condition, as they stand. That is an impossible view. The evolution was gradual, and very clearly traceable from the Mediæval master-builder upwards. The Renaissance brought new and foreign ideas and forms, and with them the need of a trained interpreter, a man of education. Inigo Jones, Wren and Chambers all were interpreters. The architect has to supply the imaginative element that makes building architecture; he is rendered necessary by the inability of the working builder to originate and organise comprehensive schemes. The difficulties of producing real architecture under modern conditions are great and complex. Commercialism is against us; the rush and hurry of the age are against us; and perhaps our worst obstruction is the almost absolute lack of real sympathy with architectural ideals, the extreme paucity of educated taste which we meet with in our patrons, and our public traditions are broken, and have to be revived or created afresh. The enormous help and value of strong tradition, the immense benefit of a real vernacular expression in architecture, are abundantly apparent to those of us who carefully study the past, who read between the lines of architectural history, and who are struggling to apply true principles under exasperatingly antagonistic conditions. There is, however, hope for the future; we seem to have done with revivals, with mere copying of a dead past. Our danger in that respect lies in a too violent tendency in the opposite direction, the exaggerated swing of the pendulum, the eccentricities of architectural revolt. We do now, at any rate, upon the whole build, in the technical sense, well; better, indeed, than the last four centuries built in England. We have to see to it that, building soundly, we also build beautifully.

On the motion of Mr. Hadfield, seconded by Mr. E. M. Gibbs, and supported by Messrs. Mitchell-Withers and Smith, a vote of thanks was accorded to the lecturer, and the meeting closed.

Mr. G. F. Watts, R.A., has offered to erect entirely at his own expense a covered way in the churchyard of St. Botolph, Aldersgate, in which to place tablets illustrating heroism in everyday life; while Mr. Sigismund Goetz has offered his figure of the Dead Christ, exhibited last year at the Royal Academy under the title of "Eloquent Silence," for the decoration of the church at the east end. Two other paintings will represent the motto "Watch and Pray."

THE PALACE AT PERSEPOLIS.

THE Museum of Science and Art has been presented by Major-General Sir R. Murdoch Smith with several fragments recovered from the palace of King Darius Hystaspes. These objects, although few in number, are of rare interest to the archæologist, belonging as they do to an early epoch in Persian history, recorded by classical writers, and alluded to in several passages of sacred writ.

The relics consist, says the *Scotsman*, of detached portions in sculptured limestone, taken from the débris at the site of the ancient structure, and comprise:—A portion of a frieze, sculptured in relief, with the leg and cloven foot of a bull, having a band of rosettes underneath. The sacred bull of Persia was called "aboudad," and generally regarded as an emblem of the creative power of God, in which existed the germs of all being—as, further, that of royalty—the horns being indicative of strength and force. The rosette was a favourite ornamentation with both Persians and Assyrians, and besides adorning the sculptures is found engraved on bracelets, wristlets, and armlets, as well as portrayed on the dresses of their sovereigns. This sculpture displays much anatomical skill in its execution. A fragment from the base of a columnar pillar, sculptured with curved beaded mouldings, enclosing tastefully designed leaves of the hallowed lotus—some of the latter being rounded and some narrowed to a point; the foot of a lion, of some size, carved with a wonderful fidelity, which no doubt formed part of a bas-relief representing this animal encountering a bull, placed within the compartment beneath the spandrels which fenced one of the staircases or approaches to the palace, symbolising thereby Mithras encountering Ahriman, the "evil principle," or the God of Light contending with the Demon of Darkness—for Mithras, as a solar divinity, was usually depicted with a lion's head; a fragment sculptured with a band of rosettes tastefully grouped; and lastly, a portion of a crenelated ornamentation, which evidently at one time adorned one of the square-topped niches or doorways of the royal palace. The sculpturings on these vestiges are surprisingly delicate and chaste, and convey to us interesting exemplars of some of the most characteristic features of the old Persepolitan art. Unfortunately, however, there are no traces of inscriptions to be found on any of these fragments.

The palace of Darius—which was one of the greatest of his works—was a building of 130 feet in length, and in breadth a little short of 100 feet. It was of rare magnificence, being constructed of black stone and partly of marble cut into gigantic blocks, and in many cases exquisitely polished. Placed upon the summit of an exalted platform of 1,430 feet by 802 feet wide, it was approached by a double staircase cut in the rock, leading up to a portico of eight pillars, ranged in two rows on either side, behind which lay the main chamber, having a roof sustained by sixteen pillars placed in four rows of four. Walls of 4 to 5 feet in thickness surrounded a grand hall, in which were windows and doors symmetrically arranged. The entire area of the palace was a little more than 13,000 feet, while that of the hall—which was crowded with pillars—was about 2,500 feet. This noble edifice was said to have been constructed by 6,000 Egyptian workmen whom Cambyses transported to Asia. The structure remained the wonder of the Eastern world until the invasion of Persia by Alexander the Great (B.C. 356), who after capturing the city of Persepolis, and becoming there degraded in judgment by his multitudinous successes, during a fit of intoxication set the palace on fire, as some suppose, as a just retaliation for the devastations Persia had in previous years committed in Greece. But, as is now believed, the building was not then wholly destroyed, but subsequently so by the fanatical Arabs in Mohammedan times.

Darius—whose native name was Daraywaush—was the son of Hystaspes, a governor of Persia proper. He was a prince of royal blood, of the family of the Achæmenidæ, or native Persian kings, and ascended the throne B.C. 521, after his murder of the Magian Gomates, the pseudo-Smerdis, who had given himself out to be Bardis, the brother of King Cambyses. For six-and-thirty years he swayed the destinies of the kingdom, being afterwards succeeded by Xerxes, or Khisharsatha, now identified with the Ahasuerus of Esther. Next to Cyrus, Darius was the greatest of the Persian kings, and to him the empire owed its organisation. His kingdom extended from the Ægean to the Indus, and from the steppes of Scythia to the cataracts of the Nile.

Persepolis, or "the Persian city"—for Persia was called Paras in the Hebrew, and Parsa in the native inscriptions—was situated in the plain of Mardusht, about thirty-five miles north-east of Shiraz, on the highway to Ispahan. It was one of the four cities of Cyrus, and for a considerable period remained the capital of the Achæmenian dynasty of Persia.

Several of our commentators surmise that the decree of Darius—enforcing the previous firman of Cyrus granting permission to the Jews to rebuild their temple at Jerusalem—emanated from his royal palace at Persepolis, but we are not yet in possession of sufficient data to support this.

NOTES AND COMMENTS.

One day we suppose an effort will be made to secure as public property the house at Herne Hill where Mr. Ruskin spent a part of his boyhood. He has repeatedly mentioned it with affection. "The little domain," he said, "answered every purpose of Paradise to me, and the climate in that cycle of years allowed me to pass most of my life in it." The orchard he describes as splendid in colour; "fresh green, soft amber and rough-bristled crimson bending the spinous branches, and clustered pearl and pendant ruby joyfully discoverable under the large leaves that looked like vine." The house with three others, being part of the property of Lady Nottage, was sold on Monday for 7,600*l*. It appears that Mr. Ruskin's father bought a lease of the house in 1823. Seventeen years afterwards the family moved to the Denmark Hill house, adjoining the residence of the late Sir Henry Bessemer. In 1871 the Herne Hill house was given to Mrs. Arthur Severn by Mr. Ruskin for the remainder of his lease, which expired in 1886, and then Mr. Arthur Severn renewed it for twenty-one years with Lady Nottage, who became possessor of the property. Mr. Ruskin still holds the house in affection; when in London it becomes his home, and he occupies his old nursery as his bedroom.

Some time back there was talk about selling the Hôtel de Lauzun on the Quai d'Anjou, which lies eastward of Notre-Dame. That part of Paris has changed its character, or at least it is no longer esteemed at its old value, but the mansion is one of the finest survivals of the houses which were considered requisite to uphold the state of a grandee in the time of Louis XIV. The decorations, ceiling paintings and woodwork are of great beauty, and have been coveted by the conservators of many foreign museums. The sale of the property did not take place at the time announced. It is still in the market. The Municipal Council of Paris have lately considered whether it would be desirable to purchase the Hôtel de Lauzun, and it appears there is almost unanimity about the advantages of possessing so famous a building, to which interest attaches by its having been a residence for aristocrats. In a later time, when it was let out as appartements, Baudelaire the poet and Théophile Gautier were among the tenants.

Anyone who expects to find some hundreds of masterpieces in the exhibition of the Royal Institute of Painters in Water-Colours is sure to be disappointed. Works of that class are not now to be found in a collection where so many drawings are priced at 10 guineas and under. If tested by the usual standard of the Institute, the exhibition is of more than average interest. We have occasionally seen better works in the Piccadilly galleries, but we have also seen in former exhibitions many that were inferior to those which are now hung. There is no surprising example of inventive power, the subjects of the figure drawings are generally familiar, and there is no revelation of any nook of earth that was not hitherto explored and represented. It cannot be otherwise. Water-colour drawing has its limitations, and when six or seven hundred efforts are made every year to put before us the earth's surface and several classes of those who live upon it, there must be eventual exhaustion of novelty. The majority of visitors to exhibitions expect to be surprised by the subjects of pictures. They care less for treatment, and drawings which a Frenchman would closely scrutinise are passed by without a glance in London galleries. In the Institute exhibition there is enough satisfactory work to gratify visitors, especially those who can realise there are a variety of tastes and that all artists are not bound to satisfy a few individuals.

The eulogium of Leonardo da Vinci by Hallam is well known. In the course of it he said that "the discoveries which made Galileo and Kepler, and Maestlin, and Maurolycus and Castelli, and other names illustrious, the system of Copernicus, the very theories of recent geologers, are anticipated by Da Vinci. . . . He first laid down the grand principle of Bacon that experiment and observation must be the guides to just theory in the investigation of nature." Much has been discovered since Hallam wrote to prove that in much else Da Vinci was in advance of his age. A paper by Herr Müller-Walde has just appeared in one of the official Prussian year books which proves that Da Vinci had anticipated the submarine boat on which France now relies for obtaining the sovereignty of the ocean. In manuscripts in Milan and elsewhere Herr Müller-Walde found not only descriptions but diagrams of the invention. Ships in the fifteenth century were constructed of wood, and could be more easily destroyed than vessels formed of steel plates, but the power of projectiles has also increased. It may be said that Da Vinci, when treating such subjects, was no more than an early Jules Verne, but his contemporaries believed in his practical skill. A marble saw he invented is still in use in the Carrara quarries. It is proposed to translate Da Vinci's scheme of submarine warfare.

The Secretary for India has appointed a former student of the Birmingham School of Art, Mr. Percy Brown, as principal of the Mayo School of Art, Lahore. The office was held by Mr. J. R. Kipling, C.I.E., the father of the poet and novelist, for no less than nineteen years. All the students of the Mayo School are natives. There are 300 students at Lahore, and 200 at each of the three branch schools at Amritsar, Ludhiana and Delhi. In addition to teaching the subjects usually taught in English art schools, the principal of the Mayo School has to devote special attention to plaster and wood decoration, for which the Punjaub is famous. Further he is regularly consulted by the heads of the native guilds of handicraft, and thus is enabled to exercise great influence upon the artistic work of the Punjaub—an influence which should be wisely used in accordance, not with European, but with Indian traditions. Mr. Boyd's experience has been varied. In 1885 he entered the Birmingham School. In 1892 he entered the Royal College of Art as an exhibitioner. He subsequently worked under the Egypt Exploration Fund at Luxor and in Middle Egypt. He afterwards visited Greece, Turkey and Italy. Later, he returned to the Royal College of Art, where he completed three groups of the Art Master's Certificate, and also assisted in teaching. Since January 1898 Mr. Brown has taught classes at the central and branch schools of the Birmingham Municipal School of Art.

The Government of New South Wales are acting right in endeavouring to facilitate visits to the series of remarkable caves in the colony. For some years past complaint has been made of the accommodation for visitors at the Jenolan caves. Arrangements were therefore made to resume the premises forming the old accommodation house. The Government architect was authorised to prepare designs for a new building. One wing of a new structure has been completed. It has an imposing and picturesque appearance. It is solidly built of limestone, and contains ample accommodation. The dining-room is capable of seating sixty guests. For the recreation of visitors a detached billiard and smoking-room has been erected. It is proposed to let the premises by tender, and it is hoped that visitors will shortly find themselves as comfortably provided for as if at home. In other directions no trouble has been spared to add to the attractions and conveniences of the Jenolan caves. The Public Works Department has completed on the main road leading to the caves house one of the most beautiful little bridges in the colony, built of limestone. Many improvements have been carried out in the caves themselves. New entrances have been constructed where access was not easy. The director of the Botanic Gardens has been invited to remodel the plantations and to terrace and plant the slopes surrounding the accommodation house.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: EAST END OF SOUTH CHOIR AISLE, LOOKING INTO CHAPEL OF NINE ALTARS. FIRM SOUTH AISLE LOOKING IN NORTH TRANSEPT. ENTRANCE TO CRYPT FROM CLOISTER.

CREWE HALL.

NETHERCOURT, FINCHLEY.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &c.

(*Continued from page* 131.)

Troyes.

XIV.

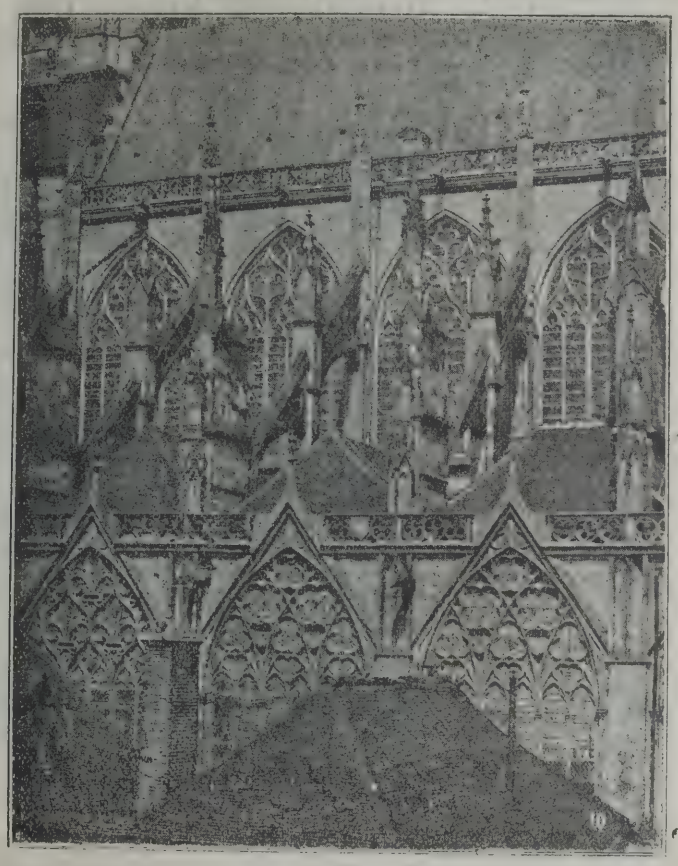
RETURNING to the hotel for my knapsack I find a little omnibus waiting to convey me to the St. Florentin (Est) on, whence a line had but recently been opened to Troyes, fied to by the gravelly platform and air of stickiness ading everything.

As this vehicle, whose services I am glad to avail myself of, t is very dusty and hot, approaches the station, it overtakes priests tramping along the shadeless road, each armed his Breviary and an umbrella of Gamp-like aspect, and ng clouds of dust at every step.

In the booking-office the clerk is enjoying a siesta, and reverences, to attract his attention, knock loudly at the et unopened pigeon-hole with franc-pieces. However, after



TROYES: ST. JEAN, FROM NORTH-EAST.



TROYES CATHEDRAL: PORTION OF SOUTH SIDE.

lapse of some minutes we are all furnished with the ssary permits for the voyage, and, according to the ulous custom of the country, which I am glad to see is me places becoming relaxed, are penned up in the *salle ente*. The train for Troyes comes puffing in; the priests some half-dozen market people make a frantic rush for the ages as soon as the glass doors are thrown open; a great ness is made of nipping our tickets, and St. Florentin pears from view.

With the exception of a few country people, who get in at station and out at another, staring during their sojourn in arriage at my English touring suit in open-eyed amaze-, but who give me a pleasant "Merci, monsieur! Bon et bon voyage!" as I assist them in or out with their ets, the train picks up but few passengers. The line is a uninteresting one, presenting nothing but a succession of l villages with churches of a nondescript character; these, ever, serve in some degree to break the monotony of the ey from St. Florentin to Troyes, into which the train runs laudable punctuality at two o'clock. Lying as it does in a dead level, the appearance of the old capital of Champagne from the railway is somewhat disappointing, for although it is stocked with churches not one has any steeple of sufficient magnitude to indicate the treasures of ecclesiastical art lying within.

As we pass out at the station door a gendarme looks narrowly at every package as though it were an infernal machine, lifts the cloth from every market basket, and even peeps under my travelling library.

It is hot, very hot. Right glad am I, after securing quarters at the excellent Hôtel des Courriers, close to "the most enchanting spectacle which the genius of man has bequeathed to the admiration of successive ages"—the church of St. Urbain—to escape from the heat and glare into the cool cathedral, its mighty valves, thrown back to their utmost width, and revealing stained-glass windows whose rubies and sapphires shimmer in the gloom "like silver lamps in a distant shrine."

To wake up at six o'clock on Sunday morning in one of the large airy bedrooms of the Hôtel des Courriers and to see glorious Old Sol tinging the peaks of some antique gables opposite is truly delightful. But this is nothing compared with the subsequent pleasure of inhaling the sweet air of early morning as it is wafted through streets of old timbered houses from the vast tract of environing country, or while threading the mazes of that most delightful of lounges, a French flower market. Thus, interspersed with an occasional dive into a church or two, where the white chasubled priest moves softly to and fro before the altar in the stillness of the early morning Mass, the time glides most delightfully away.

The Troyes churches cluster almost as thickly as those in Cologne. If not of the highest order architecturally, being chiefly in a very bold Flamboyant style peculiar to this district of Champagne, they have contrived to retain a good deal of their seventeenth-century furniture, and the picturesqueness imparted to many of them by their high open-backed benches is quite refreshing after the Parisian smartness which is the besetting sin of too many great French churches. Not a few are rich in Late stained-glass.

In succession I visit St. Jean, remarkable not only for its lofty clerestoried choir of pointed windows filled with Renaissance tracery—a choir rising clear above the houses which, like the snails at Mrs. Pipchin's, cling with the tenacity

of cupping-glasses to places they are not expected to ornament —but for its altar-piece. This is embellished with the painting by Mignard, a native artist, of Our Saviour's Baptism, usually kept veiled, but to-day, being Dies Dominica, disclosed for the veneration of the faithful.

St. Nizier, St. Remi, St. Pantaleon and La Madeleine, before whose unique early sixteenth-century rood-loft—"a curtain of lace cut in marble"—I spend some time wrapt in admiration, all in some point or another challenge the attention. Unsupported by pillars, the author of this marvellous jubé rests beneath it, "sans craindre d'être écrasé."

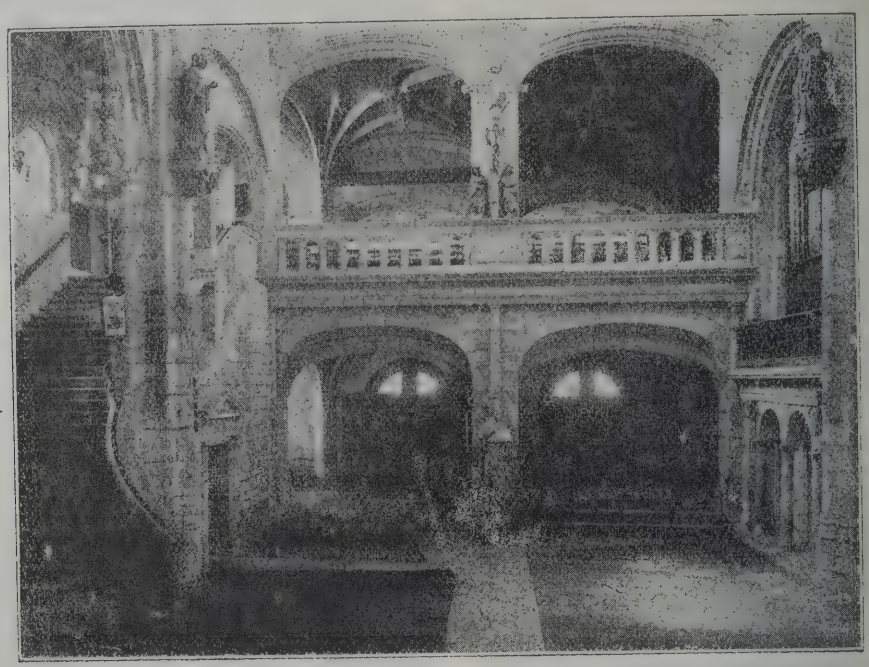
The transepts and short nave of the Madeleine are very early First Pointed, but not very good exemplifications of that style.

At length I stand before St. Urbain's, its gracefully contoured Middle Pointed apse, profiled against a sky of purest cobalt. Eagerly I pass through the portals, and the impression of the early morning sun streaming through the storied panes of the lantern-like apse, throwing the choicest hues upon the surrounding stonework, is one which can never be effaced from the tablets of memory. Upon this occasion St. Urbain's fairly earns the eulogium passed upon it by one whose name is, I trust, not wholly forgotten in the history of architectural literature.* "For a building of its size, it is the most enchanting architectural spectacle which the genius of man has bequeathed to the admiration of successive ages."

Halberstadt and Erfurt a reminiscence of German when vi ing its tall aisleless apse, due presumably to the vicinag this part of Champagne to Teutonic soil? Several of Châlons and Toul churches exhibit similar Germanisms. Dijon, too, if memory serves aright, the apses of the churc are aisleless.

But it is time to return to the Hôtel des Courriers and p take of a *petit premier déjeuner* before returning to the ca dral to assist at the matutinal offices. The repast conclud I repair thither, and am bound to confess I am grievo disappointed in the great western façade, having formed, a turns out, an exaggerated idea of its Flamboyant gorgeousn from a drawing in Arnaud's "Voyage dans le Départemen l'Aube," for in common with too many other productions of same school it bears a painfully unfinished aspect—*ouvr en appliqué* of the most voluptuous character contrasting v disagreeably with patches of wall-space absolutely bald: the north-west tower is insipid in a degree.

But the interior—albeit the thirteenth-century choir, wh abounds in the most exquisite detail, lacks the expansion dignity characteristic of Amiens, Chartres and Rheims fairly entitled to the praise bestowed upon it by Bourasse his "Cathédrales de France," on account of its wealth of co painted glass, which fills not only the windows of the cl whose Geometrical tracery is so thin that it seems merel form a framework for keeping it in its place, but the Early



TROYES: WEST END OF ST. PANTALEON.

Begun in 1262 by Pope Urban IV., son of a shoemaker of Troyes, on the site of his father's workshop, this graceful church for more than 600 years remained but a fragment,† consisting only of a choir and transepts, "thanks to some contumacious nuns who had sufficient power and influence, even in those days, to thwart the designs of the Pope himself." It is in its details that the beauty of St. Urbain resides, its chief defect being "a certain exaggerated temerity of construction which shows how fast, even then, architecture was passing from the hands of the true artist into those of the mason, whose attempts to astonish by wonders of construction, then and ever afterwards, completely marred the progress of the art which was thought to be thereby promoted" (Fergusson).

"Le plan de l'église de St. Urbain est champenois," says M. Viollet-le-Duc; but is there not to those conversant with the great "Hallenkirchen" of such cities as Münster, Soest,

Late Decorated ones of the nave aisles and clerestory, former of which the fleur-de-lys forms an interesting feat may be seen from the accompanying illustration. Troy round its procession path five hexagonally apsidal ca with lancet windows, and is one of the few great churches planned with double aisles to both nave and In the latter, however, these double aisles are coextensi with the first three bays, after which the internal one a prolonged round the apse. The nave and its doublea have magnificent groups of clustered shafts, with those m chiselled capitals characteristic of the Later Decorated and in several points bear a resemblance to those on th side of the nave at Worcester. While the matutinal c Tierce is being chanted *senza organo* in the choir, about these glorious aisles at Troyes, and dwell upon th nificent painted glass which enriches them.

During the progress of the office above-mentioned, begin to arrive for "La Grande Messe de dix heures." are, as usual in French churches, in the ascendant. "M est catholique, mais il ne pratique pas." What a cona Germany, with the naves of the churches of Colo Münster or Cleve or Xanten or Paderborn cram

* Thos. Inkersley (*Romanesque and Pointed Architecture in France:* 1850). A work exhibiting much thought and research, but from whose usefulness the absence of pagination and index sorely detracts.

† At the time of my visit to Troyes the erection of the nave was being rapidly proceeded with, and must, ere now, be completed.

ation at the midday *Sing Amt.* As I take my in one of an empty collection of chairs, very at my service, a bell tinkles. The six great candles he high altar are lighted, the organ in the choir the intonation, and to its never-wearying plain song ly the *Asperges me Domine* is chanted, as the officiant whom the duty devolves bears the holy water down the attended by a little flaxen-haired acolyte in crimson ck and lace-edged cotta. Again the bell tinkles. The organ at the west end flourishes in the key of E minor. cifix, flanked by a pair of candles, gleams in the dusky ern choir aisle, and in honour of St. Loup—whose festival ng kept in Troyes to-day, whereas in our Anglo-Catholic dar it is appropriated to the Holy Name—a procession s round the choir chanting to a memory-haunting Gallican dy one of the sublimest hymns in the range of Mediæval ody—

Iste Confessor Domini, colentes
Quem pie laudant populi per orbem,
Hac die lætus meruit beatas
Scandere sedes,

nn for the Feasts of Confessors, whose irregularity of has precluded its rendering into truly graceful English t the proper plain song melody. The compilers of the nnal Noted"—to whom we cannot owe a sufficient debt of ude—attempted its translation in the early days of the ecclesiological revival (1848-60), but their translation has rilliance yet stiffness of a gem, while the verses of the poet resemble the soft dewy freshness of a flower.

etween each verse the player of the great organ at the end of the cathedral takes up the strain, and improvises it in a manner thoroughly French. Sometimes the tones e instrument shake the pavement beneath the feet; some- they seem full of passionate pleading; anon, they trip urefully along, or flash out in sudden brilliance, like a ain springing upward and tossing the sunlight from its d drops.

he Introit proper for the day concluded, the organ s out again in delicious interlude by way of relief to its e plain song, and to that of the Kyrie, suggesting the con- between Corinthian and Doric, or between Flamboyant Lancet. This morning at Troyes the music is what is n among ourselves as the "Missa de Angelis," wherein s one of the most beautiful pieces of plain-song writing I , viz. the Amen at the end of the Credo. The ritual ghout befits the dignity of such a cathedral as Troyes. djourn to the nave for the sermon, which must have a ualising effect, for a rich vein of copper lines the alms-bag it is handed to me by a suave surpliced canon. Coppers, are rained down from hands *bien gantées* when all is into the tin mugs of beggars who, continental fashion, the principal approaches to this cathedral.

he afternoon is spent in again attending the cathedral ce. This time I take a chair in the pourtour of the choir, well upon the glorious painted effigies of saints in the ows of the clerestory.

Iste Confessor" is again sung, this time as Office hymn before the Magnificat. Then comes a delightful stroll gh the fields surrounding the city, environed by hills n, under the conditions of sunlight at this time of the day, a lovely violet hue.

spection of sundry old village churches, which, with countrified fittings, are a perfect revelation to the eccle- gist, divert the walk very agreeably, and as darkness falls es is regained, while the curfew rings from the isolated of one of those large, plain Flamboyant churches ion in this part of Champagne, and whose interior, ed at this hour, wears an appearance truly awful and essive.

(*To be continued.*)

he Trustees and Congregation of Coldhouse Baptist el, Shudehill, Manchester, have decided to apply to the ity Commissioners for power to sell the building, which was ed in 1740, and to apply the proceeds to the purchase of a or a new chapel at Didsbury.

THE HOUSE OF JOHN KNOX.

A PAPER was read by Mr. C. J. Guthrie, Q.C., F.S.A.Scot. at last week's meeting of the Edinburgh Scottish Society of Antiquaries, on "The Traditional Belief in John Knox's House at the Netherbow Vindicated, being a reply to two papers read to the Society by Mr. Robert Miller."

Mr. Guthrie said that among the services rendered to Scotland by this learned Society has been the preservation, largely through its efforts and influence, of John Knox's house at the Netherbow of Edinburgh. After pointing out that there was no author, antiquarian, theological, historical, biographical, literary, or no anonymous guide-book writer but did not put forward John Knox's house as one of the few remaining historical monuments in Edinburgh, Mr. Guthrie said that Edinburgh had nowadays only three buildings associated with all the great actors in what Thomas Carlyle extravagantly called the only interesting period in Scottish history—the Reformation period—James V. and Mary of Lorraine, Cardinal Beaton, Mary Queen of Scots, the Regents Murray and Morton, Maitland of Lethington, George Buchanan and John Knox. He referred, of course, to the Castle, St. Giles's and the north-west tower and abbey church of Holyrood House. Connected specially with John Knox, they prided themselves on two other buildings, the Magdalene Chapel in the Cowgate, where Knox sat as a member of the first General Assembly, and the house at the Netherbow, where he died. Was the slender number of these ancient monuments now to suffer reduction? They had hoped rather to have seen them added to through the labours of Mr. Miller. Was it not possible even yet, instead of attempting to take away Edinburgh's treasures, to increase them? The burden of proof lay on those attacking the house. He declined to encumber the issue with an inquiry into the whole period of Knox's Edinburgh residence. If he ever stayed in the house, that was enough to entitle the house to the name. That he was in other houses as well between 1560 and 1572 was of no more concern to him (Mr. Guthrie) than to show, as could be done with equal success and equal futility, that from his birth, in 1505, down to 1560 he never set foot in the Netherbow house. The elaborate exposure given by Mr. Miller of the many stories woven round the original tradition by ingenious persons was beside the mark. The exposure had been often done before, but would no more affect the question than if anyone—establishing, as he could easily do, that the flooring outside Mary's bedroom at Holyrood had been renewed within fifty years, and thus exploding the legend of the blood-stain—were then to maintain that the whole connection of Rizzio with the north-west tower of Holyrood must be given up. He would be proud to be known as the champion of the tradition that Knox resided in this house, but he declined the distinction which Mr. Miller sought to confer upon him of being the champion of a legend which affirmed that Knox had a well in the house at which there were secret baptisms, that the carved outside figure at the corner was a genuine portrait of the Reformer, and that Knox was in the habit of preaching to the people in the street out of a window. If, then, the question was, had it been proved that John Knox never resided in the Netherbow House, what hung on the answer to that question? At present the house continued ticketed "John Knox's House." To satisfy all forms of scepticism, however, he said to some friends that he was getting a sign painter to interline two words so as to make the board read, "The alleged house of the so-called John Knox." But he found that in Scotland one must joke with caution, for the result had been that he had been told by quite a number of people that they had been informed (two of them said by Mr. Miller himself) that he had lost all faith in the house. What was to be the practical outcome? Obviously, there were only two courses. Either the house must continue to be shown as John Knox's, honestly believing, as the trustees did, that it was entitled to the name, or the board must be removed. But if, on being convinced that the house was not John Knox's, they removed the board, they could not stop there. The removal of the house itself must follow, and in its place they would, he supposed, erect a neat tenement built to resemble in style, so far as possible, that adjoining Grecian structure whose exquisite appropriateness to its surroundings all people of taste, including the Cockburn Association, had so lavishly praised. Inferences were, no doubt, suggested so as to shake belief in the probability of the tradition being accurate. He could only say, as a lawyer, that these inferences seemed to him strained and inconclusive, as well as insufficient to outweigh the fact of the tradition. Doubt was abundantly cast on the tradition, but proof of its falsehood there was none, and in the present state of their documentary evidence there could be none, because it was admitted that Knox passed at least two years of his life in Edinburgh in a house or houses of whose situation there was no documentary evidence whatever; that was to say, fully two years during which, or part of which, he might, for aught yet seen, have lived in the Netherbow House. It was no use to reply that there was no original documentary evidence that he lived in the

Netherbow House during that period. He did not need documentary evidence. He had the tradition, which his friends had got to disprove, unless they went so far as to refuse all value to all tradition. The house then, being old enough and commodious enough to have been Knox's, and in suitable proximity to his church, while comfortably removed from the guns of the Castle, might have been inhabited by Knox, unless it could be proved either that during his whole residence in Edinburgh he lived elsewhere, or that the house was so occupied during the whole of Knox's Edinburgh life that accommodation could not possibly have been found for him and his family within its walls. Proof of residence elsewhere covering the whole period admittedly failed to the extent of fully two out of twelve years. What remained? Was there evidence that the house was an impossible house for Knox? He had heard none. Mr. Miller rejected it chiefly because Mosman was a Catholic. But it would be alien to all they knew of the customs of the time for a Catholic house proprietor in Edinburgh to have refused house-rent from the Town Council of Edinburgh, whoever might be the tenant for whom the Council were paying rent, so mixed up so that they could not be disentangled, and the whole must be rejected. Mr. Miller's admissions of ignorance of Knox's residence during two years seemed to him (Mr. Guthrie) to leave ample foundation for the belief that Knox lived in the Netherbow House, and that as to the legend attached to the house being "an invention altogether of the present century," the only legend to which the present century could lay exclusive claim was the unfounded assertion, stated for the first time in the last decade of the century, that John Knox never lived in the Netherbow House. Taking November 1569 to May 1571, when Knox went to St. Andrews, it was scarcely denied that during this period, or part of it, Knox might have occupied the Netherbow House. But it was said by Mr. Miller that, suppose he did, no such residence would entitle the house to its name, because nothing that occurred during these years "could have consecrated his residence as the Mecca of Scottish religionism." Mr. Guthrie proceeded to show how this period of Knox's life, when he was struck down with apoplexy, was of the greatest moment to the people of Scotland and England, while interest was attached to the house from the fact that the news of the murder of the Regent was first brought to it. Mr. Miller based his theory that Knox did not spend the last three months of his life (August to November 1572) in Mosman's house, that it was too remote from St. Giles's for him to walk there in his feeble state. That was founded on Knox's account of himself, written from St. Andrews, that he was "half-dead." At that period, Mr. Guthrie showed, Knox was able to walk from the abbey of St. Andrews to the parish church, which was 550 yards, the distance from the Netherbow to St. Giles's being only 410 yards; while Kylligrew said, "He caused himself to be carried to St. Giles's." Mr. Miller often reminded them of the risks their tradition had run of becoming distorted, handed on from generation to generation during the long space of 234 years, from Knox's death in 1572 to 1806, when it first appeared in print. This looked plausible at first sight. But it crumbled when they grasped it. Two hundred and thirty-four years. Yes, that was the arithmetical distance between 1572 and 1806. But in the transmission of knowledge there was no such gap. If the doubts about John Knox's house, suggested so recently for the first time, had been stirred in 1806, when the house was openly and without challenge claimed for Edinburgh as Knox's residence, they could have had evidence of recollection going back certainly to 1731—recollection of statements made by old people who had themselves derived their knowledge at first hand from persons alive at Knox's death. And now he came to a genuine specimen of the genus red herring—Mr. Miller's naïve suggestion that during all these years all the world had been taking off their hats to the wrong John Knox! Stripped bare, what did his facts amounts to? He had found that before, in, and since Knox's time there were house proprietors in Edinburgh of the name of Knox, some of whom were named John. He called that a discovery. He (Mr. Guthrie) traced out some of these worthy citizens more than ten years ago, but never imagined he had made any discovery. He thought, looking to the commonness of both names, the existence of such people went without saying. They were gravely asked, "May we not surmise that here we have tracked the legend to its lair, and that either Stark or Stark's unknown informant had seen the name John Knox in some title deeds of property in this locality, and was led immediately to the conclusion that no John Knox could be of importance but one?" Why should they surmise anything of the kind? Suppose that Stark was led to that conclusion, how did that affect the name of this house, and how did Stark come to transfer a John Knox owning property away up the street to a house down at the Netherbow? If in the title deeds of this house they had found among former owners or tenants a "John Knox," not the Reformer, you might have argued with some decent show of plausibility that, however improbable, it was at least possible that in later years a confusion had arisen between John Knox the tradesman, John Knox the Reformer. But Mr. Miller's point in and part of his case was that no such name was ever associated the titles of this house. Where, then, was there room the mistake to come in with reference to this ho The mistake, if it came in at all, could only com with reference to one of these other houses actually ow by another John Knox, and that only supposing an these other houses had been found associated in later t with the Reformer's name. But no such thing had happe One would have expected some house to be associated Edinburgh's greatest citizen for long after his death by common people, among whom traditions linger. But t was not, and, so far as they knew, never had been, tradition connecting the Reformer with any house excep house in the Netherbow, which they believed had been ha down from one generation to another because it was the h where he died. He closed with a challenge which he thrown out before, and which had never been faced. Stark's statement, publicly made in 1806, and Dr. M'C statement, made with equal publicity in 1811, and Ro Chambers's statement in 1823, were inventions, why were not questioned? Was it because the people in the begin of the century had not the necessary information? They ne no information, but only their own recollection, to stamp a invention what, if Mr. Miller be right, must necessarily have known to be an invention by all Edinburgh people. W because no one had any interest to deny the statement? The opposite was the case. In 1849 the house was defended s as the undoubted residence of John Knox. If that chara istic of the house could have been effectually challenge whole ground for the opposition to the Council's decree w have disappeared. So passed the "Legend of John K House," unwept, unhonoured and unsung. But the trad remains, an honoured heritage from the past to be hande to the future. When the names and the writings of all who have taken part in this friendly controversy had been buried in oblivion, John Knox's House at the Netherbow w continue to vivify the name and the fame of the greatest the greatest statesman, the greatest churchman whom God yet given to the service of the Scottish Church and the Sco people.

THE ARCHITECTURAL ASSOCIATION

A MEETING of the Association was held on Friday ing last at 9 Conduit Street, W., Mr. G. H. Fell Prynne, president, in the chair.

A vote of thanks was passed to Colonel Edis for perm members to visit the Great Central Hotel, Marylebone on March 11. Mr. E. Wragg, resident engineer at the Central Railway Station, adjoining the hotel, was also acc a vote of thanks for conducting the visitors on the same over the station.

The next spring visit was fixed for March 25, at 3 P the Fire-Testing Station of the British Fire Protection mittee, at North Bank, Regent's Park, N.W.

It was announced that the two following classes shortly commence:—Quantity Surveying—lecturer, Mr Leaning; Land Surveying—lecturer, Professor H. Adan

Mr. Reginald T. Blomfield, M.A., read the following entitled

Certain Reflections on the English Renaissan

I have been invited to address you this evening on th ject of the English Renaissance—a subject which, histo treated, would be quite beyond the scope of a single I propose, therefore, to call your attention to certain of this chapter in history, and to endeavour by this m disentangle some clue to guide us through the perplex modern architecture.

Any conclusions which I may offer you, however express them, I offer with great diffidence. The prese dition of architecture is so unsatisfactory and so bes difficulties, both in theory and in practice, that the m can hope to attain to is some firm foothold on the history—a foothold from which we can start again with a glimmering of an idea of the goal at which we aim architecture, the oldest of the arts, we can only consid selves on safe ground so long as we keep in touch wi has actually been. You may recollect the words that le-Duc used nearly forty years ago, "If art has lost its a us not impel it to the right or to the left under pretence ducting it into the true path. . . . The study and love not of one form of art—are the only means to which we will recur when art seems to decline." It is only by and critical study that we can hope to retrace our pa highway of architecture.

A comparison has been made between the Renaissa the sixteenth and seventeenth centuries in England and the nineteenth (assuming, of course, that the latter exis

to test the worth of any such comparisons it is necessary
nsider for an instant what that great Renaissance was of
our own sixteenth and early seventeenth century archi-
e was but a distant echo.

here are two points about this movement which differenti-
from any others in the history of art. The architecture
ancient world was one long continuous progression from
n beginnings in the East till its disappearance with the
all of the Roman Empire. There was no break in the
ic art of Egypt and Assyria. This, again, only developed
freer and more perfect expression in the hands of the
s, to be adopted by the Romans and wrought into the full
ssion of their own magnificent genius. Architecture
flourish in one place more than in another, but throughout
ng history there was no break in its continuity. Its
ical development went straight ahead, with no throw-back
lier art, till its vitality dwindled, and it died out with the
ing forces of Roman civilisation. There was a curious
ivity about the ancient world which prevented any intense
ion of its life and thought on its visible art. That art
ettled for it. It was accepted as part of the established
of the State, and so it ran its course without regret and
ut ambition.

ow the Renaissance was a conscious return to the art of
st; to the art, that is, of the Roman Empire. It was not
e revival. It was a deliberate and successful attempt to
into the spirit of the great Roman architects. What
s it the more remarkable, and indeed without parallel in
y, is that there already existed another method of archi-
e in full and complete maturity, for Gothic architecture
eached the very limit of technical skill—witness King's
ge Chapel alone. Yet men were prepared to turn their
on this traditional art; they were learning to welcome the
nethod, to repudiate their familiar language, as no longer
ate to their needs. For the first time we strike the
cteristic note of modern art, its intense subjectivity, its
erate consciousness. This momentous change in archi-
e did not result from the craftsman's instinctive habit of
ng on the past, but from a change in the direction of
gence, from a certain revulsion in ideas, not from the
and reaction of craftsmanship.

or changes in architecture come about in one of two ways.
a method (or style, to use a doubtful term) is fairly
lished as traditional, the actual manipulation of materials
rkmen and the introduction of new materials lead to the
sion and modification of the style itself—as, for instance,
rowth of Perpendicular Gothic out of Decorated. The
opment comes from within, and proceeds more or less
sciously.

ut there is another source of change in architecture. In
curse of ages the seeds of change are slowly at work, till
results some great upheaval of ideas which dislodges
ind from its mental anchorage. The old idioms seem
ingless, the familiar formula barren, and then comes that
tive effort after a new expression which will gradually
nd and consolidate into a permanent art. A new factor
ave taken its place in human intelligence which has to be
nised, however much our sympathies may lie with the art
s replaced. Such a change occurred at the Renaissance.
nce the fighting days of the Dark Ages civilisation had
ily advanced. Men were rich, intelligent, learned; and
keener and more active minds had long since shown
tience of Mediæval standards and idioms. There was
one direction in which this enterprise could find its
al outlet, and this was scholarship. Latin was the
iar language, scholars naturally turned to the country of its
, and so from the study of the literature of Rome they
to the study of its art, and that art was adopted with
siasm as the only fit expression of Humanism, that new
ve in thought and morals which the Renaissance won back
nankind. In this regard Alberti is typical of the earlier
issance; a man of noble family and brilliant personal
ties, he can have found little to attract him in the
ssional side of architecture. His reward lay in his keen
ment of the art, in the occasion that it gave him for the
ise of his own fastidious scholarship. Thus, the peculiarity
e art of the Renaissance is that it was much more than a
change of technique. It was the result and the
ssion of a new order of ideas which had been slowly
ing for generations until it became articulate in art; some-
altogether greater than the small ephemeral fashions
h are all that the nineteenth century has to show by way of
naissance.

ow, how did the English builders regard this far-reaching
ment? I think it is quite plain that in the first instance,
indeed for several generations, they did not in the least
rstand it. In the first place, they themselves were en-
ed in the Gothic tradition, trained exclusively in its method
nstruction, and unfamiliar with any architecture but that
ir own country, one might almost say of their own county.
in the second place, they were introduced to this new art
by amateurs. Merchants and scholars travelled in Italy and brought back astounding stories of its magnificent palaces. Soldiers and ambassadors, such as Lord Henry Marney, Lord Sandys of the Vyne, or Sir Richard Weston of Sutton Place, able and observant men, saw and appreciated the wide significance of the new movement abroad; and the king himself and Wolsey set the fashion by importing Italian artists for the decoration of their palaces. All the inspiration came from the court and the wealthier upper classes; and the English builder, probably somewhat against his will, had to set to work to master the strange new fashion.

The only acquaintance with it, as amongst Englishmen, was possessed by amateurs, and the workmen at first had to follow their instructions with such help as they could get from the work actually executed by Italian craftsmen in this country; and it is to be borne in mind that in actual fact not many Italians were over here, and that the majority of them, with the exception of such men as Torregiano, Rovezzano and the Majani, were quite inferior men. The results were the most ridiculous blunders in grammar, for the Englishmen endeavoured to make some rudimentary acquaintance with the Orders by way of ornament, but planned and constructed their houses according to their own tradition. As the sixteenth century went on, and the first Italian influence disappeared, their workmanship fell off, but their knowledge of the Orders grew. Students, such as John Shute, with some architectural training, were sent out by noble patrons to make systematic study of Italian architecture; and the German and Flemish workmen who succeeded the Italians brought with them an abundance of pattern-books, so that the business of decorating houses with fatuous ornament proceeded apace. I have mentioned elsewhere that singular instance at Shaw House, near Newbury, a building which I think characteristic of the state of mind of the Englishman in the time of Elizabeth. Here the owner had himself built a good house of brick and stone on the ordinary Elizabethan plan, but he then adorned it with inscriptions in Greek and Latin—I cannot help thinking, from their wording, with some little vanity in his own superior scholarship and knowledge of Italian art. Yet, in fact, the man was barely within the fringe of his subject. Correct details and Latin and Greek inscriptions were not of the essence of the Italian Renaissance, and it required a finer brain and closer training than was possessed by either amateur or builder of the sixteenth century to see the meaning of the great change that had taken place in Italian and, through Italian, in European art.

Yet even in far-away England the air, if one may say so, was instinct with its influence. The horizontality of Elizabethan architecture was itself a dim reflection of the great recovery of the Italian Renaissance; and the day was fast approaching when an Englishman of genius would see his way through all these troubled efforts and grasp the principle, the basis of idea, that underlay this fundamental change in architecture.

Let us consider for a moment what that principle was.

In spite of the researches of such men as De Geymuller, our younger students are rather apt to consider the architecture of the Italian Renaissance as an affair of detail. Their attention is arrested by its exquisite carving, its arabesques and other details, which form such a tempting subject for illustration. Yet all this detail might go, and the value of the work of the great Italian architects remain untouched. For the basis of their work, and it is this which gives it permanent value, lay in construction; their real accomplishment lay, not in ornament, but in their avoidance of it, and in their past-mastership of proportion and of the intellectual problems of architecture. They studied to some purpose the remains of the stupendous architecture of Rome. Not only did they extend, to a point as yet undreamt of since the days of the Empire, the use of domes and simple vaulting, but they recovered the use of the lintel in combination with the arch. They threw off the unreasonable intricacy of detail with which later Mediævalism had encumbered architecture, and brought back the art to its abstract basis in construction; that is to say, to the simplest and most direct methods of building—the lintel for crossing narrow spaces, and the arch for wide ones (I speak, of course, without regard to steel and iron construction, at that time practically undreamt of), flat ceilings, domes, or the simplest forms of vaulting for covering in their areas.

The great recovery that the Italians made from the remains of Roman architecture was this use of the lintel and the arch in construction, and the use of domes and simple vaulting. A dull man might have recovered its detail, but only the genius of Brunelleschi or Peruzzi could have disentangled these constructional ideas, simple as they seem to us now, and showed how they could be applied easily and naturally to every case, as an elastic method of construction, not merely as an exercise in scholastic canons of design. Given, then, a certain method of construction in good architecture, the design in all its multifarious parts must follow it. To the arch the Renaissance added the lintel, and it is in the play upon these abstract motives that the real significance of Renaissance architecture lies.

Now the first Englishman who really grasped this fact was Inigo Jones, and it is for this reason that his work is so profoundly interesting to us, and so completely differentiated from the work of his predecessors. At length there had appeared a man who understood architecture as the Italians understood it, who brushed on one side all the detail and ornament which had seemed to the Elizabethan and Jacobean designers the whole essence of the art, and had gone straight for the heart of the matter, realising that, after all, architecture is simple construction, ennobled and idealised by the working upon it of a powerful brain and highly-trained imagination, and that its strength lies in its own abstract qualities, fine proportion, bold distribution of masses, extreme reticence and simplicity of ornament. He saw (and few had seen it in England since the days of Early Gothic) that architecture is not ornament; that ornament, indeed, is only one, perhaps a subordinate one, of the many weapons which architecture has in her armoury. For the first time, after a hundred years of blind experiment, this country possessed a real architecture, a complete and flexible language. Instead of a set of quotations from a foreign tongue, it possessed at length an organic style.

I need not dwell at any length on the brilliant ability with which Inigo Jones used this style. His exact and fastidious refinement is familiar to all students.

Perhaps we are not all so familiar with the masterful freedom of his designs. It has been customary to insist on the greater versatility of Wren as compared with Inigo Jones, and a writer in the *Times* once attempted to make some absurd distinction between Jones and Wren, treating Jones as an Italian and Wren as the first English architect proper. The writer in the *Times* had the usual knowledge of amateur critics; but those who have studied the work of Inigo Jones and Wren know, in the first place, that Wren could never have started where he did if Inigo Jones had not preceded him; and, in the second place, that it is a complete mistake to identify the work of Jones with that pedantic version of Palladianism which the eighteenth-century architects set up as his particular manner. That Jones did adopt Palladio's architecture as the last word of the Italian Renaissance is, of course, undeniable; the point to be realised is that, whatever his imitators may have done, Inigo Jones himself worked with all the freedom of genius, a freedom founded on the most intimate mastery of the actual technique of his art. In this regard I think the distinction between Jones and Wren has been very much exaggerated, and Wren followed the lines laid down by Jones far more closely than has been generally supposed. The decadence began with the eighteenth century, with the men who succeeded Wren. Where Wren designed, these men copied, and they copied the least attractive features of Inigo Jones and Palladio. The pedantic conception of this man of genius which exists in the amateur mind is really derived from Kent's publications and eighteenth-century copies of his work.

I do not propose to follow further the course of English Renaissance architecture. The eighteenth-century architects allowed their art to be collared—if I may be permitted the phrase—first by amateurs and afterwards by men of letters. The strength of the old tradition kept them within some reasonable limit; at least, as late as the early part of this century. But that romantic element of literature which had made its first incursion in the days of Horace Walpole has encroached on architecture with disastrous rapidity and power in this century; so much so that, a generation back, it almost seemed as if the last trace of our fine traditional Classic would disappear under the preachments of men with no exact knowledge of architecture, who approached the subject from a standpoint entirely out of relation to the art itself. It would have been a curious result if that great development of architecture which owed its first origin to scholarship should have suffered its final extinction at the hands of the literary amateur.

To put together the results of this very general survey, I would suggest the following conclusions as the teaching of history:—(1) That the Italian Renaissance itself was the necessary result of far-reaching causes; (2) that our English Renaissance in its kind and degree was a part of this movement, and is not therefore to be dismissed as a mere change of expression in architecture, but must be accepted as part of an inevitable development, precluding a return to the motives and ideas that lay at the back of Mediæval art; (3) that in architecture the real work of the great Italian masters was to re-discover, almost to re-create, new methods of construction and proportion; (4) that the fact was not realised by the Elizabethan builders, who could not see the wood for the trees, and that actually it took about 100 years of experiment to produce the man who could see beyond this detail, and establish order and logic in the tangled maze of English architecture; (5) lastly, and as a corollary to this, that the mere fact of his having done so and the circumstances of the case have brought about a permanent change in the work and position of the modern architect, to which I will call your attention later.

Now, how do we stand at this moment in regard to the theory of architecture? I do not mean abstract theory as to its philosophical basis, but our own attitude to the art. are the sources to which we look for inspiration? Wh the ideals at which we aim in actual design? I fear th answer to this question can hardly be satisfactory.

We are, here at the end of the nineteenth century condition of greater uncertainty and more complete abse conviction than, I should say, at any previous period of hi You have merely to look back upon the last 100 We began the century with the remains of the classical tion, but Adam had already "improved" it, as he tho Stuart and Revett had done their work, and the Greek f was well in the ascendant. Then came Pugin, ardent, fan full of energy and narrow ideas, a very iconoclast in reg the old tradition; and after him Ruskin, who thought h found the key to architecture in his personal preferenc the morality of Exeter Hall. Then came the rush for (Early English, Early French, Early Italian, with a vehe that threatened to sweep the board clear of everything heterogeneous collection of details from every country. man has been for himself, and meantime architecture ha to the wall.

The serious study of architecture, not only as an a also as an expression of the intelligence which is not arb but determined by certain inevitable causes, has almost dr out of sight, and I suppose that, in practice, the very work that has ever been done in England has been done last fifty years. I need hardly add that a few men of po and original mind have done admirable work, but the a of architecture has been left untouched, and it is by the a level that the state of architecture has to be gauged. I think that we can look back with pride on the artistic ments of the nineteenth century, judged from any stan and it appears likely that we shall enter on the tw century without having hit upon any certain way throug quagmire of modern architecture.

It is here that the study of the past must help us. elsewhere endeavoured to trace the stages through wh function of the modern architect has developed. The the craftsman working independently, yet in uncon unison, ceased when the choice of styles arose. He ta the tree of knowledge, and henceforth to his knowledge craft had to be added the responsibility of conscious jud if he was to undertake, I will not say architecture, as it be thought to beg the question, but building of an Because, in any building nowadays, a man has to us method of expression in preference to another, and implic this there is raised the whole question of selection. No responsibility proved too much for the simple craftsman, may see from the blunders in design which abound i ambitious Jacobean works; and it was only a question how soon there should arise the man who had sufficien ing and intellectual capacity to enable him to discri between good and bad, to enable him to grasp the coherence in expression which is an essential element of tecture. As soon as such a man arose, the matter was for good or bad. The architect ceased to be a crafts the technical sense, and what might be lost in craftsn was assuredly gained in architecture. I think, therefo this critical function of an architect, this detachment f actual details of craftsmanship, which chafes the enthus some by no means the least gifted of our younger men, very essence of his work. The more of craftsmanship the better; but a man may be a very good architect being a very good craftsman—I mean, a good craftsma sense of being able to carve his own woodwork and mo own ceilings.

His craftsmanship must be of a wider range. embrace full knowledge of the past; it must rest on a habit of analysis of the best methods of expression in li and a keenly critical insight into the abstract qualities tecture, mass, balance, rhythm and proportion. An a to my mind, should be like a fastidious man of lett should not be content to express his purpose anyhow, h be anxious to find the exact inevitable phrase. It i sense, I think, that an architect should be an artis highest order, and this is the position that has, in fa, forced upon him since the days of the Renaissance. this reflection may be some consolation to those wh reluctantly abandon the idea that in craftsmanship e future of architecture.

Nor, again, is this ideal less exacting than the oth attain to this faculty of reasonable judgment it is clea man must possess knowledge of what has actually been architecture—the more the better, provided he is n burdened by it; and this knowledge is not mere studen ing, but means a practical knowledge of buildings, gi careful analysis and measurements, and by exact obse of materials and local circumstance. A lifetime of study is not too much for such a task.

I would suggest to you, therefore—to those of you h who are now beginning your career—that there is no so

rchitecture through pattern books, or even through the sant paths of detail craftsmanship; but that, nowadays at rate, you must have knowledge, and that now, as always in istory of architecture, you must seek that knowledge, not in books, but also in the builder's yard and on the scaffold- of buildings.

have still one more point to bring before you. Perhaps in paper I may seem to you to have insisted too much on know- e, too little on imagination, and the criticism has been e on some remarks of mine elsewhere. In the first place, uld point out that we seem to be face to face with some gerous developments of originality, or rather eccentricity. judge by the majority of our buildings, it appears to be ght that "knowledge hampers imagination," as it was put he eminent Capability Brown. Certainly the results are a nightmare of architecture. Now there is only one dote to this sort of originality, and it is knowledge. I y that some of the more accomplished of our original gners would be rather surprised to find that the flattest of ogees, the boldness of their amazing proportions, have anticipated, not only in Italy, but even in England. Even rsory knowledge of the work of such a man as Baldassare izzi would show them that profound knowledge is not incom- ble with the most complete freedom in design; and further, the most daring imagination can co-exist with the most al detail. You may recollect the indignation of the old ir de Chambray at the pretensions of the men of his time, thought that by turning a capital upside down, or some- g of the sort, they had invented a new architecture, "as if Pantheon" (I quote the Sieur de Chambray), "that e stupendous and incomparable structure, were not the ntion of the architect who built it, because he has vary'd ing from the Corinthian ordnance, of which it is entirely posed."

In the second place, and this is the gist of all that I have , this knowledge is not an end, but a means. For an itect does not study in order to reproduce what other men e said once and for all, but to perfect his own mastery of ression; and just as a poet does not invent a jargon of his or write in the language of Chaucer, but takes the current guage of his time, and compels it to his purpose, so an itect would not waste his time in a vain ambition of a new e or a futile copy of an old one, but would master the best ll the architecture of his country, and find thereby an ample guage for his own individuality. It is not styles, therefore, we are concerned with, but style, that indefinite quality of good architecture, whether Greek or Roman, Gothic or aissance; indefinable and ever-varying, because it varies n the individuality of the artist, because it depends on faculty that the man possesses of giving the simplest yet the most complete expression of all his purpose.

It is here that knowledge must come in as the groundwork ood architecture. We want to know, as part of our train- in our art, how other men in the past have solved the diffi- ies that confront us now; and it is only by this long rious study that we can learn to discriminate between good bad, and to free our own method of expression from what rivial and irrelevant. It is this way, I think, and not along pleasant paths of the amateur, that there lies the best nce of the architecture of the future.

A short discussion followed.

TESSERÆ.

Paris in the Seventeenth Century.

N the "Traité de Police," a document of the time of Louis XIV., a curious proof is given of the small degree salubrity which the inner streets of the city down to so late eriod enjoyed. It is mentioned that the Sieur Courtois, a sician who dwelt in the Rue des Marmouzets, had his ncipal sitting-room looking out to this street, and he used to erve that every morning a pair of large brass dogs, which used for supporting the flaming logs of wood in his fireplace, e covered with a tolerably thick coating of verdigris, occa- ned by the deleterious vapours which rose from the street ow. The worthy physician appeared to have had sufficient fidence in his own healing skill not to remove from such a ghbourhood, or probably it was too lucrative a district, as y well be imagined, for any medical man to make bones ut so small a matter; and therefore, as he proceeds to te, his servant used to clean the brass dogs every morning, they were ready for the renewal of the phenomenon within four-and-twenty hours next ensuing. How the shop- pers fared in the dark holes which they rented on a level h the Stygian stream of mud and filth that stagnated in the tral kennels is not said; but in those days people were not fastidious as in our degenerate times of "Eau de Cologne," au de Mille Fleurs," "Extrait du Zéphir," &c.; and, as Dr. urtois further remarks, they allowed "the corrupted air to ke so much the more malignant an impression on their lungs and other viscera, as those parts of the body are incom- parably more delicate than copper or brass—which is, no doubt, the cause of many maladies." In those days no one in Paris who pretended to the character of a gentleman ever thought of going into the streets on foot, unless stoutly booted; and a boot of the time of the "Grand Monarque" was a foot- and-leg preserver of about the same degree of elegance and strength as the waterproof equipments of a modern Fen farmer from the heart of Lincolnshire.

Nature and Art.

On the discussions of art there is no greater obstacle to the setting forth principles than the unsettled terms nature and natural. They are indeed the limits of art, beyond which there can be no legitimate exercise; but the boundaries remove themselves out of sight, or contract themselves within the smallest space, according to the fancy, perhaps we should say the genius, of the disputants. To those of the contracting system the art is considered as nearly entirely imitative of external visible nature, with a power (scarcely of creating) of combining, of putting together things that are, exactly and no other way than as they may be, and have been, though not so seen, perhaps, at the moment of any incident to be represented. Others again by nature admit whatever the mind in its most sane, healthy, imaginative, comprehensive state can conceive. As we believe the latter is the highest and best sense in which nature, as applied to art, is to be understood, so do we believe it is the truest. It is the highest, because it is the most creative; it is the truest, because, with regard to its general reception, it carries with it a spell not to be denied, enforcing a general credence, if not conviction. In the best and healthiest state of the most discursive imagination there is an intuitive knowledge, instantly forming a judgment and decision, as to that particle of the natural, in even the least imaginative minds, which will unite itself, as by a chemical affinity and attraction, to the natural portion in the created and fanciful, and by that amalgamation make all be, or at least appear, as natural. The true creator never loses sight of this—the judgment is ever with him; he decides by it, and this judgment, presiding over creative power, constitutes genius. Genius, then, or art—for consummate art is genius—not only has the power of creating a world for itself, but of creating in the minds of spectators and hearers a belief in its existence. It is very strange that this should be so generally felt, and it can scarcely be unacknowledged with regard to poetry, particularly the drama, and yet be denied in reference to the art of painting. Because painting is the visible art, it must with some be merely the imitation of things seen; whereas poetry and music are, in the same sense, imitative as painting, and in no other—unless, indeed, we speak of the lowest kind of painting, that deadweight fastened to art by an indissoluble chain, but which was never intended to keep it from rising. It should rather be the ballast, to keep steady the aeronaut in his upward course.

Italian Towers.

The campaniles and towers of Italy are the only works of the Middle Ages that appear to have attracted the attention of all travellers. Their isolation from the churches, by which the effect of their great height is increased, the large proportion of the height to the base, their nearly equal diameter through- out, and the absence of projecting buttresses—in all respects contrasting with the towers of the Gothic architects—have given them a very picturesque and striking character, although in architectural beauty and splendour they are left far behind the works of the latter. Some of them have even acquired celebrity from the carelessness or ill fortune with which their foundations were prepared, which has caused them to decline considerably from the perpendicular, as at Pisa and Bologna. This has been converted by the patriotism of the Italians into an additional proof of the skill of the architect, who was able to make a tower lean so far over its base without falling. Cresy and Taylor have shown very satisfactorily that this was not the case at Pisa, as the scaffold holes incline just as the tower does; and also that the settlement must have begun to show itself before the completion, from the attempts that were made to rectify it by increasing the height of the columns and cornices on the lowest side, in order to throw the upper part of the building in the opposite direction. The same artifices are to be seen in the Garisendi tower at Bologna. The brick towers at Rome are square: the basement storey is carried up without apertures to a height about equal to that of the roof of the building to which it belongs; above this the tower is divided by brick cornices into storeys, the number of which varies in the different examples. At St. Maria, in Cosmedin, there are seven, exclusive of the basement. The two lower ones have on each face two round-headed windows, and the third three; the remaining four storeys have on each face a window of three lights. The whole is capped with a plain roof. There are an abundance of towers at Rome differing from this only in the number of storeys and height. The same disposition of the tower into a tall plain basement surmounted by a number

of storeys of pretty equal height and separated by a small cornice is to be found in a great number of instances besides those at Rome, but the management of the windows is somewhat different. These consist of an arcade with bearing shafts, and, generally, their arches are of two orders; the first order on corbels, but the shafts are brought forward to the front, and the number of arches or lights in each window increased in the upper storeys. At the tower of Siena Cathedral the number of lights in the six upper storeys increases upwards in a regular arithmetical progression, the first having one light, the next two, and so on till we come to the highest, which has six lights. The cathedral and St. Michele at Lucca have towers nearly the same.

The Villa Medici.

How many artists have been launched, after their three or four years' study and domiciliation in the Villa Medici, on the French capital, to make their fortune or to find their ruin, and be lost amidst a host of competitors, perhaps of superior claims, or equal perhaps, for whom the cards of life have played better! How many of them must have died prematurely of that fatal disease which may have been averted for a season by the genial climate to which they had been providentially sent! With what sad forebodings of the future must many of them have left this beautiful and entrancing scene! With what dejection did they lean their backs against the base of that colossal Minerva, and survey for the last time a view which, though none can paint it in words, must have been a favourite study to many an enthusiast of the fine arts! How sadly, on the evening preceding their departure, would sound the music of the fountain before their bedroom window, or the nightingale's plaint heard almost close to their pillow! How they must have watched the last sun set over St. Peter's, or stole out once more to see the dark shade of the Borghese pines lit up to them for the last time by the bright moon of a Roman sky! How the last sight of the Niobe and her children—how those little bits of sad monumental antiquity, let into the garden wall, with every line of which they must have been familiar, must have made their hearts ache, as they returned solitary from the terrace, or smoked a last cigar with an old friend in the room which they were called upon by inexorable destiny to leave, after four years' enjoyment, and when they would have gladly said *esto perpetua!* If last times be always sad, how much more so to those who here formed their earliest friendships in a common pursuit; who here together frequented the studios, where they dreamt of a success or reputation which they mutually encouraged each other to expect; who sat at the common table, and were ready, with mutual assistance, to go where stern reality must crush the hopes of most of them in the selfish vortex of Parisian existence! And if in after life they ever do come back to enter the gates of the Villa Medici, no longer as alumni, but as visitors, how must the unchanged loveliness of all around lacerate them with vain reminiscences and regrets! Even the sensibilities of every new director must be powerfully touched when he revisits, no longer young, these scenes of his now accomplished hopes, honoured though he be, and rich. How much that gave a peculiar charm to the Borghese landscape, the society of his early and warmest friends, is necessarily no more! He returns, and it is to govern, but he returns alone—everything but himself unchanged, even to those little studios in the grounds where he chiselled and modelled, and where, when his first bust was exhibited or his first picture uncovered, flattering strangers came in and predicted that he must succeed.

Stothard's Unworldliness.

Many of Stothard's friends pointed out to him the policy of consulting a little more the taste of the public at Somerset House, where the Royal Academy exhibitions were held, and wished to prevail with him to paint a picture expressly for that atmosphere, but he never heeded them. He would not step an inch out of his way to gain popularity when he was sure of fame, and so little had he of the tact of the world within himself that he never could comprehend its utility. He had not one thought that was worldly in his own mind, and never, therefore, painted for money as money. Painting was his profession, and if he gained by it sufficient to live respectably, and to leave something to his children at his death, he was satisfied; but he never made pecuniary return the object in any one piece that he executed. Had he done so, and had he possessed more worldly tact, it is well known he might have died rich, for he had always more to do than he could execute without the most unwearied application; so much was he at all times estimated by the publishers for the varied power of his imagination in the art of illustration and design. Yet so little conscious was he of the pecuniary value of his talents that he received but 200*l.* for the *Canterbury Pilgrims*, a picture which was afterwards exhibited by itself, at one shilling a-head, in all the great towns of England, was engraved first by subscription (the proofs six guineas, the common impressions three guineas each), and had the most extensive sale of anything of the kind published within the last century; and the picture itself, returning such golden profit to the possessor, was finally for 900*l.* or 1,000*l.* It is, however, but justice to the ori proprietor to state that the sum of 200*l.* was fixed upon the price of the picture before Stothard commenced the so that the very high finish he bestowed upon it was, o part, a labour of love, and affords another proof, we needed, how little he cared for the price, so long as the pai was perfect. To do justice to his subject was always his object, and the great point of his ambition. He never co the fashion of the day in his drawings, for though the wor no individual artist have ever been so often engraved, cipally in books, yet he never executed one design with a to its attracting in the print-shops.

GLASGOW ARCHÆOLOGICAL SOCIET

At the monthly meeting of the Glasgow Archæolo Society on the 16th inst.—Professor Young in the ch Mr. James Macdonald, LL.D., read a paper on the inscrip on the distance-slabs of the Antonine Wall. Mr. J. O. Mit LL.D., made a contribution on "The Old Highways o Moffat District." He pointed out that the original makers in the locality were the Romans, one of whose roads ran from Carlisle through the parish, following p cally the route now taken by the Caledonian Railway. route came in later times to be entirely abandoned, an north and south traffic through Moffat was diverted by w "The Beef-tub" and Ericstane Moor. It was by this that the Glasgow and London mail, begun in 1788, trav At a later period, about the end of last century, the old R road down the Evan Water was revived, and after many culties was converted by Telford into the famous Glasgo Carlisle road, one of the finest in the country, along whic splendid mail service was conducted until it was supplant the railway. The authors of the papers were thanked for contributions.

GENERAL.

Seven Statues have been commissioned for the faç the National Portrait Gallery, Edinburgh, out of the fund giv the late John Ritchie Findlay. The Scotsmen commemo are Sir James Douglas, the companion of King R Bruce; Gavin Douglas, one of the most eminent of the Scottish poets; Sir David Lindsay, a famous poet of the teenth century; John Knox, the reformer; Viscount Sta eminent lawyer and publicist of the seventeenth century Hunter, a well-known surgeon of last century, and Dr. H a celebrated geologist.

An Exhibition of all sorts of electrical appliances a able to domestic uses is to be held in May next in the Post and Telegraph Office, Place de la Monnaie, Brussel

Mr. L. F. Day will write the Easter number of th *Journal*, entitled "The Art of William Morris." It w illustrated by about fifty designs and other works. M these will be from the actual designs, thus not only sh Mr. Morris's autograph handiwork, but revealing also thing of his method. It will also contain examples of his decoration.

The New Hippodrome in course of erection in Pa the Boulevard Clichy, at the angle of the Rue Caulaincot the Rue Forest, has for architects MM. Cambon, Dur Galeson.

A Meeting of the Iron and Steel Institute will be August in Manchester. Mr. R. S. Platt is chairman executive committee, and Mr. T. Ashbury honorary secr

The London Water Bill (Welsh Reservoirs and V promoted by the London County Council, came befc standing orders committee of the House of Lords on M when it was decided to dispense with the standing On Tuesday, however, the Bill was rejected in the Hc Commons, on the ground that it was inexpedient to c the subject until the report from the Royal Commissi received.

M. Plumet and M. Benouville have been selected Société Nationale des Beaux-Arts to represent architect the jury of the Exhibition of 1900.

Priory Lodge, Hampstead, in which Dr. Samuel J lived, which was to be pulled down to make room for fla be spared, as the house has been taken by the nuns Convent of Harley House, Marylebone Road, who wi into occupation about a month hence.

The Truro Cathedral Committee have accepted a te 34,000*l.* to erect the nave and western towers as a mem the late Archbishop Benson.

THE

rchitect and Contract Reporter

IMPORTANT NOTICE.

ORKMEN'S COMPENSATION ACT.

, view of the many difficulties which are certain to e in connection with the law, practice rules and edure under the above Act, we have added to our f A VERY EMINENT BARRISTER, who has made subject a special study, and will be glad to answer ne columns of this paper any questions relating to complicated matters arising from the provisions of difficult Act. Our LEGAL ADVISER will further ver any legal question that may be of interest to readers. All letters must be addressed "LEGAL VISER," Office of "The Architect," Imperial Build- Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

authors of signed articles and papers read in public must necessarily be held responsible for their contents.

ommunication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

espondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. *on Thursdays.*

NEW READING CASE.

Librarians of the Public Libraries and Reading-ns.—A new handsome Reading Case can be supplied nominal charge of 2s.. by post 2s. 6d., on early ication to the Publisher, Imperial Buildings, Ludgate us, London, E.C.

For Advertisement Scale, see page xiii.

NOTICE.

Friday being Good Friday, THE ARCHITECT *will be published on Thursday. All Advertisements intended for this Number must reach the Office not later than* 4 P.M. *on Wednesday, March* 29.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 150*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

ABERDEEN.—March 29.—For erection of mansion house at Kildrummy. Mr. A. Marshall Mackenzie, architect, 1 Bon-Accord Street, Aberdeen.

ALLERTON.—For erection of four through houses and house and shop at Prospect Terrace. Mr. R. Drake, architect, 142 Allerton Road, Allerton.

ALLERTON.—For erection of a villa residence, stabling and other works, at Chellow Dean, Allerton. Mr. J. W. C. Atkinson, architect, 1 Ivegate, Bradford.

ASHBY-DE-LA-ZOUCH.—For erection of a house and stable, &c., on Tamworth Road, Ashby. Mr. Pickthorn, Market Street, Ashby-de-la-Zouch.

ASHTON-UNDER-LYNE.—For erection of a store at Littlemoss. Mr. A. J. Howcroft, architect, 12 Clegg Street, Oldham.

BARNSLEY.—March 28.—For erection of a girls' school, cookery-room, class-room, outbuildings, &c., in Park Street, Wombwell. Mr. John Robinson, clerk, Park Street, Wombwell.

BELFAST.—March 27.—For erection of fourteen single one-storey cottages at level crossings between Belfast and Richhill, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

BRADFORD.—For alterations to premises. Messrs. Empsall & Clarkson, architects, 7 Exchange, Bradford.

BRADFORD.—March 28.—For erection of a lavatory and water-closets, and the painting throughout of the buildings at Bolton Lane abattoirs. Mr. J. H. Cox, City Surveyor, Town Hall.

BRIDLINGTON QUAY.—March 27.—For erection of three houses in Cambridge Street. Messrs. Brodrick, Lowther & Walker, architects, Central Chambers, Bridlington Quay.

BRIDLINGTON QUAY.—March 28.—For alterations and additions to Havelock House. Mr. J. Earnshaw, architect, Bridlington Quay.

BRISTOL.—April 5.—For erection of a rope factory, &c., Bath Road, Arno's Vale. Mr. Henry Williams, architect, 24 Clare Street, Bristol.

CARDIFF.—March 27.—For erection of Welsh Calvinistic Methodist Chapel, Crwys Road. Mr. John H. Phillips, architect, St. John's Chambers, Cardiff.

CARDIFF.—April 18.—For erection of a stable, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

CHELSEA.—April 18.—For reconstruction of the two bath turrets at the infirmary in Cale Street. Mr. W. Miller, clerk, 250 King's Road, Chelsea, S.W.

CHESHIRE.—April 11.—For erection of six cottages near Helsby station, for the joint committee of the London and North-Western and Great Western Railway Companies. Mr. A. E. Bolter, secretary to joint committee, Paddington.

COVENTRY.—March 28.—For extension of the buildings of the electricity works, Sandy Lane. Mr. J. E. Swindlehurst, city engineer, St. Mary's Hall, Coventry.

CUMBERLAND.—April 4.—For altering and renovating Clifton parish church. Mr. James Howes, architect, Workington.



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ESTIMATES FREE.



CUMBERLAND.—April 5.—For alterations and additions to the Roman Catholic schools, Egremont. Mr. J. S. Stout, architect, Gillfoot, Egremont.

DEWSBURY.—For erection of glassworks at Savile Town, Dewsbury. Messrs. John Judson & Moore, architects, York Chambers, Keighley.

DURHAM.—March 28.—For erection of two seven-roomed houses at Tow Law (labour only). Mr. R. Rawe, Prospect House, Tow Law.

DURHAM.—March 30.—For extension and restoration of church at Wheatley Hill. Mr. James Garry, architect, 47 Church Street, West Hartlepool.

DURHAM.—April 7.—For erection of the Ushaw Moor Wesleyan chapel at Ushaw Moor, near Durham. Mr. J. Walton Taylor, architect, Newcastle-on-Tyne.

DURHAM.—April 11.—For erection of the Johnston Electric School. Messrs. Oliver & Leeson, architects, Bank Chambers, Mosley Street, Newcastle-on-Tyne.

ELGIN.—March 29.—For erection of steading at Easter Manbeen, Elgin, and at Claydales, Alves. Messrs. A. & W. Reid & Wittet, architects, Elgin.

ELLAND.—For erection of a church. Mr. George H. Fellowes Prynne, architect, 6 Queen Anne's Gate, Westminster, S.W.

ENGLEFIELD GREEN.—April 1.—For enlarging boys' school, asphalting boys and girls' playgrounds, altering and enlarging offices, improving drainage arrangements, &c., at the Englefield Green schools, Surrey. Mr. W. Menzies, architect, Englefield Green, Surrey.

ESSEX.—March 30.—For erection of a new bridge at Havering Ford, Romford, and the rebuilding of a bridge over the Beam river at Dagenham. Mr. Percy J. Sheldon, surveyor, County Offices, Chelmsford.

FELIXSTOWE.—For erection of a Presbyterian church. Mr. George William Leighton, architect, Princes Street, Ipswich.

FLEETWOOD.—April 4.—For construction of an underground convenience and other works. Mr. Joseph Tildesley, clerk, Town Hall, Fleetwood.

GATESHEAD.—April 13.—For rebuilding the Foresters' Arms, Askew Road. Mr. A. G. Kyle, architect, 145 Pilgrim Street, Newcastle.

GREAT YARMOUTH.—April 4.—For alterations and additions to Northgate school. Messrs. Bottle & Olley, architects, Queen Street, Great Yarmouth.

GUERNSEY.—April 1.—For erection of school buildings at Amherst, St. Peter Port. Messrs. Colson, Farrow & Nisbett, architects, 45 Jewry Street, Winchester.

HALIFAX.—April 6.—For erection of an iron foundry, with workshops and offices, in Albert Road, near reservoir. Messrs. Jackson & Fox, architects, 7 Rawson Street, Halifax.

HARROGATE.—For additions to the New College. Messrs. J. M. Fawcett & Son, architects, Basinghall Street, Leeds.

HASTINGS.—April 3.—For erection of stabling, loose-boxes, &c., at Rock-a-Nore Vine Farm, St. Helen's, and Silverhill. Mr. Ben. F. Meadows, town clerk, Hastings.

HIGHGATE.—March 27.—For alterations and additions to the steam laundry at the infirmary, Archway Road, N., comprising a Cornish boiler, the alteration and rearrangement of the drying closet, repairs to hydro-extractors, new 9-feet ironing machine, &c. Mr. John Buley, engineer, Suffolk House, Laurence Pountney Hill, E.C.

HUDDERSFIELD.—March 27.—For erection of Station Street Buildings. Messrs. Abbey & Hanson, architects, 20 Ramsden Street, Huddersfield.

HUDDERSFIELD.—March 28.—For erection of an assembly hall in connection with the Wesleyan church at Linthwaite. Messrs. John Kirk & Sons, architects, Huddersfield.

HULL.—April 5.—For construction of two river walls and contingent works, at the St. Andrew's Dock entrance, for the North-Eastern Railway Company. Mr. T. M. Newell, engineer, Dock Office, Hull.

IPSWICH.—April 1.—For alterations and additions to w.c.s and bathroom on male side at the borough asylum. Mr. E. Buckham, borough surveyor, Town Hall, Ipswich.

IRELAND.—March 28.—For altering and extending the parish church. Mr. S. P. Close, architect, Donegal Square Buildings, Belfast.

KINGSTON-ON-THAMES.—March 28.—For erection of a female infirmary, &c., at the workhouse. Mr. William H. Hope, architect, Union Offices, Portsmouth Road, Kingston-on-Thames.

LANCASTER.—March 30.—For erection of a baptistery St. Peter's Church. Messrs. Austin & Paley, architects, Castle Hill, Lancaster.



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ANCHESTER.—April 5.—For construction of a bridge over House Burn. Mr. W. H. Ritson, clerk, Lanchester, ham.

EEDS.—March 29.—For addition of an apse, clergy vestry, roof, new seating, &c., at St. George's Church. Mr. y Walker, architect, 8 Upper Fountaine Street, Leeds.

EYTON.—April 4.—For erection of public baths. Messrs. ap & Duffield, architects, 34 Queen Street, E.C.

IVERPOOL.—March 28.—For alterations to the public houses at Burroughs Garden. Mr. W. R. Court, engineer, wallis Street.

ONDON.—March 27.—For extension of the laundry at the nary, Bow Road. Mr. Pridmore, architect, 2 Broad Street lings.

ONDON.—April 10.—For construction of two underground eniences near Camden Town station. Mr. W. N. Blair, eyor, Vestry Hall, Pancras Road, N.W.

ONG EATON.—For erection of stabling. Mr. W. V. Betts, tect, Bank Offices, Radford Road, Old Basford, Notting-

ONGFORD BRIDGE.—April 8.—For taking-down and re-ing the south-easterly retaining walls, new fencing, inci-l works, &c. Mr. W. H. Radford, county bridgemaster, ty Offices, Preston.

OWESTOFT.—For erection of a store for the Gourock Rope-Company on the Battery Green Road. Mr. F. W. ards, architect, Stanley Street, Lowestoft.

ANCHESTER.—March 28.—For wood skirting and addi-l wrought-iron bars to the balconies at the Oldham Road Pollard Street dwellings. Form of tender can be obtained e City Surveyor's Office, Town Hall, Manchester.

ARGATE.—March 30.—For erection of engine-house, r-house, boiler-house, workshops, &c. Mr. James Dougall, Dane, Margate.

IORECAMBE.—For erection of a house and shop in Sefton l, W.E. Messrs. Marshall Bros., architects, Back Crescent, cambe.

IORECAMBE.—March 28.—For erection of two dwelling-es in Regent Road. Mr. Chas. F. Thompson, architect, Arcade, Lancaster.

IORECAMBE.—March 29.—For erection of a house and in Cross Street. Messrs. Marshall Bros., architects, Crescent, Morecambe.

NORTHUMBERLAND.—For erection of a police-station at Prudhoe. Mr. John Cresswell, county architect, Moot Hall, Newcastle-on-Tyne.

NOTTINGHAM.—March 29.—For erection of house, sale-shop, slaughter-house, stabling, &c., at Burton Joyce. Mr. R. Whitbread, architect, Carlton.

PENZANCE.—April 17.—For erection of a new buoy store and other works at Trinity Store. The Secretary, Trinity House, London, E.C.

POPLAR.—March 28.—For erection of a coroner's court, public mortuaries and shelters at High Street. Messrs. Lansdell & Harrison, architects, 38 Bow Lane, Cheapside, E.C.

RUGBY.—March 27.—For erection of a corrugated iron building at the cattle market. Mr. D. G. Macdonald, surveyor, Rugby.

SCOTLAND.—April 3.—For addition to Ardrossan Academy, Ardrossan. Mr. John Armour, jun., architect, Irvine.

SCOTLAND. — For erection of workmen's houses near Livingstone Station, Pumpherston. The Manager, Pumpherston Works, Mid-Calder.

SLEAFORD.—April 4.—For erection of the superstructure of the new lunatic asylum at Rauceby, near Sleaford. Mr. George T. Hine, architect, 35 Parliament Street, Westminster, S.W.

ST. STEPHEN'S-BY-SALTASH.—March 28.—For providing and laying in the parish of St. Stephen's-by-Saltash about 4,500 yards of 5, 4 and 3-inch water-mains, with sluice-valves, hydrants, &c. Mr. Fred. Wm. Cleverton, clerk, 4 Buckland Terrace, Plymouth.

STROUD GREEN.—April 10.—For erection of buildings for a branch public library. Mr. E. J. Lovegrove, surveyor, Southwood Lane, Highgate, N.

TIPTON.—April 6.—For erection of a block of schools at Ocker Hill, Tipton. Mr. Alfred Long, architect, 21 High Street, West Bromwich.

TOOTING. — March 28. — For erection of stabling and cottage at the dust destructor at Alston Road. Mr. Henry George Hills, clerk to the Board, East Hill, Wandsworth.

TORPOINT.—March 29.—For plastering, colouring and repairing the union workhouse at Torpoint. Mr. Fred. Wm. Cleverton, clerk, Union House, Torpoint, Devon.

ULVERSTON.—For alterations to shop, 7 King Street. Messrs. Settle & Farmer, architects, Ulverston.

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97 LISSON GROVE, LONDON, N.W.

WALES.—March 27.—For erection of Ainon Baptist chapel, Treorky. Rev. S. Morgan, 3 Bute Street, Treorky.

WALES.—March 28.—For erection of four semi-detached dwelling-houses. Mr. Phillips, 20 Oxford Street, Griffithstown.

WALES.—March 29.—For erection of a pair of semi-detached cottage villas, Hatherleigh Road, Abergavenny. Mr. E. A. Johnson, architect, Abergavenny.

WALES.—March 31.—For erection of two houses in Princess Street, Llangollen. Mr. Denny, architect, Llangollen.

WALES.—April 3.—For erection of seventeen houses at Cwmaman, Aberdare. Mr. Llewellin Smith, architect, 20 Commercial Street, Aberdare.

WALES.—April 3.—For erection of a chapel, vestry-room and caretaker's house, Pontycymmer. Mr. P. J. Thomas, architect, Bridgend.

WALES.—April 5.—For erection of a concrete wall, drainage and other works to support the landslip between the main road and the river Usk, near the village of Llangrwyne, between Crickhowell and Abergavenny. Mr. H. Edgar Thomas, clerk, County Hall, Brecon.

WALES.—April 10.—For erection of a villa residence at Cornelly, near Pyle. Mr. P. J. Thomas, architect, Bridgend.

WHITBY.—March 30.—For erection of parish-room in St. Hilda's Terrace. Mr. Edward H. Smales, architect, 5 Flowergate, Whitby.

WIGTON.—For alterations and additions to Westmorland House. Mr. Jos. Graham, architect, Bank Street, Carlisle.

WINCHMORE HILL.—March 29.—For erection of a boiler and engine-house, &c., at the Northern Hospital. Messrs. Pennington & Son, architects, Hastings House, Norfolk Street, Strand, W.C.

THE annual dinner of the Municipal Officers' Association will be held in the International Hall, Café Monico, Piccadilly Circus, to-morrow, the 25th, at 6 for 6.30 P.M. Mr. C. William Tagg (chairman, 1897-98) will preside, supported by several Members of Parliament, chairmen of County Councils, mayors, town clerks and the chief officers of other local government authorities.

TENDERS.

BARNSLEY.

For erection of five houses and shops at Stairfoot.
Accepted tenders
Dawber & Co., Limited, slater.
F. Rodgers, plumber.
E. Fleming, plasterer.
H. J. Cheshire, painter.

BIRMINGHAM.

For construction of the Birmingham, Tame and Rea Distr drainage extension work (Contract No. 4), carting, e cavating trench, laying and jointing 54-inch diameter ca iron pipes for main outfall conduit. Messrs. T. & HAWKSLEY, engineers, Westminster.
H. FOTHERBY & SON, Burnley (*accepted*).

BURTON-UPON-TRENT.

For supplying and fixing a cast-iron water-tank of 6,000 galle capacity at the public baths, with necessary connectio &c. Mr. GEORGE LYNAM, borough engineer.
BUXTON & THORNLEY, Waterloo Street (*accepted*) £143 5

COVENTRY.

For repainting the Baths internally and externally.
A. E. SUTTON, Queen Victoria Road (*accepted*) £460 0

DEVONPORT.

For construction of sewers at Keyham. Mr. JOHN F. BUR borough surveyor.

R. H. Neal	£4,763 0
F. C. Ambrose	4,425 0
J. Shaddock	4,344 5
H. E. Skinner	4,111 11
Fisher	3,971 12
W. Shaddock	3,925 7
C. L. Duke	3,904 17
T. Shaddock	3,876 16
R. T. Hortop	3,841 14
A. N. COLES, Plymouth (*accepted*)	3,789 17

For erection of a boundary wall at Stoke Church bur ground. Mr. JOHN F. BURNS, borough surveyor.

G. Stevens	£40 0
R. G. JENKIN, Devonport (*accepted*)	33 0

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DEVONPORT—*continued.*

paving a portion of Queen Street. Mr. JOHN F. BURNS, borough surveyor.

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Shaddock	347 10 1
Shaddock	298 15 5
L. DUKE, Plymouth (*accepted*)	272 9 7

foundations, &c., at the isolation hospital, near Boldventure. Mr. JOHN F. BURNS, borough surveyor.

G. Jenkin	£47 0 0
E. Skinner	38 15 0
STEVENS, Devonport (*accepted*)	34 0 0

DEWSBURY.

erection of two houses, Lees Road, Thornhill. Messrs. HOLTOM & FOX, architects, Westgate, Dewsbury.

Sheard, Thornhill Lees, masonry	£373 0 0
Dixon, Thornhill Lees, joinery	100 0 0
H. Thompson, Batley, slating	34 0 0
rkinson Bros., Heckmondwike, plastering	21 10 0
Shepley, Dewsbury, plumbing	16 10 0
Taylor, Thornhill Lees, painting	5 15 6

DOVER.

providing and laying about 3,237 square yards of Australian hardwood paving (Karri or Jarrah) for the carriageway of Biggin Street and Cannon Street. Mr. HENRY E. STILGOE, borough engineer, Town Hall, Dover.

rner, Heason & Mitchell (Jarrah)	£2,009 0 0
„ „ „ (Karri)	1,968 0 0
proved Wood Pavement Co., Limited	1,779 0 0
iversal Works Construction Co., Limited	1,779 0 0
Griffiths	1,765 0 0
MOWLEM & Co., Westminster (*accepted*)	1,711 0 0
me Wood Flooring Co., Limited	1,684 0 0

EAST DULWICH.

lterations to workhouse buildings at Constance Road, and additions thereto. Messrs. HENRY JARVIS & SON, architects, 29 Trinity Square, Borough, S.E.

GOUGH & Co., Hendon (*accepted*). Kirk & Randall, G. J. Newton, G. Parker, T. C. Sharpington, Staines & Son and J. Chessum & Sons also tendered.

ELGIN.

For erection of a public school at Deskford.

Accepted tenders.

Stewart, Keith, builder	£296 5 0
Gordon, Cullen, carpenter	198 15 0
Macdonald, Portsoy, slater	54 14 0
Ingram, Cullen, plasterer	38 0 0
Beveridge, Cullen, plumber	48 15 0

ERITH.

For erection of fifty-four cottages, for the South-Eastern Railway Company. Mr. H. L. SAUNDERS and Messrs. G. HUMPHREYS DAVIES & Co., joint architects.

Holloway Bros.	£27,180 0 0
Howell J. Williams	24,777 0 0
Stebbings & Pannell	24,570 0 0
Perry & Co.	24,167 0 0
W. Sheppard	23,857 0 0
G. E. Wallis & Sons	23,787 0 0
T. Knight	23,707 0 0
J. Smith & Sons	23,491 0 0

GREENOCK.

For erection of new electrical station.

Accepted tenders.

John M'Ewan, Greenock, buildings.
Callander Company, London, electrical mains.
Silverton Company, London, engine-house plant.
Babcox & Wilcox, Glasgow, boilers.
Total cost, £39,000.

ILFORD.

For erecting the Seven Kings hotel. Messrs. W. G. BARTLETT & SON, architects.

Todd & Co.	£9,077 0 0
Parmenter	8,430 0 0
Killby & Gayford	8,330 0 0
Bentley	8,260 0 0
Patman & Fotheringham	7,951 0 0
Smith & Sons	7,924 0 0
Ashby Bros.	7,682 0 0
Hammond & Sons	7,675 0 0

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IRELAND.

For erection of business premises in High Street, Enniskillen.

J. Reid	£1,460 0 0
J. Donnelly	1,403 0 0
L. HARVEY, Enniskillen (*accepted*)	1,400 0 0

KESWICK.

For pulling-down and rebuilding a wall in Station Road and other works. Mr. WILLIAM HODGSON, surveyor.

Hall Bros.	£95 0 0
R. Musgrave	56 2 6
T. HODGSON, Keswick (*accepted*)	55 18 0

LLANDUDNO.

For erection of public slaughter-houses, hanging-rooms, lairages, offices, boundary walls, &c., adjacent to the London and North-Western Railway station. Mr. E. P. STEPHENSON, surveyor.

E. Hughes	£5,750 0 0
J. Bigg	5,711 0 0
R. L. ROBERTS, Eden Dairy, Llandudno (*accepted*)	5,452 17 8

For extension of the parade and promenade in an easterly direction from the present termination of the promenade, a distance of about 200 yards. Mr. E. P. STEPHENSON, surveyor.

J. Bigg	£1,480 0 0
W. DAVIES, Station View, Llandudno (*accepted*)	1,290 0 0

LONDON SCHOOL BOARD.

For painting interior (boys', girls' and infants'), and interior and exterior of special school, St. Clement's Road.

G. H. Sealey	£643 0 0
H. C. Clifton	560 0 0
H. Eady	535 17 0
T. Cruwys	516 0 0
W. Hornett	496 0 0
E. Flood	438 0 0
C. Gurling	428 12 0
W. Chappell	415 0 0
W. Brown	400 0 0
W. R. & A. HIDE (*accepted*)	365 15 0
Bristow & Eatwell	329 7 0

LONDON SCHOOL BOARD—*continued.*

For painting interior, Edinburgh Road.

Martin, Wells & Co.	£673 0
W. Bunce	443 0
R. S. Buckeridge	410 0
W. Hornett	370 0
G. H. Sealey	343 10
E. Flood	342 7
H. Eady	317 0
C. Gurling	300 0
F. T. Chinchen	293 14
BRISTOW & EATWELL (*accepted*)	261 16
F. Chidley	198 0

For painting interior, Bowling Green Lane.

McCormick & Sons	£369 0
R. S. Buckeridge	345 0
Johnson & Co.	319 0
E. Flood	310 0
H. Wall & Co.	306 10
Marchant & Hirst	294 0
W. Hornett	275 0
G. Foxley	249 0
F. T. CHINCHEN (*accepted*)	229 14

For painting interior, Buckingham Street.

G. S. S. Williams & Son	£485 0
J. Grover & Son	480 0
R. S. Buckeridge	478 0
Gardner & Hazell	469 0
McCormick & Sons	449 0
F. Britton	425 0
Stevens Bros.	414 0
Marchant & Hirst	396 0
G. BARKER (*accepted*)	259 0

For painting interior and exterior junior male school, Canterbury Road.

W. V. Goad	£240 0
T. Freeman & Son	236 0
Rice & Son	199 0
G. Brittain	169 0
Jones & Groves	169 0
Holliday & Greenwood	163 0
G. F. MORGAN & CO. (*accepted*)	105 0

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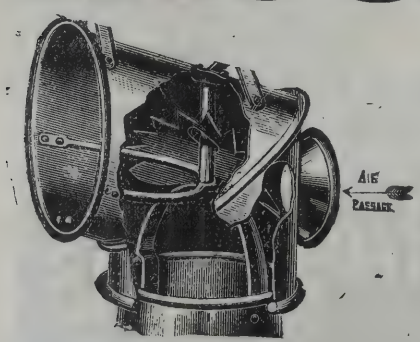
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LONDON SCHOOL BOARD—*continued.*

For painting interior, Central Street.

McCormick & Sons	£397 0 0
H. Wall & Co.	377 0 0
Johnson & Co.	322 0 0
W. Bunce	272 5 0
J. Kybett	262 0 0
W. Chappell	230 0 0
B. E. NIGHTINGALE (*accepted*)	222 0 0

For painting interior, Grafton Road.

W. Bunce	£570 0 0
J. Grover & Son	517 0 0
C. & W. Hunnings	506 2 0
McCormick & Sons	488 0 0
F. Britton	466 13 0
Marchant & Hirst	447 10 0
STEVENS BROS (*accepted*)	428 0 0

For painting exterior (old and new portions); cleaning interior (old portion) and painting interior (new portion), Hughes' Fields.

A. White & Co.	£520 0 0
Thomas & Edge	421 0 0
S. Musgrove	386 18 0
C. Foreman	376 10 0
W. Brown	372 0 0
Jones & Groves	368 0 0
W. Banks	359 17 6
C. S. Jones	335 0 0
E. PROCTOR (*accepted*)	325 0 0

For painting interior, Orchard Street.

J. Chessum & Sons	£335 0 0
W. Silk & Son	326 0 0
A. W. Derby	306 0 0
Snewin Bros. & Co.	285 0 0
W. Shurmur	270 0 0
Collis Willmott	260 0 0
J. Kybett	234 0 0
S H. CORFIELD (*accepted*)	216 0 0

For painting interior and exterior (iron buildings), Plum Lane.

Thomas & Edge	£170 0 0
W. Banks	139 13 6
C. Foreman	130 0 0
E. PROCTOR (*accepted*)	96 0 0

LONDON SCHOOL BOARD—*continued.*

For painting interior and exterior (old and new portions), Mantle Road.

W. Akers & Co.	£738 0 0
W. Banks	641 12 6
G. Kemp	570 0 0
C. G. Jones	568 3 0
Jones & Groves	560 10 0
E. Proctor	550 0 0
G. Barker	514 0 0
C. S. JONES (*accepted*)	490 5 0

For painting interior, Gill Street.

Johnson & Co.	£331 0 0
T. Willson	295 0 0
A. W. Derby	252 0 0
C. S. Jones	240 0 0
W. Brown	222 0 0
J. T. Robey	220 13 0
J. Kybett	189 0 0
S. H. CORFIELD (*accepted*)	169 0 0

For painting interior, Church Street.

Holloway Bros.	£342 0 0
J. F. Ford	315 0 0
F. R. Blaxton	314 1 5
W. Johnson & Co., Limited	275 0 0
J. Garrett & Son	270 0 0
Rice & Son	270 0 0
H. Somerford & Son	265 0 0
T. Hooper & Son	260 10 0
Star & Son	253 18 0
B. E. Nightingale	234 0 0
E. Triggs	230 0 0
T. GREGORY & Co. (*accepted*)	225 0 0

For painting interior, Berner Street.

Johnson & Co.	£453 10 0
A. W. Derby	425 0 0
J. T. Robey	325 0 0
H. Wall & Co.	318 10 0
T. Willson	309 5 0
G. Barker	309 0 0
S. H. Corfield	297 0 0
J. Kybett	293 0 0
J. F. Holliday	290 15 0
W. BROWN (*accepted*)	273 0 0

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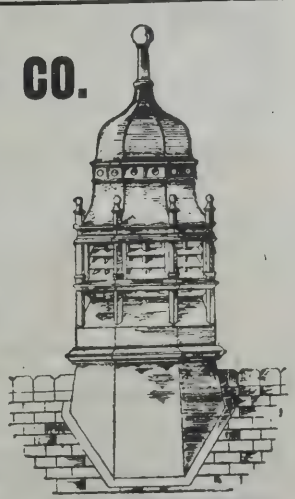
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LONDON SCHOOL BOARD—*continued.*

For painting interior and exterior of all buildings on site, Peckham Park.

T. Freeman & Son	£845	5	0
J. & C. Bowyer	761	0	0
W. Banks	758	2	6
Rice & Son	729	0	0
Holliday & Greenwood	675	0	0
C. GURLING (*accepted*)	615	10	0
C. S. Jones	555	10	0

For painting interior and exterior, Fair Street.

Johnson & Co.	£519	0	0
A. White & Co.	485	0	0
W. Banks	474	18	6
Holliday & Greenwood	469	0	0
E. Triggs	456	10	0
G. Barker	408	0	0
E. Proctor	400	0	0
G. F. MORGAN & Co. (*accepted*)	347	0	0

For painting interior and exterior, junior male (iron buildings), Bromley Hall Road.

A. W. Derby	£125	10	0
G. Wales	112	0	0
A. E. Symes	105	0	0
J. T. ROBEY (*accepted*)	99	0	0

For painting interior and exterior, Frogmore.

T. Gregory & Co.	£185	9	0
E. Triggs	180	0	0
R. S. Ronald	164	9	0
E. B. Tucker	148	0	0
LATHEY BROS. (*accepted*)	127	0	0

MANSFIELD.

For erection of a mortuary building at the workhouse. Mr. R. FRANK VALLANCE, architect, Mansfield.

Gilbert & Gabbitass	£311	4	5
Fisher Bros.	308	0	0
S. B. Frisby	295	0	0
J. Greenwood	290	0	0
C. G. Percival	263	12	6
VALLANCE & BLYTHE, Mansfield (*accepted*)	259	7	6

MORECAMBE.

For erection of four houses and shop in Bold Street. Mr. JAMES HARTLEY, architect, Bradford Chambers, Queen Street, Morecambe.

Accepted tenders.

L. Mitchell & Co., Keighley, mason and bricklayer	£1,049	5	
Smith & Pickles, Silsden, plumber and glazier	180	0	
Hill & Nelson, Morecambe, plasterer and slater	299	10	

OLDHAM.

For erection of school, Roundthorn. Mr. HOWCROFT, architect, Clegg Street, Oldham.

Accepted tenders.

Spencer Bros., excavator.
S. & J. Smethurst, bricklayer.
Mallalien & Milne, joiner
R. Chadwick & Sons, plumber.
R. Wigglesworth, plasterer.
R. Fletcher, slater.
Total, £6,475.

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For asphalting 1,391 yards at the west end of the promenade and 1,705 yards at the east end.
VAL DE TRAVERS Co., Birmingham (*accepted*) £206 8

RICHMOND.

For cleaning, painting, &c., at the Wesleyan church, Kew Road.

Heasler	£327 0
Soole & Son	320 0
J. W. Brooking	319 0
SPEECHLEY & SMITH, Richmond (*accepted*)	315 0

SCOTLAND.

For erection of a parish church at Kilbarchan. Mr. W. H. HOWIE, architect, 131 West Regent Street, Glasgow.

Accepted tenders.

John Woodrow, Bridge of Weir, mason and joiner.
Keenan & Kelso, Paisley, slater.
James Fleming, Paisley, plumber.
George Thomson & Son, Johnstone, plasterer.
Tytler & Son, Greenock, glazier.
Total cost, upwards of £6,000.

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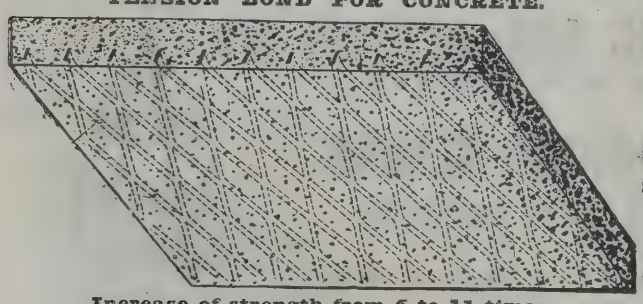
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W. MURRAY (*accepted*) £168 0 0

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For restoration works, &c., at St. Nicholas Church. Messrs. RUCK & SMITH, architects, Maidstone.

G. Gates	£2,154 0 0
West Bros.	2,034 0 0
Wallis & Sons	1,601 0 0
PRYER & Co., Maidstone (*accepted*)	1,486 0 0

SUTTON.

For erection of a house. Mr. CECIL A. SHARP, architect, 59 Fenchurch Street, E.C.

F. J. Shopland	£1,357 0 0
E. J. Burnand	1,029 0 0
H. Clarke	1,027 0 0
HUNTLEY BROS., Croydon (*accepted*)	900 0 0

TIVERTON.

For erection of hospital buildings. Mr. J. SIDDALLS, architect. Quantities supplied.

A. M. Coles	£6,070 16 0
J. Deering & Sons	5,388 9 4
S. Manning	5,242 18 6
J. Grater & Sons	5,084 10 0
R. Grater & Sons	4,725 0 0
F. WOOD (*accepted*)	4,716 12 6

TODMORDEN.

For additions to the Unitarian Sunday school. Mr. JESSE HORSFALL, architect, Todmorden.

Accepted tenders.

J. Barker, mason and bricklayer.
T. Greenwood, carpenter and joiner.
J. Uttley, plumber.
T. Blacker, slater and plasterer.

TROON.

For erection of a church mission-room.

W. C. HEDGE, Redruth (*accepted*) . . . £1,068 0 0

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H. WILLCOCK & Co., Wolverhampton (*accepted*) £34,918 0 0

WELTON.

For erection of a church school to accommodate 300 children at Welton, near Midsomer Norton. Mr. W. J. BIRD, architect, Midsomer Norton.

Hughes & Weeks	£3,387 0 0
T. H. Brown	2,565 0 0
J. Bird	2,150 0 0
A. W. J. Catley	2,150 0 0
W. Tovey	2,125 0 0
J. H. Tovey	2,000 0 0
H. E. Perkins	1,998 10 0
Coles Bros.	1,960 0 0
V. KEELING, Timsbury (*accepted*)	1,928 0 0

WOLVERHAMPTON.

For erection of an extension of the electric-lighting station, Commercial Road. Mr. J. W. BRADLEY, borough engineer.

H. GOUGH, Dudley Road (*accepted*).

For supply and fitting cast-iron and wrought-iron piping for the water supply, heating, and waste arrangement to the swimming-bath to be erected in Bath Place. Mr. J. W. BRADLEY, C.E., borough surveyor.

G. E. BROWN, 2 Snow Hill (*accepted*).

WOOTTON.

For erection of classroom, National Schools. Mr. G. CASTLE, architect, Woodstock.

W. Brain	£177 15 0
C. C. Robinson	169 9 0
Oxford Co-operative Builders, Limited	156 0 0
WASTIE BROS., Handborough (*accepted*)	135 0 0

WORKINGTON.

For erection of four cottages in Lawrence Street. Messrs. W. G. SCOTT & Co., architects, Victoria Buildings, Workington.

Accepted tenders.

J. Stewart, mason.
J. Steel, joiner.
J. Lythgoe, slater.
J. W. Hodgson & Co., plumber.
G. Mann, plasterer.
G. Davis, painter.

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ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: EAST END OF SOUTH CHOIR AISLE, LOOKING INTO CHAPEL OF NINE ALTARS. FROM SOUTH AISLE LOOKING IN NORTH TRANSEPT. ENTRANCE TO CRYPT FROM CLOISTER.

CREWE HALL.

NETHERCOURT, FINCHLEY.

MEMORIAL TO SIR H. DOULTON.

FOR more than twenty years the late Sir Henry Doulton was a governor and almoner of St. Thomas's Hospital. On Monday a memorial to him, erected by Mr. Henry Lewis Doulton and Sir Henry's other children, was unveiled by the Bishop of Rochester—the memorial taking the form of three handsome panels in the reredos of the Hospital Chapel. It is peculiarly fitting that the panels should be in terra-cotta and that the designer should be Mr. G. Tinworth, whose life and work have been so closely associated with the great Lambeth firm of which Sir Henry Doulton was the founder. Sir Henry had, so to speak, discovered Tinworth, and now Tinworth had provided a lasting and artistic memorial of his friend and benefactor. The close association of the two men was indeed referred to by the Bishop in his address at the conclusion of the dedication service that was held in the pretty chapel. Before this the treasurer of the hospital, Mr. J. G. Wainwright, had spoken of the value of the services Sir Henry had rendered the hospital in his long association with it. The brief but hearty ceremony took place in the presence of a congregation composed largely of nurses, members of the hospital staff, and persons attached to the Doulton establishment. Others present included, besides the treasurer, Mr. Shand, Mr. Mills-Thorne, Mr. Ridley, the Hon. Mrs. Talbot, Mr. Ballance and Mr. Currey, the architect of the hospital, the Rev. G. Weigall, the Hospitaller, and the Rev Andrews Reeve, rector of Lambeth. The panels, which are characteristic of Mr. Tinworth's best work, represent three scenes associated with the Ascension of our Lord.

TRADE NOTES.

THE new schools, Arlecdon, Cumberland, are being warmed and ventilated by means of Shorland's patent Manchester grates, patent exhaust roof ventilators and inlet tubes.

WE have received from Mr. Harry Steuber, of 12A Watling Street, some samples of his "Chin-Chin" and "Pelican" drawing-inks. They are of excellent colour, and possess the virtues of working freely and equally and of drying quickly. Their price, too, compares favourably with that of most of their competitors.

THE heating of the two new co-operative stores and assembly room, Crewe, and the residence of Mr. Joseph Shaw, Moss View, Hollinwood, are to be heated by Spencer's patent "Ventilo" radiators, the patentee and sole maker of which is Mr. W. F. Spencer, Crossbank Works, Oldham, and 145 Queen Victoria Street, London, E.C.

IN the ventilation of the Featherstone Board schools, Yorkshire, Cousland's improved "Climax" patent direct-acting turret ventilators, design "F," have been used, supplied by the patentees and manufacturers, the "Climax" Ventilating and Heating Company, Limited, 93 Hope Street, Glasgow. The same company are also supplying, for the ventilation of Prestwick Conservative Club (architect, Mr. James A. Morris, Ayr), their Cousland's improved "Climax" patent direct-acting invisible roof-ventilators.

WE are asked to announce that the two businesses of Hendry & Pattisson, of 4 Marlborough Mews, Oxford Street, heating and ventilating engineers, and makers of "D. O. Boyd's" patent warm air grates and stoves, and E. Farrar & Co., late of 69 Berners Street, W., casement makers and art metal workers, have been amalgamated and incorporated under the Companies' Acts, and will henceforth be carried on jointly under the style of Hendry & Pattisson, Limited. The works and offices of the company will be at 4 Marlborough Mews, Hills Place, Oxford Street, London, W., to which address all communications should be sent. We are informed that Mr. John Hendry will be the managing director, and Mr. Pattisson and Mr. Farrar have also joined the board. This is evidence that both businesses will receive the care and attention of those who have the largest stake in them.

WE have received from Messrs. Maughan's Patent Geyser Company, Limited, one of their handy little instruments, which forms at once a rule, a compass and a paper knife. As the

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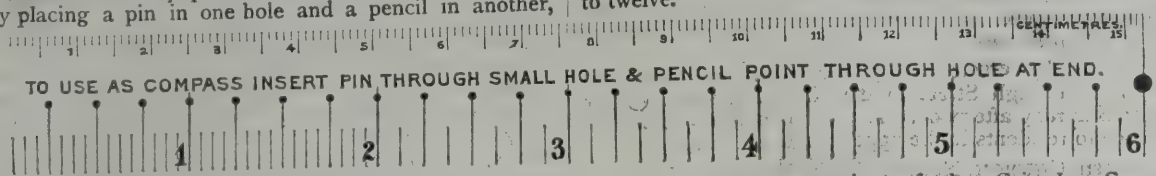
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companying sketches show, it is a very simple little affair ich can be manipulated with the utmost facility. In its rmal condition it is a paper-knife on which a rule is printed, ile by placing a pin in one hole and a pencil in another,



rves or circles of various dimensions can be formed. This ndy little instrument will be sent on application to the com- ny at 51 Queen Victoria Street, E.C.

BUILDING AND BUILDERS.

E foundation-stones of the new St. Edmund's Roman tholic Church, Little Hulton, Walkden, were laid on the h inst.

ARRANGEMENTS are being made for a westward extension the church of St. Margaret, Prestwich. It is proposed to ke such an addition to the building as will accommodate r 100 persons. The estimated cost is about 1,600*l.*

IT has been decided to build a new parsonage-house for the ish of Norden, near Rochdale. At present the incumbent compelled to live in a house outside the parish, and at a nsiderable distance from the church. A site has already en promised.

THE erection of a diocesan Church-house in Liverpool l be begun shortly, and the first section is expected to be npleted before the close of the year. The cost of this rtion is estimated at 15,000*l.*, and the cost of the whole at 000*l.*

THE foundation-stone of a church to be erected for the new ish of St. Joseph, Tranmere, was laid on the 19th inst. The v church is situated at the corner of North Road and llowbank Road, Devonshire Park. It will provide accommo- ion for 600.

AT the fortnightly meeting of the Worksop Board of ardians, Mr. Sydney Smith presiding, the principal siness was the motion by Mr. T. Warner Turner in favour erecting a new workhouse, as against the proposal to erect infirmary only on the site recently purchased for 1,100*l.* The opposition was led by Mr. C. Moore, who proposed that only the infirmary be erected. A long discussion took place, and eventually the amendment was carried by nineteen votes to twelve.

AT last week's meeting of the Grimsby Corporation highways committee plans were submitted for the development and extension of Lord Heneage's estate, near the park, and including the making of streets upon the site of the present Grimsby Town Football Ground. The plans were passed, and a deputation appointed to ask Lord Heneage to make a subway under the Great Northern Railway. The chairman said that he had heard on good authority that 400 houses would shortly be erected in New Clee upon the land between Wellington Street and Clee Lane.

THE new billiard-room at the Builders' Club and Stone Exchange, Keighley, was opened on the 11th inst. with a ceremony, at which the mayor (Alderman C. H. Foulds) and a large company were present. Mr. Joseph Green has presented a full-sized Orme table, and the furnishing of the room has been paid for by voluntary subscription amongst the members. Mr. R. Tomlinson formally asked acceptance of the table on behalf of Mr. Green, who could not be present. The first game was played between the Mayor and Mr. John Clayton, of Cullingworth, with the result that His Worship won by 100 points to 58. Alderman Foulds also delivered a suitable speech.

AT Edgbaston, Birmingham, thirteen large villa residences are in course of erection. Each house has three reception-rooms, large kitchen, &c, seven bedrooms, bath-room, linen-closet and all the conveniences required in a superior class of house. At Sheldon, about five miles from Birmingham, six commodious villas have been completed. At Knowle, about nine miles from that city, a number of very conveniently-arranged cottages are being erected, to open up a building estate of about six acres in extent. The whole of these buildings are Gothic in style, and are being erected by various contractors. The architect is Mr. John Statham Davis, of Cobden Buildings, Corporation Street, Birmingham.

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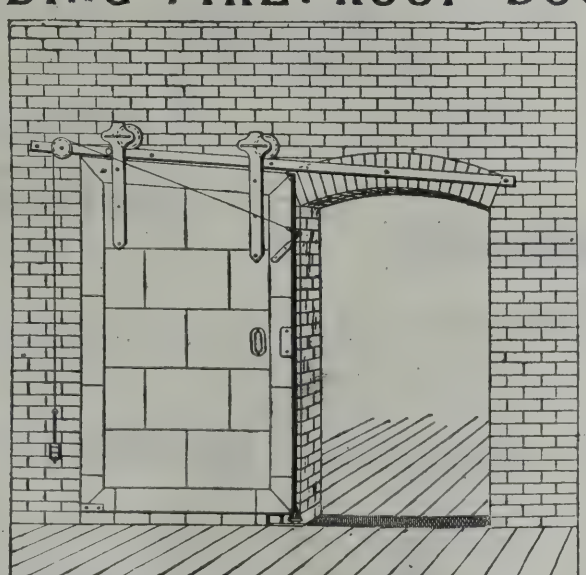
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door we fitted in these works, although subjected to a heat intense enough to melt brass taps and fittings near it, withstood the heat perfectly, and can now be inspected at ks in Manchester, fit for duty. The metal sheets have expanded without becoming detached, whilst the wood is simply charred to a depth of about ⅛ of an inch.

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VARIETIES.

MR. SYDNEY PERKS, architect and surveyor, informs us that he has removed from 13 Waterloo Place, S.W., to 5 Crown Court, Cheapside, E.C., and that his new offices are over Sir John Bennett's premises.

THE new bridge erected across the Kilmarnock Water as an access from High Street to the Kay Park was formally opened on Saturday afternoon. It will no doubt prove a great convenience to residents in the upper end of the town.

CULCHETH CHURCH, Newton Heath (Methodist New Connexion), which has been closed since January 15 for repairs, decoration, &c., was reopened on Sunday. The organ has been greatly extended and improved. The cost of these decorations and alterations will probably reach 800*l.*

MESSRS. FREDK. BEESLEY & SON, civil engineers, of 11 Victoria Street, Westminster, have taken into partnership Mr. H. Bertram Nichols, A.M.Inst.C.E., F.G.S., of Grosvenor Chambers, 59 Corporation Street, Birmingham, their respective practices being amalgamated under the style of Messrs. Beesley, Son & Nichols.

BROOMHILL Free Church Hall, Randolph Gardens, Partick, was opened on the 16th inst. The church proper has not yet been built. The hall, however, is large, and is intended to serve the purposes of a church for some time. It is seated for 400 persons, and has, so far, cost 1,250*l.* Ground has been reserved for the erection of a church when needed.

TWO immense hospitals are in course of construction in Berlin—the Charité and the Städtisches Krankenhaus; the former with 1,247 beds, the latter with 1,650. The Charité, with its offices, outbuildings and gardens, will cover an area of nearly 50 acres; the Städtisches Krankenhaus 27 acres. The building and equipment of the Charité will cost 500,000*l.*, that of the Krankenhaus 660,000*l.* The Charité will have a pathological-anatomical institution in connection with it which will cost 80,000*l.* to build and equip.

ON one of the towers of Blair Castle there has just been placed a minaret from the Mahdi's tomb. This memento was brought home from the Soudan by the Marquis of Tullibardine, D.S.O. It consists of copper plates riveted together, and bears several bullet marks received at the bombardment of Omdurman. The base of the minaret is cone-shaped, and is 13½ inches in diameter. A stalk 3 inches in diameter rises from the cone and tapers to the top. Halfway up is a ball about 8 inches in diameter, and the stalk ends in the shape o a dervish's spear. The total length is 3 feet 10 inches.

THE new public hall which has just been erected a Bearsden, N.B., occupies a prominent site in the district, at th corner of the Drymen Road and a newly-opened stree adjacent to the Free church. The hall, which measures 70 feet long by 43 feet broad, accommodates fully 600 persons inclusive of a small gallery which is placed over the entrance lobby at the east end of the hall. There are two committee o retiring rooms attached, which, being divided by a movabl glass partition, can be used as a small hall if so desired thereby seating fully 100 people. The exterior of the buildin is designed after the Scottish baronial style, having stone skew on the end gables and coronals on the upper floor windows The entrance is by an arched doorway fronting the Drymen Road, over which is a two-light window, with circular ornament over the same. The walls are built of white freestone and the character of the work is square-dressed rubble pointed with Portland cement. The architect is Mr. Alex. Petrie, I.A. Glasgow.

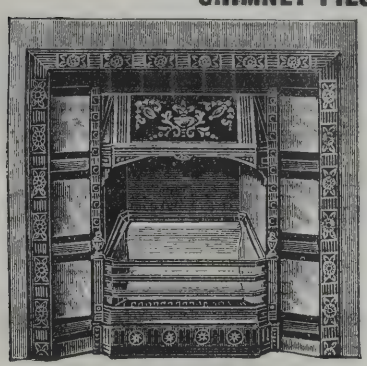
THE FURNISHING TRADES EXHIBITION.

"DO you see the figure in that piece of wood, sir? That too the Almighty centuries to paint. You, with the vandal goug of the wood-butcher, have ruined it in as many hours." Thes words of an American critic kept ringing in our ears wit painful persistency when we paid our "duty call" some day ago to the "Third Annual Furnishing Trades Exhibition (an Market)," as it is grandiloquently styled. "Exhibition" veritably is—of mediocrity!—and "market" it is in th generally accepted sense of the word. There some 200 o more exhibits are arranged for the edification of all beholders scores of stands crammed with furniture whose existence is du to what?—simply to the determination of the majority of peopl to ape that which they cannot possibly afford. That the manu facturers of these goods are wholly to blame would be to much to contend, but that is not the point to be discussed a the moment. We must recognise the fact that 90 per cent. o more of the furniture upon the market at the present time made to pander to the prevailing taste, or rather lack of tast for vulgar display; honest construction and refinement a minor considerations in the minds of those reponsible for it, they exist there at all.

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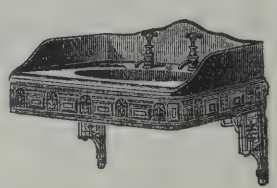
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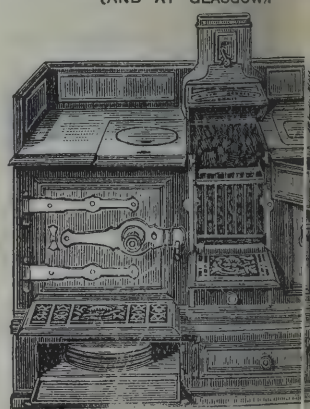


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NOTICE OF REMOVAL.

During the Rebuilding of the Strand Premises, which have been occupied by "THE ARCHITECT" for the last 30 ye

Editorial, Publishing, and Advertisement Departments have been removed to

Imperial Buildings, Ludgate Circus, London, E

Should any objection be raised to the foregoing dictum, a ır of inspection round this exhibition would be quite sufficient answer it. We simply find there manufacturer after manu- ıturer vying with all competitors to give the greatest show the least money, and "cutting lines" are the order of the y. Of course, there are some strivings after "style"—ıt goes without saying. Nondescript creations in "dark ıhogany" are "Chippendale" (*vide* catalogues). Could any- e mistake them? Anything else in mahogany—not "dark"— s time—with satinwood inlay is "Sheraton." Poor Sheraton! ıd worse than all, bad as that "all" is, comes the "Louis" rle, a bastard caricature of the ugliest phases of the most based French Rococo, than which no age nor country has er produced a greater abomination, for to do so is impossible. s, the "vandal gouge of the wood-butcher" reigns supreme, ve where the marquetry cutter steps in; and we should hardly nture to say which is preferable, bad inlay or the worst of vood-chopping." It would seem that a cabinet, sideboard or ermantel is not judged nowadays by beauty of proportion or rfection of craftsmanship. They go for little, and in their ıce we have nails and glue, holding together (for a time!) kety structures whose only object is to support as many velled plates, "carved"—what a desecration of the word!— nels, spindles and shelves as can be crowded upon them.

So much for the greater part of the productions on show the Third Annual Furnishing Trades Exhibition. Yet all is ıt of this class; indeed, there is evidence, small but never- eless encouraging, of improvement upon those of previous ars. There are exhibits—and, curiously enough, most of them me from the provinces—which make it perfectly clear that we ve in our midst brains to conceive and hands to carry out rniture as irreproachable in design and construction as the ost hypercritical could desire. The British cabinet-maker ı, when the opportunity is afforded him, hold his own with his ethren in the craft the world over; but how seldom does that portunity arise. Certainly there is all too little evidence of existence in the contents of the Royal Agricultural Hall st now. No, the craftsman cannot, if he would, put his best ork into the "jobs" that come into his hands; every detail ust be "cut" to the very lowest; "new designs," which are t designs at all, must be brought out every week, or oftener possible; the "existing demand must be supplied," and so we on to confusion worse confounded.

These furniture exhibitions serve one good end at least; ey show to what the furnishing of our middle-class homes has sunk, for the small percentage of excellent work that does chance to find its way there is but as "a drop in the bucket," throwing the paucity of the rest into all the greater contrast. It is only just to say that the management and organisation are admirable, and we know that commercially these displays are a success to most of those concerned. Is it too much to hope, then, that in years to come the artistic standard prevailing shall become such that in our reviews praise rather than reproach shall predominate? May the day be soon.

ELECTRIC NOTES.

THE Burton-on-Trent Town Council propose to borrow, amongst other sums, 11,000*l.* for electric-light extension purposes.

THE Stirling Police Commissioners have received the sanction of the Secretary for Scotland for the borrowing of 25,000*l.* for electric-lighting purposes.

SOUTHAMPTON is now lighted by electricity, the mayor switching on the current for the first time on the evening of the 13th inst. in the presence of a large number of spectators. The Corporation has also taken over the tramway service at a cost of 50,000*l.*, and intends to supersede horse by electric traction.

THE Manchester County Council finds itself under the necessity of applying for power to borrow half a million sterling, in order to keep pace with the demand for electricity for lighting and motive power. The installation, which is in its fourth year of working, has thus far absorbed some 357,616*l.*, standing second in that respect to Liverpool, which has spent 523,368*l.* But whilst the last published returns for Liverpool show an output of 2,187,594 units sold and the equivalent of 135,322 lamps of 8 candle-power, Manchester's latest accessible returns show 3,434,850 units sold and the equivalent of 183,408 lamps.

AN extraordinary escape from death has occurred at Charlotte, North Carolina. An electrician named Owen was occupied installing an electric plant there, and in doing so had to work a Westinghouse generator. His arm came into contact with a live wire, the shock of which drove an electric current of 1,500 volts through his body. He was thrown a distance of 20 feet and fell unconscious, and it was thought his body must certainly be lifeless. But in half an hour he had fully recovered his senses. The occurrence is remarkable, seeing that the electric current used in executing murderers is

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1,800 volts, which was reckoned to leave a margin, and still make death an absolute certainty.

AT a recent meeting of the electric lighting committee of the Leith Town Council it was resolved to reduce the charge for power to 1¾*d.* per unit, in place of 3*d.*, formerly fixed. The demands have been such as to warrant this reduction. With regard to the charge for lighting purposes, the committee fixed upon a scale of discounts to large consumers, which will be immediately advertised. Recently conferences have been held with a committee of the Dock Commission on the question of lighting the docks, and in the special circumstances the electric lighting committee expressed their willingness to give energy at the rate of 1⅛*d.* per unit, subject to certain undertakings on the part of the Commissioners; but it was reported to the meeting that no reply had yet been received to that offer.

THE MATCHLESS GAS-LIGHTING SYNDICATE.

SOME few weeks ago we had to speak in commendation of the automatic gas-lighter which is being introduced to the public by the above-mentioned syndicate, now acting in combination with the Welsbach Incandescent Gas Company. It was in celebration, as it were, of the amalgamation and the opening of new offices that a demonstration of the efficiency of this ingenious invention was given yesterday at the aforesaid new offices in Queen Victoria Street, and naturally a special feature was made of it in combination with the Welsbach Company's mantles, and in this connection we may say a few words in elucidation.

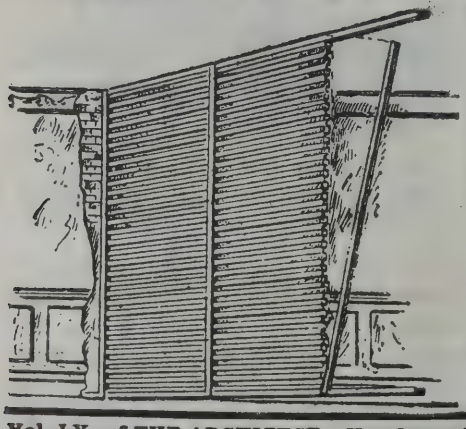
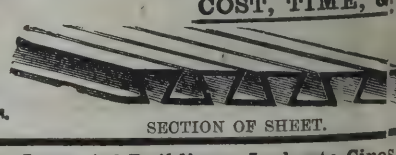
The "Machebach" gas-lighter, as the new instrument has been christened, is provided with an arrangement carrying a "pilot igniter," which, although inside the glass shade, is always outside the mantle. When this new fixture has been attached to the incandescent fittings, the double-seated valve is so constructed that in its normal state that portion which affects the burner proper is closed, while that connected with the pilot igniter is open. Thus, as soon as the gas is turned on, either at the meter or the bracket-tap, it will pass into the pilot igniter, and rushing through a very minute hole comes into contact with the igniting agent. This agent is composed of a simple arrangement of platinum and chemically-treated porous block, and is known shortly as the "lighting pill." It is bound round with three or four platinum wires, which concentrate at the minute hole in the pilot igniter before mentioned. The action of the carbonetted hydrogen upon the "lighting pill" causes this latter to glo and the platinum wires to assume a white heat or inca descence, which ignites the gas issuing through the ho just referred to, and the igniter is thus lit, but so far th main valve is still closed. As, however, the heat from th small jet is communicated to an upright metal rod (sheathe for protection with porcelain) which runs up some 2 inche alongside the jet, this rod expands, acts on the valve leve and gradually allows the gas to flow through the main burn into the mantle, which ignites without the least puff, saving the mantles. The extra heat on the rod finally clos the pilot valve, extinguishing the igniter, whose work is no finished. The whole operation is completed and the mantle in a space occupying from six to ten seconds. The constru tion is simple and effective, and all the several parts are inte changeable. The apparatus, which effectually supersed the bye-pass, is simple in construction, and owing to a the parts being interchangeable they are easily renewe at a small cost. The lighters have, it is said, been p to severe tests both here and on the Continent for a perio extending over eighteen months, and their efficiency is pract cally assured by the fact that both the English and Germa (Welsbach) incandescent companies after lengthy trials hav adopted them in conjunction with their burners.

PHŒNIX PLATES IN FIREPROOF CONSTRUCTIO

IN view of the terrible conflagrations which from time to tim horrify and alarm us, any invention which seems to promi us immunity from, or at any rate mitigation of, the terrors a loss occasioned by fire is to be cordially welcomed, and th being so we were pleased to witness a test from which new building material, to be known as Phœnix plate successfully emerged on Wednesday last. In these plat simplicity and efficiency seem to go hand in hand. The mat rials of which they are composed are simple, and obtainab everywhere. They are mixed with the requisite quantity water, and the mixture is spread on a level table in a mass the requisite size and thickness. In about ten minutes t plate is ready to be lifted off and taken to the dryin sheds. The plates dry in racks in a drying-shed for two or thr weeks, or in the open air, according to the season of the ye The plates have an important property in their lightness, bei considerably lighter than water, and about the same weight

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ome of the hard woods. A ceiling of this material is said to e quite as cheap as an ordinary lath-and-plaster ceiling, esides being fire-resisting. In putting the plates together to orm ceilings, they are simply nailed to the wooden joists, and little ordinary plaster cement is used to fill up the joints. wo men can fix 1,000 square feet of ceiling-plates in position a working day. Partition walls may be built in an exeditious manner, the plates being simply built on edge and eld together by small wrought-iron coupling-pieces where artition-framing is not used. The ceiling or partition walls eing perfectly dry when fixed, no time is lost before finishing iem with plain cement or paint or paper. This is a considerble advantage when compared with the ordinary plaster walls nd ceilings usually constructed.

The means adopted for the test were as follows:—A avilion of two chambers was constructed, the plates forming alls and ceiling; above these a chamber formed entirely of ood and having a wooden floor was built; this was approached y a wooden external staircase. In one of the lower chambers ood impregnated with tar, &c., was stacked and ignited, and a aring fire was speedily in progress, but, notwithstanding the eat engendered, the wall of the adjoining chamber showed no gn of increased temperature, and remained perfectly cool to ie touch, while neither the stairs nor the room above were in ie slightest degree affected by the heat, nor did the applicaon of water from a fire-hose affect in any way the stability of ie structure. In short, the test terminated in a result on hich the inventor may well be congratulated.

BRITISH EXPANDED METAL.

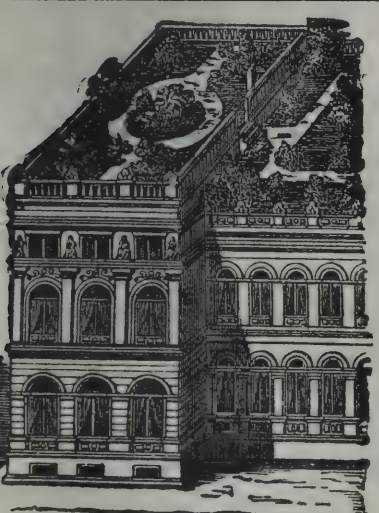
VE recently had occasion to refer to the opening of the xtensive premises of the British Fire Prevention Committee, of hich Mr. Edwin O. Sachs is the indefatigable chairman, at anover Gate, Regent's Park, and the object of the establishment f which is to obtain reliable data as to the exact fire-resistance f the various materials, systems of construction or appliances sed in building practice. The aim of the first of these tests hich took place on February 15 was to ascertain the fire-esisting merits or otherwise of a floor by the Expanded Metal ompany, Limited, London, and to record the effect of a nouldering fire of fifteen minutes' duration, of a temperature not exceeding 600 deg. Fahr., followed by a fierce fire of one hour, gradually increasing to a temperature of 2,000 deg. Fahr., followed suddenly by the application for three minutes of a stream of water, and the consequent rapid cooling.

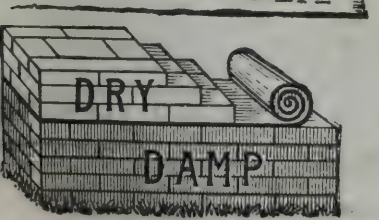
The area of the floor under investigation was 100 feet superficial in the clear (10 feet by 10 feet). The floor was loaded with 140 lbs. per square foot. The time allowed for the construction and drying of floor was three months (winter), and the result of the test was that the plaster ceiling below the floor remained intact until the application of water. There was a slight deflection of floor and ceiling. The concrete of floor was slightly and superficially cracked. The fire did not pass through the floor. The chamber was constructed of stock bricks, with lime mortar, and measured 10 feet by 10 feet internally. The ceiling of the floor tested was 7 feet 6 inches above the pavement of the chamber. The hut was roofed in with galvanised iron. The door opening on the south side measured 2 feet 6 inches by 6 feet 6 inches, and was closed by an iron sheathed wooden door. The fuel used was gas produced at the station, and the supply was regulated by valves and dampers. The gas was admitted through two mixing chambers of firebrick, each 10 feet by 3 feet super, as shown. Two Roberts-Austen pyrometers were used for recording temperatures, the first to take a continuous record and the second to take four observation records. The load was of pig-iron distributed evenly on the surface of the floor.

The system adopted for construction of the floor tested was as follows: On November 14, 1898, three rolled steel joists, 6 inches deep, 3 inches wide, 14 lbs. per foot, were put across the chamber. They ran north to south and rested on the 4½-inch set-off. The two outer joists were placed 1 inch from the east and west walls respectively, and the third was placed in the centre, making the distance between the centres of the three joists 4 feet 9½ inches. Provision for air was made by cutting holes 4 inches by 4 inches between the floor and ceiling in the exterior walls.

On November 16 three wooden bearers were put up in each bay, 3 feet 4 inches centre to centre, by 6 inches deep, 2 inches thick, and covered with 1-inch boarding, as centering. On the top of the centering and covering three-quarters of the entire surface of the floor expanded metal was laid, of the kind known as 3-inch mesh, ¼-inch by ⅛-inch strand; at the centre the metal overlapped 18 inches. At the north-east corner a quarter of the area was covered with ¼-inch by $\frac{3}{16}$-inch metal, same mesh as before.

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On the same day the concrete floor was put in. The cement used was Portland. It was not specially selected for this test, but was delivered in the ordinary course of business The furnace ash (or cinder) came from gas works at Bank Hall. One cubic yard of furnace ash (or cinder) broken up small enough to pass through 1½-inch ring was placed on a platform prepared for the purpose, and then covered with four sacks of cement, each sack containing two bushels. The material was turned over three times dry. The concrete was then divided into four equal parts for convenience of mixing, and one part mixed at a time The quantity of water used was 58·18 gallons for the whole, and the concrete was well mixed The concrete was then carried in pails on to the centering and laid over the entire surface, great care being taken to have the meshes of metal well filled. The concrete was trodden down or beaten with the flat side of an ordinary shovel. The concrete was put in 3 inches thick.

On the same day (November 16) while the concrete was still damp, one half of its upper surface (west side) was covered with ½ inch cement and sand in equal proportions, similar cement being used as for the concrete. The sand was good, sharp, unwashed pit sand. On the following day (November 17) the remaining half of the floor (east side) was covered, the same proportions of cement and sand being used. The total thickness of concrete and cement was 3½ inches.

On November 28 the centering was taken down.

On November 30 the expanded metal for the ceiling was put up. Bars ⅞ inch by ¼ inch thick were placed at right angles to and below the joists, 12 inches centre to centre, supported by steel clips 3-32 inch thick by ¾ inch wide, which were secured to bottom flanges of the joists. The expanded metal was then secured to bars with steel clips. The metal lathing used for the ceiling is known as ⅜ inch mesh, 3-32 inch deep in strand, Siemens-Martin steel

On December 5 the ceiling was plastered with coarse stuff, ½ inch thick, below the expanded metal, the materials being mixed in the proportion of 1 of lime to 2 of sand with about 1 lb. of dry, long, well beaten hair to every 3 cubic feet of coarse stuff, the coarse stuff being brought ready mixed on to the ground.

The weather report during building operations was "unsettled with rain". On the days on which the concrete was laid and the ceiling plastered, *i.e.* November 16, 17, and December 5, the weather was fair. the temperatures being respectively 48 degs, 50 degs. and 55 degs. Fahr.

On December 6, the floor having been completed, the roof was put on. From December 6, 1898, until February 14, 1899, the floor remained with door and all ventilation holes open.

In December the weather was unsettled with rain and gales. The rainfall for the month (taken at Camden Square) was 2·54 inches, with a maximum of ·87 on December 6. The maximum temperature was 57·1 deg. Fahr., and the minimum 27·1 deg. Fahr. The number of nights with a temperature below 32 deg. Fahr. was three.

On December 27 (evening), during a violent gale, the roof of the hut was blown off and the floor flooded with rain. The roof remained off until the morning of December 28, when it was refixed. It was found that the water had soaked through the floor and ceiling, making the ceiling very wet. From December 28, 1898, to January 3, 1899, the weather was very stormy and wet. No artificial drying was employed.

In January 1899 the weather was unsettled with rain and gales. The rainfall for the month was 2·52 inches, with a maximum of ·46 on January 15. The maximum temperature was 56·2 deg. Fahr., and the minimum 28·1 deg. Fahr. The number of nights with a temperature below 32 deg. Fahr. was six.

In February the weather was unsettled with rain.

On February 14 the gas was lighted in the hut at 1.30 P.M., and kept very low until the test began. The roof was removed in the afternoon. The floor was loaded with pig-iron, equal to an evenly distributed load over the entire floor of 140 lbs per square foot.

On Friday 15 the test was undertaken. The following is the log of the test :—

At 2.40 P.M. the floor and ceiling were intact. At 3.25 P.M. vesiculated water vapour from the evaporation of water remaining in the concrete commenced to rise from above the concrete on the south side. At 3.55 P.M. evaporation showed itself strongly from all over the floor. From 3 10 to 4.10 P.M., at ten minutes interval, the surface of the ceiling was viewed from the observation hole. No change in the floor or its ceiling was observed. At 4.10 P.M. the gas was shut down and the door opened. The ceiling was intact. A slight deflection of the soffit was observed. From 4.13 to 4.16 P.M. a jet of water was applied, the pressure ranging from 40 to 20 lbs, gradually decreasing. On application of water to the ceiling, the portion of the plaster struck immediately fell down—the portions not touched remained in position. From 4.10 to 4.25 P.M. the temperature rapidly decreased. At 4 25 P.M. the test was

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losed, the floor, excepting for the plaster referred to, remaining ntact.

Observations After Test.—On February 16 two photographs ere taken of the floor from below. Some fine cracks in the nderside of the concrete are observable from these. On ebruary 16 the deflection of the centre joist was measured nd found to be 1⅜ inch at the centre of joist. The eastern joist as deflected 5-16th inch at centre. The western joist was not ffected. On February 21 the iron load was removed. Some ne cracks were observed in the cement surface of the floor. hey did not penetrate the coating of cement. On February 23 general photograph of the ceiling was taken from below, and kewise a photograph of the floor from above. On February 24 he floor was further examined, and it was found that the fire ad not penetrated the floor at any point. No further observaions were made.

SHOREDITCH PUBLIC BATHS.

ON the 18th inst. the opening ceremony in connection with the aths and washhouses for the parish of St. Leonard, Shoreditch, as performed by Mr. James Stuart, M.P. Mr. E. J. Wakeling, e chairman of the baths committee, presided. The vestry of horeditch several years ago set itself the task of solving the ifficulty of how to utilise the house refuse and at the same me dispose of it effectually. The result was that a very large cheme was decided upon, namely, the erection of a dust-estructor, the provision of electric-light plant, a free library, nd extensive baths and washhouses A site was obtained in itfield Street, Hoxton, with frontages to Coronet Street and owling Green Walk, and the whole of the buildings have been rected here at very great cost. The dust is destroyed, and the eat thus obtained is used to drive the electrical machinery and or the purposes of the baths and washhouses. There is othing wasted, and so far the experiment has been a great uccess. The first-class swimming-bath is 100 feet long by o feet wide, and the second 75 feet by 35 feet. There are rivate slipper baths for fifty persons, and the main bath rovides seating accommodation for 600 persons, the dressing-oxes being collapsible, so that when an entertainment is going n they form a panelling for the walls. The whole of the ttings are of the most elaborate kind, and the smaller bath is tted for use as a gymnasium in the winter. The estimate of the committee is that by the system of heating adopted a saving of 1,400*l.* a year for coal will be made.

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THE General Steam Navigation Company announce their usual excursions to the Continent for the coming holidays. The departure for Ostend from Irongate and St. Katharine's Wharf (Tower Bridge) will be at 2 P.M. on Wednesday, the 29th inst., and at 3 P.M. on Saturday, April 1, returning from Ostend on Tuesday, April 4, at 11 morning. Through tickets to Brussels and back will be issued as usual For the convenience of excursionists the regular departure for Hamburg *via* Harwich on Wednesday, the 29th inst., will be postponed until Thursday, the 30th, at 8.40 P.M., returning from Hamburg on Sunday, April 2 (instead of Saturday, April 1), so that passengers may be due back in London, Liverpool Street, early on the morning of the 4th prox. The sailing for Bordeaux will be on Saturday, April 1, at 2 P.M., returning from Bordeaux on Sunday, April 9, at 2 morning, calling as usual on the way back at Southampton, where holders of London return tickets have the option of landing.

WORKMEN'S COMPENSATION ACT, 1897.

ON the 18th the appeal in the case Wood *v.* W. Walsh & Sons came before the Court of Appeal. It raised a very important question affecting a large class of workmen, says the *Times*—whether the Workmen's Compensation Act, 1897, applies to painters engaged in painting the outside of a house by means of ladders; that is to say, whether the employment is on, in or about a building which is being "repaired" by means of a "scaffolding" within the meaning of section 7, subsection 1, of the Act. The appeal was from the decision of Judge Greenhow, sitting at the Leeds County Court, upon a case stated by an arbitrator appointed to settle a claim for compensation under the Workmen's Compensation Act, 1897. The claim was by the widow of a deceased workman who was killed while in the employment of the appellants, Messrs. Walsh & Sons, who were painters and decorators at Leeds. The deceased man was at the time of the accident employed with



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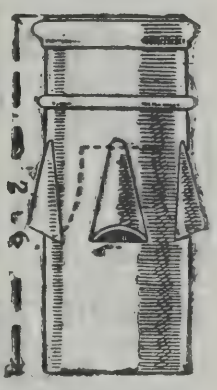
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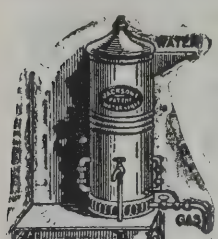
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several other men in cleaning and painting the outside of a house over 30 feet in height at Leeds. The work was being done by means of five or six long ladders, and consisted of removing the dirt and blisters, making good the woodwork with putty and the stonework with hall-plaster or cement, and afterwards painting the surface. Nothing was being done to the building except preparation for painting and the actual painting. The deceased man was standing upon the rung of one of the ladders, which was resting against the wall, engaged in puttying and painting, when the rung of the ladder broke, and he fell to the ground and was killed. One of the workmen at work had placed a plank with one end resting upon and tied to the rung of one of the ladders and with the other end resting upon a window-sill, and stood upon this plank to work, but the deceased man had not used this plank. The claim for compensation was referred to a barrister as arbitrator under Clause 2 of Schedule II. of the Act, who held that the building was not being "repaired" within the meaning of section 7, subsection 1, of the Act, and that neither the ladders nor the arrangement of the plank resting on the ladders and the window-sill were "scaffolding" within the meaning of that section. He accordingly held that the deceased was not killed while engaged in any employment within the Act, and made his award in favour of the employers, but submitted two questions of law for the decision of the County Court judge—(1) whether the building was being "repaired" within the meaning of the Act; and (2) if so, whether it was being repaired by means of a "scaffolding" within the meaning of the Act. The County Court judge reversed the decision of the arbitrator upon both points, and awarded the claimant an agreed sum of 237*l.* 18*s.* The employers appealed. By section 7, subsection 1, of the Workmen's Compensation Act, 1897, "This Act shall apply only to employment . . . on, in, or about any building which exceeds 30 feet in height, and is either being constructed or repaired by means of a scaffolding, or being demolished. . . ."

Mr. C. A. Russell, Q.C., and Mr. Clarke Hall, for the appellants, contended that this was not a building which was "being constructed or repaired by means of a scaffolding" within the meaning of section 7, subsection 1, of the Act of 1897. In so far as these were questions of fact, the arbitrator had decided them in favour of the appellants, and an appeal only lay from him on a question of law. First, this was not "repair." The Act spoke of repair by means of a scaffolding. That was an indication of the kind of repair intended—namely, repair of a structural character and not mere decorative work. It could not be said that merely whitewashing or painting a house was doing repairs to it within the meaning of this Act. Secondly, the repairs, if any, were not being done by means of a "scaffolding." The ladders were clearly not "scaffolding." Nor was the arrangement of the ladder and the plank "scaffolding." The arbitrator found as a fact that it was not If it were, a plank resting on two ladders, which painters frequently used for whitewashing the ceiling of a room, would be a "scaffolding." Even, however, if this arrangement of plank and ladder could be called a scaffolding, it did not follow that the building was "being repaired by means of a scaffolding," only a small part of the work being done by means of the scaffolding. Because one workman chose to put a plank from the ladder to the window-sill, for his own convenience, that did not bring every workman engaged on the building within the Act. Supposing there was a scaffolding at the back of the house used by bricklayers for repairing that part of the house, and painters were employed by the same master in painting the front of the house, the latter would not be employed in repairing the house by means of a scaffolding. They submitted that the decision of the County Court judge was wrong.

Mr. Robert Wallace, Q.C., and Mr. Horace Marshall for the claimant, contended that the work the deceased man was engaged on was "repair" within the meaning of section 7, subsection 1. "Repair" meant the restoration of the building to its proper condition as fit for use and occupation. There might, perhaps, be painting of such a purely decorative character as to be outside any meaning of the word "repair." But here there was making good the wood and stone work, and painting the outside to keep it from decaying. There was a restoration of the fabric of the house. The ordinary covenant to repair and keep in repair would include work such as this, so as to keep the woodwork in proper condition. Therefore the building was being "repaired" within the meaning of the Act. Secondly, the ladders used in the work constituted a "scaffolding" within the meaning of the Act. The word scaffolding was used in this Act in its popular sense, and included anything used outside the building for the purpose of repairing it. The suitability of the thing for the purpose was the test. Again, if the ladders were not "scaffolding," the arrangement of plank and ladder was. A small platform hoisted up the front of a house by means of ropes and pulleys, which painters frequently used for painting the outside of a house, would come within the term "scaffolding" in the Act. So also would the arrangement



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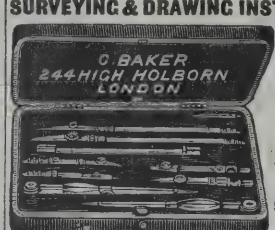
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the plank resting on the ladder and the window-sill. The ecision of the County Court judge was therefore right. If this nd of employment was not within the Act, the effect would be shut out a large class of workmen from the benefits of the ct.

The Court allowed the appeal.

Lord Justice A. L. Smith said that the argument had been equently pressed upon them that if they decided a particular se in a certain way a large number of persons would be cluded from the Act. They had power only to construe the ct. But this he would say—that it was clear upon the face the Act that every workman was not brought within the ct, but only certain classes of workmen, and the rest were ft outside. The question was whether this case came within e Act. The deceased man was engaged in painting the utside of a house. Ladders were used for the purpose. On he ladder there was a plank with one end tied to the rung of e ladder and with the other end resting on a window-sill. he deceased man was not working on that plank. He was a rung of one of the ladders, when the rung broke, and he ll and was killed. There could be no doubt that the Legisla- re, when they passed the Act, knew well what was conveyed the terms "ladder" and "scaffolding." There could also e no doubt that they knew what was conveyed by the terms painting" and "repairing." Though in some respects section 7 ight be a most difficult section to construe, in the present case e (the Lord Justice) did not see the difficulty. Was this house being constructed or repaired by means of a scaffolding" within e meaning of section 7, subsection 1? First of all, was it being constructed or repaired"? It clearly was not being "constructed." Was it being "repaired"? The word "repaired" did not, in his pinion, include the mere painting of the outside of the house. he arbitrator had found as a fact that nothing was being done the building except preparation for painting and the actual inting. Ordinary painting was not repairing. If the Legis- ture had intended to include it, they would have said so in ain language. On the contrary, they had used language hich was plain and clear—"constructed or repaired"—and ose words did not include painting. Next, as regards the eaning of the word "scaffolding." Was the ladder a scaffolding" within the meaning of the Act? Who in his nses would speak of repairs done by means of a ladder as pairs done by means of a scaffolding? Here, again, if the egislature had intended it, they would have said so. They ld confined the case to repairs by means of a scaffolding. A ladder did not come within that term. It was then said that the arrangement of the plank and the ladder converted the thing into a scaffolding. That seemed to him to be a question of fact, and the arbitrator had found that it was not a scaffolding. He was not going to attempt to define what was or was not a scaffolding, as he could see that they would have many appeals brought before them raising the question what was or was not a scaffolding. The deceased man was therefore not employed on, in, or about a building which was being constructed or repaired by means of a scaffolding within the meaning of section 7, subsection 1, of the Act, and therefore the claimant was not entitled to compensation under the Act.

Lord Justice Collins and Lord Justice Romer agreed.

CORRESPONDENCE.

Directions to Workmen in Sewers.

SIR,—The county borough of Salford's "Directions for Dealing with Foul Gas in Sewers," recently published in the *Architect*, with Mr. Corbett's covering letter, form a fitting opening for the inevitable annual sewer-gas discussion, more especially as they demonstrate the necessity of a complete change of view on the part of our public health authorities before this important question can receive a satisfactory solution.

Direction No. 1 says:—"Open the lids of two adjacent manholes so as to provide a downcast and an upcast shaft," &c. This is good as far as it goes, but it is one thing to "provide" a downcast and upcast shaft and quite another to be sure that they will "act" as such. Sometimes this procedure would be adequate enough, at other times it would not, but men's lives should not be subject to any condition that is not absolute as far as up-to-date sanitary knowledge goes. The remaining directions (Nos. 2 to 7) clearly recognise that No. 1 is not to be relied upon.

Directions Nos. 2 and 3 suggest a means by which an upcast and downcast movement may be produced, namely, by a shower of water. These directions carry protection very much farther than No. 1, but are still short of sufficient protection. Some sewer fatalities have occurred where the manholes by which the men entered the sewer were perfectly fresh at the time they entered, and the length of sewer they had traversed quite wholesome, but volumes of fatal gases coming

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in in the meantime from other parts of the sewerage cost the men their lives. Such a case as this is not covered by directions Nos. 2 and 3, and this is most important, for it is not a usual thing to find the air dangerous throughout a large section of sewerage The real danger is more often a movable and moving quantity, and a point of the sewerage may be quite safe at one time and dangerous at another, after even a comparatively short interval.

Directions Nos. 5, 6 and 7 are admirable from the point of view from which they are given, but what a lurid light do they throw upon what the sewerman's lot must be until this point of view be changed.

Direction No. 6 especially ought to be reprinted in large letters, and posted in every council-room in the kingdom, until the present state of matters gives place to a better. It reads thus :—"When a man has to descend a risky manhole or shaft, he must have a strong rope properly tied about his shoulders, so that he could be lifted by it, and the ropes must be kept in hand ready to lift him up if he becomes overpowered by the gas. When a man has to crawl along a risky sewer he must have a short rope securely tied to his ankles and a rope from it to the hand, so as to draw him back if he becomes overpowered by the gas."

Mr. Corbett may be regarded in a sense as standing sponsor for these directions, and his known ability and experience only serve to give a more pronounced colour to the gruesome picture which they give of the present practice of dealing with gas in sewers. Is it justifiable that a man should have to "crawl along a risky sewer" as provided for in this direction?

It is not, for the simple reason that it is unnecessary. Let it be understood that I am not criticising these directions as such. Humane motives are obviously at the back of this endeavour, and such undoubtedly was Mr. Corbett's motive in sending the directions to you for publication. But I feel bound to insist on this, that no sewers should ever be in a state in which it is necessary for a man to "crawl along with a short rope securely tied to his ankles, and a rope from it to hand, so as to draw him back if he becomes overpowered by the gas," that is, probably with his mouth under the sewage during the process of drawing back. The idea is too revolting, but that such a thing is possible under the present system cannot be doubted, and the county borough of Salford, recognising this, have made provision for such an actuality in their direction No. 6.

The more widely the real state of matters is known, the sooner, one may reasonably hope, will the proper remedy be adopted. The remedy is a very simple one, namely, to provide for the perfect ventilation of sewers at all times and under all the varying atmospheric conditions. This, by the Reeves system, has been proved at Sutton, Epsom and many other places to be a practicable and economical remedy. And not only will sanitary authorities banish all possibility of such special horrors as are contemplated in the Salford directions by adopting this remedy, but they will thereby insure for their constituents that better health which the purer air they would thus be enabled to breathe in their streets and houses would bring them. There is no more insidious and pernicious de-vitaliser of urban air than the impurities of organic origin which emanate from town sewers, not in summer alone, when they are recognised by their foul smell, but also in the winter, when their presence is not so readily observed.

Hoping you will find space in your valuable Journal for these remarks, I am yours, &c., WM. BROWN.

17 Victoria Street, Westminster, S.W.:
March 14, 1899.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

4874. Henry Whiteley, for "Improvements in sliding partitions, doors, windows and the like."

4876. John William Whiteside, for "Improvements in weather-irons for use on buildings."

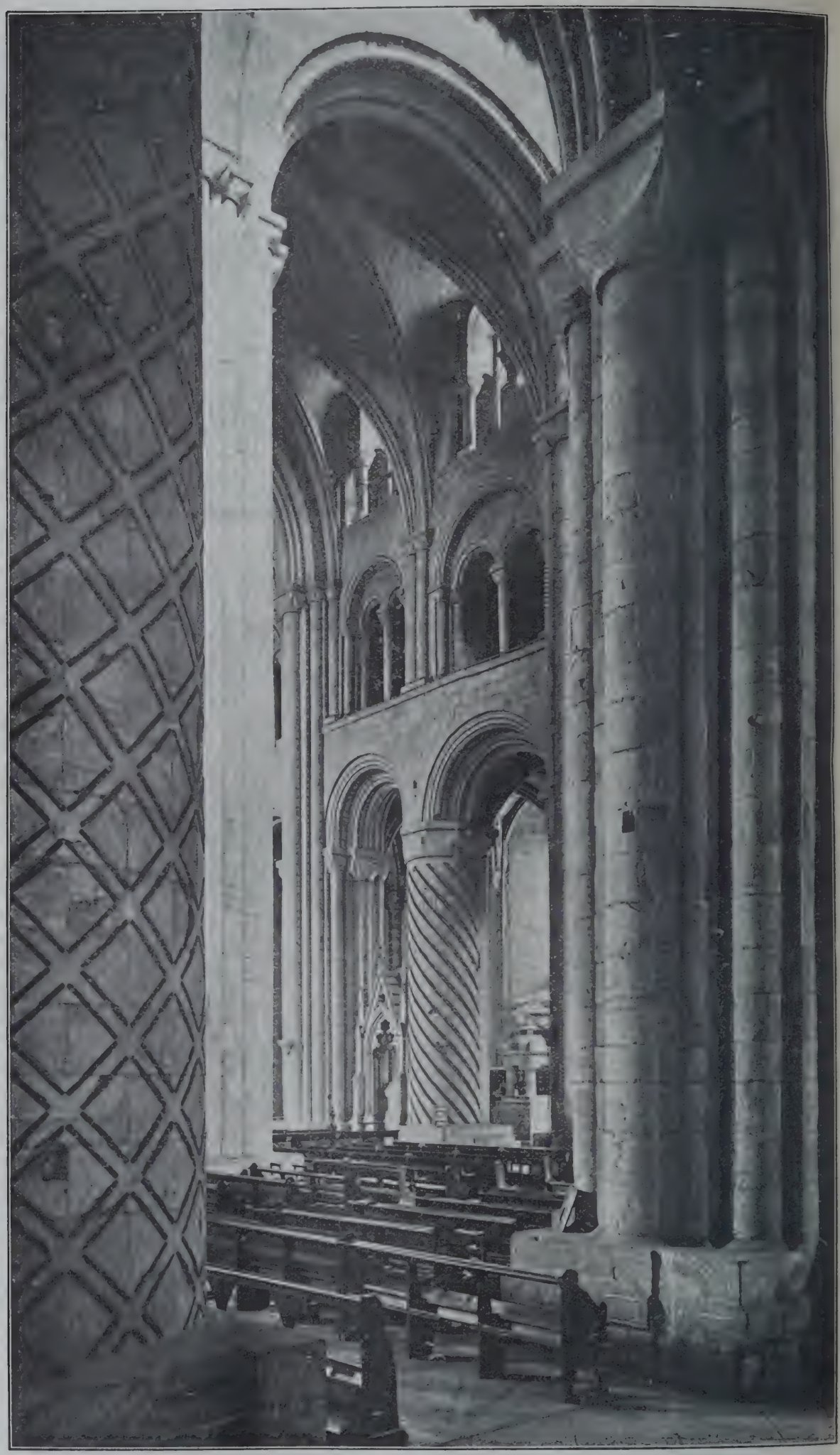
5138. Robert Highet, for "An automatic after-flush to be used in connection with closets, urinals and the like."

5343. George Dick Wood and James Cook, for "Improved means for opening sash-windows inwardly."

5352. Nehemiah James Lewis, Caractagus Lewis and Henry Dent, for "Improved brick."

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CATHEDRAL SERIES, No. 216.—DURHAM: ENTRANCE TO CRYPT FROM CLOISTER.

The Architect.

THE WEEK.

E District Surveyors' Association has sent a petition to House of Commons against the London Government l. It states that nearly all the district surveyors of ndon are members, and that their official, personal and vate rights and interests, as well as their ability to dis-rge their duties in administering the Building Act, will very materially and prejudicially affected if the Bill omes law in its present form. There are sixty-five rict surveyors in London, all being virtually independent utory officers, but there is an appeal against their require-nts. In the Bill it is proposed to authorise the transfer n the London County Council to the Borough Councils such powers as may be agreed upon between the respec- councils. It is also proposed that the committee of Privy Council shall make a provisional order determining ch of the powers under the Building Act are to be rcised by the County Council and the Borough Councils. e petitioners most strongly object to the powers sought be conferred on the Borough Councils, as they would stitute a serious hindrance to the district surveyors in discharge of their duties and a danger to the public rest. The Building Act deals with matters common to whole of London, and is therefore more efficiently uniformly administered by the central authority the district surveyors. Were the powers under Act transferred to the Borough Councils, the district veyors would no longer be able to carry out the ies of their offices in the same just and fearless and partial way as heretofore. The Borough Councils will quently contain builders and owners of property whose vate interests will be at variance with the duties now charged by the district surveyors under the Building , and should the appointment, control and dismissal of rict surveyors be transferred to the Councils, it will nifestly be very difficult for a surveyor to enforce the visions of the Act against a member of the Borough ncil, who may use his influence to procure such sur-or's dismissal, or to prejudice him in his official capacity. e transference of the powers from the central authority umerous local bodies will also militate against amend-nts of such Act being made as occasion may arise. It lso submitted that the Bill contains no provision for the tection of the district surveyors, and they consider that clauses which affect their rights and interests should be ck out or be so amended as to give the necessary tection, and that provisions should be inserted to pre-t the Borough Councils having the power of appointment, trol and dismissal of the surveyors, and that no power uld be granted which might cause interference with the vers, privileges, duties and emoluments of the surveyors hey at present exist. Although exercising independent trol, the district surveyors have carried on their duties ler the supervision in many important respects of the ndon County Council and its predecessors. The office superintending architect was created to check the rges of district surveyors. Under the Borough Councils re would be no such general and uniform supervision. iformity of administration would be destroyed, for in hands of the central authority an evenness of adminis-ion of discretionary power is secured which would be ossible in the hands of a number of local authorities, would each exercise the control in their own way spective of what was done in other parts of London. petitioners, in conclusion, ask to be heard before committee as opponents of the Bill.

THE inconvenience of sixty-five officials who are charged the enforcement of the Building Act cannot be expected ount for much with the promoters of the Bill for the vernment of London. It is also remarkable that the nty Council do not attack the Bill on the lines laid out he District Surveyors' Association, and apparently do not sider they are of much account. Changes in the ad-istration of the Building Act, which would involve the creation of a class of surveyors who would devote all their time to their official duties, have been often proposed and found support with practising architects in the Metropolis. The Government may still consider such an arrangement to have many advantages, and it was probably within the purview of the draughtsman of the Bill. Then it will be said that the proposed Borough Councils will not be made up of owners of dangerous structures and of insanitary property or speculators in jerry buildings, but of representatives who will support the district surveyors. The grievances of the surveyors, we suppose, will be treated as arising from the apprehensions to which all officials are liable whenever there is an alteration in the laws relating to their duties. But there is a possibility of danger to the public interests when there is no apparent provision for a uniform interpretation of the clauses and schedules of the Building Act. The Privy Council may be able to do much with provisional orders to insure uniformity, but apparently the subject is considered too unimportant to engage the attention of those who are responsible for the Bill, and the opposition depends on financial rather than on technical administration.

THERE have been many greater landscape painters in England than BIRKET FOSTER, who died on Monday night at Weybridge, but it may be doubted whether one existed who was so popular, especially with the inhabitants of towns. He gave a suggestion of the country and country folk that corresponded with the notions of those who could not have much experience of fields and villages. His figures were as idealised as his trees, but there was no disputing their charm for all who were not realists. He was born in 1812 at North Shields, where he was unable to observe many varieties of English landscape. He served his time to the LANDELLS as a draughtsman and wood-engraver. His work was noticed by Mr. INGRAM, the founder of the *Illustrated London News*. In that journal and some of the publications of the same house he obtained the scope for the display of his talent which he had desired. His views of English watering-places and of village scenes rejoiced Londoners. Then he was offered endless work by the publishers of books. GILBERT and FOSTER practically possessed a monopoly of the illustrations which were published during several years. Both were mannered, but the public thought only of their excellence. BIRKET FOSTER also made drawings for chromo-lithography, and it was but a short step to water-colour art. His drawings were always considered successful. The critics were occasionally severe in pointing out their shortcomings, but the artist was always certain to find patrons. He went to Scotland and to various parts of Europe in quest of subjects, but whatever he drew was reminiscent of England as FOSTER saw the country. He was conventional, but the public always retained an affection for his works. BIRKET FOSTER induced many people to take an interest in landscape, and for that reason he should be held in remembrance.

THE MYLNE family have been long associated with Edinburgh, for the important office of King's Master Mason was one of their privileges. In the last century one of the members came to London, and he and his descendants were associated with several architectural and engineering works. ROBERT MYLNE erected Holyrood Palace in 1672. His name is also more plainly connected with Milne's Court and Milne's Square, &c. The square is shortly to be demolished, as it interferes with the improvements in the High Street. But according to Mr. R. S. MYLNE one little memorial of the past will remain, for when Mr. T. M'LACHLAN, the architect, a few years ago rebuilt the south-west corner of Milne's Square, in the Scottish baronial style, as offices for the National Bank of Scotland, he was careful to preserve the ancient stone with the arms and initials of the founder, and the date 1689, and let it into a protected portion of the new wall. Though much effaced by the lapse of time, the arms, initials and date are yet distinguishable, and remain as a permanent record of the past for those who have eyes to see and minds to care for the interesting antiquities of Edinburgh.

B

COMMERCE AND ART.

OF late years it is the custom of most nations to employ some of their young diplomatists to report on subjects which relate to commerce. International contests are no longer confined to men who bear arms. The increase of trade, although due to civilians, is as important a victory as one won in the field, although there may be less romance about the struggles. The commercial bureau of a country therefore resembles the military bureau or intelligence department, although the application of the knowledge gained may be less direct in the former case. But while so much information is gathered from remote quarters by official reporters, it is remarkable how little is said about the commerce with works of art. Not only paintings and statues, but an immense variety of other productions come under that head, and consequently as a branch of industry art has an importance which is not apparent to all. In the foreign trade of France the works of art sold abroad are represented by large sums. Artists now find it is an advantage to visit America periodically. They can secure commissions, sell works for which a market was not found in France, and derive information which they utilise afterwards for their own and their friends' benefit. Italy at one time was able to derive much profit from the sale of works of art in foreign lands, but the world has become too critical to be satisfied with the productions of Italian studios. There has been a prejudice against German art in England, but it does not affect opinion elsewhere, and in Munich, Berlin, Düsseldorf, artists readily acknowledge that a part of their income is obtained from abroad. If statistics could be prepared it would be found that England has derived less profit from art out of strangers than any of the countries we have mentioned. Frenchmen, Germans and Italians do not buy English works unless under exceptional circumstances. Occasionally works are sent across the Atlantic from London, but they do not find such welcome as those coming from France.

It is no explanation of the difference to say that Frenchmen, Germans and Italians take more pains to meet the requirements of a foreign market than is usual with Englishmen. That sort of accommodation is only applicable to the humblest classes of works of art. What is sought by foreign buyers is that every work should be so characteristic of its producer as to be recognised at a glance. To have a picture that appears to have been prepared for a ducal gallery in England is a triumph for the owner, because it suggests he fought a battle against odds and won it. Frenchmen and Germans treat New York as if it were one of the home markets. As John Dryden said, "the pencil speaks the tongue of every land," and it will be a long time before any discourse in Volapuk becomes as eloquent as a well-painted picture. The true cause why English works have not a commercial value is the want of organisation. Dealers, no doubt, charge a very high percentage for their services in disposing of the works of men whose reputation is not universal. But if the fees are heavy, the labour which they reward is not always trivial. Frenchmen and Germans submit to exactions in a philosophic spirit, but English artists prefer to see their pictures become dim and old-fashioned against studio walls rather than dispose of them at what is an inadequate price. They may understand their business better than an adviser. However, the sight of the products of unremunerative labour cannot be cheering to the workman, and the question is whether an inadequate reward is not preferable to having evidence around one of inability to please.

The "higgling of the market" must always sound as an odious phrase to an artist. It places divine gifts on a level with the humblest things. The buying and selling of beautiful objects with all the sordid accompaniments of the huckster is as old as art itself. The trade has been from time immemorial one of the agencies which has helped to civilise the world. Commerce no doubt began with an exchange of goods that were needed for existence. But as the savage to-day is fascinated by cheap jewellery or finery, so it was in an early age. As time went on, there was a desire to have things of higher value, and as supply and demand are always correlative, such things were produced and carried to remote regions, there to exert a beneficent influence.

We see in what the Prophet says about Tyre and its benc of ivory, fine linen with broidered work, blue and pu apparel, chests of cedar, emeralds, coral, agate, diamo topaz, beryls, and the multitude of rich merchandise, a tributing agency which corresponded with the desire of peoples of distant lands to display wealth in dress the adornment of houses. Their commerce represented stage in civilisation. But the Tyrians were likely to included among the Phœnicians, who, as a part of world became more advanced, were able to supply not jewellery and apparel, but works in the precious metals sculpture in marble, wood and clay. Phœnician ag appear to have known every artist and to have utilised t with profit. They also were acquainted with the mean reproducing the works of one country in another w labour was cheaper. As well as can be made out, supplied models to the Greeks, and we may assume that were too shrewd to be surprised when they found the p went beyond their teachers.

The Greeks also were merchants and owned ves When in our days it is considered necessary to have ing forts to protect merchantmen, we are simply imitati Greek precedent. Their men-of-war were of use invading and compelling people to pay tribute, but ostensible object of the navy was to guard comm What were the Greek exports? The soil was not ductive, and what it yielded was insufficient for consum at home. To be independent of foreign supplies for was an instinctive desire with the Greeks, hence the of supervision of the slaves engaged on farms, and belief that "the best nation is a nation of farm Although in the Golden Age men could be satisfied what was yielded by the ground they owned, other req ments followed with time. The Greeks could not be to the necessity which seeks for something more th little bread and a few olives, and which has to be obta by barter. As Heeren says, they knew that in ord live they must have productive arts, but they never sidered it was the object of life to be occupied with arts. They preferred to depend on the labour of sl while they discoursed about liberty. There was no lo caste in possessing a manufactory so long as the owner tented himself with drawing the profits. Demosth owned a sword-cutlery establishment which he had herited from his respectable father, and where he empl thirty slaves. It would have been considered bad ta he had spoken about the processes employed in it number of blades which were turned out yearly. information would now be prized, but the Greeks not anticipate a time when hand labour would be sidered to be dignified. The orator possessed also a stead manufactory with twenty slaves at command. An orator named Lysias manufactured bucklers, where was found for 120 slaves. The Greeks were silent their industries, and all that can be said on the subj administration has to be derived from inference.

We have no reason to suppose the goods manufac whether swords, bucklers or bedsteads, were int solely for home markets. The ships which came imports to Athens were not likely to return in b There must have been an exchange, and, as is preference would be given to goods which were pro in Athens or Attica. In that class the most importa characteristic would be works of art in various forms. conclusion usually drawn from what is recorded Greek art is that the artists were not inspired by the of making money. It was their ambition to have ex of their works in some public place where they wo enduring evidence of the genius of their creator patron was supposed to be no less unselfish, and ever he purchased a work was expected to h over to the State. We cannot suppose that the w every artist's works were tacitly claimed by the auth although the rule would apply to some which were c interest. Long before Greece was invaded the fame artists had spread among neighbouring peoples, an only reasonable to conclude that the esteem in wh men were held was not entirely based on hearsay ev Many artists are credited with no more than a few Can we suppose they spent the remainder of their l idleness? It is likely they worked also for foreign p

whatever was exported was no more recorded in the onal annals than the swords and bedsteads which were larly turned out for the customers of DEMOSTHENES. thens had not a large business in exporting works of re cannot realise the use of ships, or how the incomes obtained by which the State was upheld. Probability is in favour of the conclusion that Athens nbled Paris in at least one way, namely, in the pro-ion of varieties of works of art. The outlay on build- statues and paintings would then be easily understood, n addition to the impression of the greatness of Athens h was made by them on the people and on strangers, orks would form an academy for the benefit of artists. believe famous Greek sculptors, painters and metal-ers were not ashamed to dabble in commerce with own works, and, if so, English artists need have no ving about the shoppiness of making arrangements foreign agents.

STAFFORDSHIRE AND SUFFOLK.*

ONDON is so vast, its inhabitants can only consider themselves as units, and they come and go as if they so many snowflakes or particles of dust. One occa-ly, therefore, without much surprise encounters e who were supposed to have passed away, but who nue to be well and hearty. A volume of the "Gentle-Magazine Library" affords a similar experience. To t the most interesting communications which were from the old Clerkenwell publishing office was a thought, which gratified archæologists. But owing manner of publication there are few ordinary readers ould be able to say what has been the fate of the ment. Have the volumes appeared at regular als, and in what order? As well as we can remember, st volume we noticed related to Devonshire; now we before us a volume on Staffordshire and Suffolk. We if any of our readers can have seen the intervening es, and who knows whether the springing from the ing to the close of the alphabet may not be a feat of ological agility? The activity is, however, misplaced, e are afraid is not calculated to make an interesting successful.

ffordshire is more important for its industries than for hæological remains. One of its captains was JOSIAH WOOD. In 1794, when one of the correspondents of *ntleman's Magazine* visited the works at Etruria, the s life was nearly ended. In describing "the inimit-orks" it is said:—"We see here a colony newly raised sert, where clay-built man subsists on clay. The forms hich this material are turned are innumerable, and v behold this exquisite composition not only ornament-e ceilings and chimneypieces of Mr. WEDGWOOD'S ouse, but many others in the county." This is ce that the potter was honoured in his own country. artner BENTLEY, who was also a benefactor to the , receives no attention. Another friend of WEDGWOOD AMES BRINDLEY, the engineer, who believed rivers reated for the purpose of feeding modern canals. ed at Turnhurst, in the parish of Wolstanton. A ondent, writing in 1811, said of him:—"This extra-y man, though originally in humble life and circum-, by his superior genius and industry was enabled ly to benefit his country, but to acquire an ample . Some of his relatives and descendants now live near Wolstanton parish in great respectability and ndence." Staffordshire, it must be owned, has not d England with many great architects or engineers. WYATT, who gained enduring notoriety by his ions, was the son of a farmer and timber dealer in Constable, but not one of "Mr. URBAN'S" corre-nts was able to discover anything about him or his But his mangling of Lichfield Cathedral could not iven by Staffordshire antiquaries. That building beyond most others at the hands of "fanatic " A correspondent of the magazine writing in pplied the following tradition of the vandalism:—

When the civil war broke out the nobility and gentry garrisoned the Close, and defended it against the Parliament army under Lord Broke and Sir John Gell; the former, a virulent fanatic and enemy to cathedrals, raised a battery in the street called Dam Street, and early in the siege, while standing under a porch directing the bombardiers, he was discovered, from the battlements of the lady choir, by a deaf-and-dumb gentleman named Dyott, who, levelling his musket at him, the ball glanced on the lintel of the porch and entered his eye. (The spot where Lord Broke stood is still distinguished by a pavement of white pebbles, and the lintel through which the ball passed is now preserved in Mr. Greene's valuable museum. The descendants of Mr. Dyott now reside at Free-ford, about a mile and a half from Lichfield.) Notwithstanding the loss of the general, Sir John Gell continued the siege, battered down the central, large and beautiful spire, and within a month the garrison surrendered. As this seems the first cathedral that was seized, after a long and obstinate resistance, the rage of civil war was then let loose. The roof was entirely stripped, the carved work, monuments and statues were destroyed, and the church used as a stable for the troop horses. In the course of the war Prince Rupert besieged the Close again, and, understanding the art of war better than the former besiegers (who attacked the strongest instead of the weakest part), he raised his batteries in Gay Field, a rising hill north of the church, and which overlooked the whole Close, and made the garrison submit on the second day of the siege.

After the Restoration Dr. JOHN HACKET, who was rector of St. Andrew's, Holborn, was made Bishop of Lichfield. On the morning after his arrival he began the Herculean task of cleansing the cathedral. Then he applied to every gentleman in the diocese and to visitors for aid, and by his energy succeeded in raising the enormous sum of 23,000*l.* for the works. The restoration being completed, we are told that he gave "three magnificent entertainments, the one for the dean and chapter and all the members of the cathedral and clergy of the diocese; one for the gentry; and one for the bailiffs, aldermen and corporation." The bishop did not long survive the accomplishment of his task.

Suffolk was more fortunate in the time of the civil war. Ufford Church alone appears to have suffered. But Puritanism was not the only destructive agent. The tower of St. James's Church, Bury St. Edmunds, in 1819 collapsed through the vibration of the bells. A correspondent wrote:—"Soon after a peal had ceased, a considerable portion of the grand arch on the east side of the gateway suddenly fell down; the fallen stones fortunately separated from their long abode without injury to any person, but it caused much alarm. The part which fell is the arch springing from the capital of the third column, of which there are four on each side. About thirty of these large stones, which are at once the ornament and support of this noble arch, were in a moment displaced." An earlier correspondent relates the discovery in 1772 of the coffin of the Duke of BEAUFORT, uncle of HENRY V. The body had not decayed. We are told that "the workmen coming early the next morning resolved to make a prize of the lead, and therefore cut out the corpse, tumbled it into a hole near at hand, and threw the dirt on it. The lead was conveyed directly to the plumbers and there sold for twenty-two shillings. Thus, in SHAKESPEARE'S phrase, was a great man knocked about the sconce with a dirty shovel."

Another correspondent found the church bells of East Bergholt in a wooden cage on the ground. He said his landlord told him they were disgraced and imprisoned "from having been rung on the Pretender's birthday," but the writer believed there was no authority for the assertion. At Keddington, a writer says, one of the rooms of the ancient mansion of the BARNARDISTONS is hung with calico hangings with figures as large as life. It is supposed they were imported by a member of the family who lived in Turkey. From Market Weston we have an account of a method of straightening walls, which is more often referred to in books on natural philosophy than adopted by architects:—

The north wall of Market Weston Church has been restored to a perpendicular position by a successful application of science. This church is supposed to have been erected in the fourteenth century; in 1630 it was injured by lightning, and again ten years since it was much shattered by a thunderstorm. The time had now arrived when it became necessary to effect a perfect restoration, as from age and the above-mentioned

e Gentleman's Magazine Library. Edited by G. L. Gomme, English Topography. Part XI., Staffordshire—Suffolk, F. A. Milne, M.A. Elliot Stock.

casualties the north wall had declined outwardly 19 inches from the perpendicular, and threatened the utter destruction of the building. Under the superintendence of Mr. Cottingham this wall (the weight of which had been calculated at 240 tons) has been brought up to the perpendicular by the process of expanding by heat three bars of iron 2½ inches in diameter, which traversed and connected both walls of the church. These bars (which had screws worked on one end of them and projected beyond the south wall) were enclosed in cast-iron boxes filled with lighted charcoal. When the bars were fully expanded by the heat, the screws were wound up firmly to the undamaged south wall. The charcoal boxes were then removed, and the process of cooling commenced. Gradually the bars, contracting equally with their previous expansion, compelled the whole mass of the wall to follow the irresistible power now exerting itself, and in four successive operations the whole wall rose to its original perpendicular. The whole operation does infinite credit to Mr. Cottingham, who adopted the like means at Armagh Cathedral.

There are many communications in the volume which are no less interesting. The *Gentleman's Magazine* was hospitable, and found room for observations and interrogations by tyros in archæology. In the eighteenth century England was not so generally known as it is now, and many were as glad to read the descriptions in the Clerkenwell oracle as they are now when the subject is some remote land. The classified collections edited by Mr. Gomme contain the most valuable parts of the old magazine, and are worth the appreciation of English archæologists.

THE SCOTTISH ARCHÆOLOGICAL PUZZLE.

We have already recorded some of the incidents connected with the discovery of the piled structure beside the Clyde at Dumbuck. Several letters and communications have appeared in the *Glasgow Herald* on the subject. The evidence has been summed up by Dr. David Murray, who says :—

The works are on the northern shore of the Clyde, about fifty yards above ordinary low-water mark, and about 6 feet under water at ordinary tides. The surface soil of the shore here and for a considerable distance all round consists of fine clay. The site is about 1,800 yards east of Dumbarton Rock and about 1,000 yards west of Milton Isle, a small island on the north side of the Clyde, a little to the west of Dunglass Castle. At this point the channel of the Clyde was formerly filled with a hirst or shoal of hard gravel, which extended from Dunglass on the east to the spot where the finds were made, a distance of about one mile and a quarter. The depth of water on this ridge, as determined by John Golborne in 1768, was only 2 feet; at its eastern end at Dunglass Castle it was 24 feet, and about as much at its western end. A ford, known as Dumbuck Ford, crossed the highest part of the shoal about midway between Milton Isle and the site in question. This ford is shown upon Kyle's large plan of the Clyde, dated 1800, belonging to the Clyde trustees, and is transferred in pencil to a sheet of the Ordnance Survey in their office. The road leading from the shore to the village of Dumbuck or Puddockhole formerly turned westwards along the shore, a distance of about 330 yards, to a hard spit, where it crossed the river and fell into a road on the south shore a little to the east of Bishopston House. Mr. Kyle states that in 1800 the ford was passable only at very lowest water, by which he probably meant low water of spring tides, and it became altogether impassable about 1825 by the continued operations of the Clyde trustees for deepening the water.

The shoal at Dumbuck was for long one of the principal obstacles to the navigation of the Clyde. So far back as 1556 an attempt was made to remove it, and 200 years later, in 1758, the Corporation of Glasgow were authorised by Act of Parliament to carry on deepening operations from Dumbuck upwards. So shallow was the river in several places—and Dumbuck was the worst—that, as the Act recites, "boats, lighters, barges or other vessels cannot pass to nor from the city of Glasgow except it be in the time of flood or high water at spring tides." The terminal limit of the Corporation's power seawards was marked by a cairn on the north shore opposite the edge of the Dumbuck shoal. This cairn is shown on a longitudinal section of the Clyde in "The River Clyde," by Mr. James Deas, the engineer of the Clyde Navigation Glasgow, 1876.

The Structure.

The structure consists of a circle of stones about 180 feet in circumference. Immediately within this there is a ring of oak piles, scarcely rising to the surface, and only discovered by digging. About 10 feet within this ring there is a circle of piles with a flooring of cross poles, apparently of firwood, betw them. Two of these rows lie north and south, and a t between them east and west. Over and around this platf there was a large quantity of loose stones, small boulders coarse shingle. A causeway of similar stones stretches the platform to the shore in a somewhat zigzag course. heavy piece of oak timber, with five holes in it, like foot r as if to form a ladder, was found buried in the clay. A re heap of bones was found on the south-east of the outer and the canoe on the north side, within a sort of dock.

The piles are thus described by Mr. Donnelly (*Gla Herald*, January 27, 1899) :—"They measure about 6 feet and 3 feet from the point are 'faced,' the facets being very examples of stone-axe work. When the labouring of the was finished the point was scorched or 'browned' with The point driven into the blue clay strongly resembled the of a lead-pencil when nicely sharpened with a rather lo point." Dr. Robert Munro, on the other hand, says that of the timbers "bore marks of a metal axe."

The canoe is hollowed out of a single oak tree, a similar to several of those which have been found in adjoining the bed of the Clyde at various times. It is, ever, the longest of them all. It is broken at the end, still 33½ feet long and about 4 feet broad. Lying inside were found a spearhead-shaped object of slate, similar to found in the fort, and an oyster-shell perforated as suspension.

The refuse heap contains a great quantity of bones ox, pig, sheep and other animals, and antlers of the red roe deer and fallow deer. Several of the bones are spli pointed, as if for use as tools or utensils. Some of the a appear to have been used by man, and some of them have neatly sawn round and nearly through and then broken instrument of stone or metal capable of sawing anythin found either here or at the fort until recently, when a known gentleman picked up at the shore structure a fra of flint, which he thinks could be used as a saw.

In addition to the bones and antlers, there have been in and about the structure (1) several of the spearhead-s objects of slate, some of them ornamented with incised herring-bone and other oblique-lined patterns, similar objects found in the fort, and figured in the "Proceedi the Society of Antiquaries;" (2) a small knife-shaped p cannel coal or shale, with incised female figure; (3) s charms and amulets, with rayed ornaments and ho suspension; (4) fragments of cannel coal unworked; (5) s flat perforated stones, some of them apparently sinkers, smaller and lighter.

The Object of the Structure.

In considering the object of the structure it is observed that if the Corporation lower cairn of 1758 occupy this very spot, it stood upon the same line and it. There are, however, no remains of such cairn. S therefore, with the fact that there was a cairn, the natu clusion would be that the remains now discovered belo To support a cairn of the size required in such a situat to prevent sinking it is not unusual to provide a pla wood resting on piles. Fascines are often laid up platforms, and in the present instance a great deal wood was found on and about the platform.

The object of the Corporation cairn was no doubt the limit of their jurisdiction, and also to serve as a b vessels coming up the river. For this purpose it w placed near low-water mark and close to the edge of th Such a beacon may have been erected long prior to 1 may have been one of the works of 1556 or of 16 another attempt was made to form a passage through t Beacons have often a pole in the middle rising a stonework and surmounted by a cross. Such a pol down to the bottom would probably be sunk in the cl would produce a hole or well-like cavity similar to th formation of the Dumbuck structure.

The canoe and the other finds suggest however, it that this was an ancient and not a modern work, and, explanation may be that the Corporation found the existing in 1758, and took advantage of it, added to it it as a cairn and beacon. But be this as it may, if the is an ancient one, what was it? It has been assume question that it was a crannog or lake dwelling, simila found in many lochs and loch bottoms in Scotland an but there is considerable difficulty in accepting this v

Lake dwellings are of two kinds—the pile dwe the crannog proper or artificial island. A pile d simply a platform laid on piles similar to a modern or pier, with a house on it. A good illustration of t structure appeared in the *Illustrated London* February 4. A crannog was a solid structure of cro piles and brushwood built up from the bottom of the raised to a sufficient height above the water level to being flooded. To retain the wood and light m

on it was often loaded with stones. As it consolidated it and had to be added to from time to time to keep it able. It was generally connected by a gangway or cause- with the shore, often laid a few inches under the water, so prevent its being seen, and zigzagging, to make it difficult stranger to follow it. This access was often a kind of roy laid upon piles, but might be a stone road. On the ce of the crannog, and, of course, far above water level, was, as a rule, a hearth. One or more canoes have been in connection with several of the Scottish and Irish ogs.

hearth, it is said, was found in the middle of the Dum- structure. "On the raised stone-paved mounds," Mr. elly writes, "rosetted round the central well-like cavity, nce of fire was found" (*Glasgow Herald*, February 4, 1899), he has explained that several hearths were found outside rcle.

is accordingly claimed that there are here everything that tutes or indicates a crannog—(1) a wooden platform sur- ed with piles and stones; (2) a connecting causeway; arths, and (4) a canoe.

he obvious difficulty in accepting this theory is that the rm of a crannog and its hearth stood above water, not at ottom of the lake or river. That the level of the land on umbuck shore is the same now as when the piles were n and the flooring laid does not admit of doubt. At a e date there was an elevation of the land, but there has no subsequent depression. If there had been a depres- and the structure in consequence brought under water, ssumes that it was erected above high water, and it could erefore have been a crannog. If, on the other hand, it rought to its present level by an elevation of the land, the ust originally have been at a depth always below water, would have rendered the construction of the platform cticable and a hearth an impossibility. Assuming then, must, that the work was constructed when the level of nd was what it now is, the platform cannot have been the platform of a crannog or the circular well-like cavity of rth.

he platform may no doubt have been the foundation of a of stone island with a dwelling on the top. Pliny (H.N.) states from personal observation that the Chauci, a g and seafaring people, who dwelt between the Ems and be, lived on artificial eminences constructed in the tidal , which were left dry or nearly so at ebb tide. Dr. Munro Lake Dwellings of Europe," page 443) drawn attention tructure of this kind near the island of Eriska, at the of Loch Crerar. It is circular, 60 feet in diameter, dry and submerged at spring tides to the extent of 5 feet. sists of a substratum of wood with a cairn of stones above, nether it was a human habitation is not certain.

the case of the Dumbuck structure the central portion could have been loaded; the outer ring of piles, where was no platform, was doubtless intended to prevent wash, e space between the two rings was probably covered with stones, as a kind of apron, and not as part of the building. ase of the cairn could not be more than 30 or 40 feet in ter, and if the cairn was pitched, as would be necessary dal stream, and had a batter of 1½ to 1 and a height of t, it would come to so narrow a point as to be a mere and useless for a dwelling-place.

he canoe is said to have been found lying in a kind of But this creates as much difficulty as the platform. s are not built below high-water mark; a canoe could not ot in such a situation, and if it was it would be of no use. as sunk, a heavy oaken dug-out canoe, unlike a modern r-built pine boat, would, I am told, soon become water- l, and would warp when exposed to the sun. Suppose it t, of what possible service could it be to people on the the mole? At high water they could not get at it; at ater they could go to the shore without it, or if they wished dle in it they would not be able to launch it.

has been suggested that the cavity in the centre of the m may have been a fish tank for the preservation for use of the surplus catch not immediately consumed; but pond at the bottom of the sea is hardly a thing that the men would have thought of.

seems to me, therefore, improbable that this structure was nog or a residence of any kind.

the mouth of the Leven, a short distance below Dumbuck, s a low cairn of boulders, known as the Black Layer; the Bay of Ardmore, a few miles further to the west, re two similar structures, the Big and the Little Layer, n high and low-water marks, and tailing towards the

The tradition of the country as regards the latter is that ere Roman landing places. This may be questioned, but uation of the Dumbuck structure suggests that there may een here something of this description. It is just at the f the shoal. As the canoe is 18 inches deep inside, it not have floated in two feet of water, and must therefore een intended for navigating the deep waters to the west and if its owners lived at Dumbuck they must have embarked and landed just about this spot. It would, indeed, be the most convenient landing place for all vessels that were unable to pass the shoal. At the same time the platform seems more appropriate as the support of a cairn or beacon than as a landing place itself.

The Finds.

The finds have been the subject of much discussion. A considerable number of stones have been picked up, which have been provisionally classed as tools and as palæolithic. So far as I am able to judge, they are naturally-shaped stones, and present no appearance of having been fashioned by man. If they are tools they are certainly not palæolithic. The bones and antlers present no unusual appearances. The ornamented spearhead-shaped objects of slate, the rayed discs, and the piece of cannel coal with the female figure on it are all peculiar, and nothing similar has been hitherto found in Scotland. They have been denounced as forgeries, but I can see no ground for the suggestion, and it is to be regretted that it has been made. Those engaged in the work are above suspicion, and it is very discouraging to them and to other workers to be thus treated. The charge bears improbability on the face of it. It can hardly be conceived that anyone would take the time and trouble required to produce these objects, and on the assumption of forgery it has not been explained how they came to be buried deep in the undisturbed clay of the shore at Dumbuck or in the soil at Dumbowie? The council of the Society of Antiquaries may have been, and probably were, puzzled by the unusual character of the Dumbowie objects, but they treated them as genuine, and gave them a place in their "Proceedings." Sir John Evans, the greatest living authority on stone implements, weapons and ornaments, accepts them as genuine ("Ancient Stone Implements of Great Britain," p. 404, second edition, 1897). That the bones, antlers, perforated stones and plain discs are genuine has not been disputed. Similar stones and discs have been found in many places in Scotland, and are well known to archæologists. The only question that has been raised is in reference to the spearhead-shaped objects and the figured pieces of shale.

SHAKESPEARE AND PICTORIAL ART.

A LECTURE was given by Sir Wyke Bayliss upon "Shake- speare in relation to his Contemporaries in the Fine Arts" before an audience assembled in the house of the late Lord Leighton at Kensington.

The lecturer said critics, scholars, poets, historians, elocutionists had interpreted Shakespeare in their different ways: he came forward as none of these but as an artist to speak a few words upon a matter that had not yet been dealt with. What a picture the title of his address conjured up. The great poet surrounded by the great artists of his day, the studios he visited, the pictures he admired, the painters who were his companions. Religion, philosophy, art were but so many elements with which Shakespeare dealt in picturing human life—his true greatness: the splendour of his genius lay altogether in his humanity. England could claim one poet who stood side by side with the greatest, and in art England had stood side by side with Greece. Shakespeare was not born into a land where there had been none but fighting men and politicians and reformers. There were in Shakespeare's day in England a people great in poetry, great in art, and a court of which it was sufficient to say that it was the court of Elizabeth. But where were the painters? There were none. In the year in which Shakespeare was born Michel Angelo died, and that practically marked the close of the renaissance of art. Roughly speaking, during the boyhood and early manhood of Shakespeare there was not a single painter of the first rank living in the world. It was a little startling, but nevertheless it was true, that Shakespeare never saw a landscape painting. In the year 1600 a new play was entered at Stationers' Hall—"A Midsummer Night's Dream"—and that very year a star slipped from the sky and rested on a little village in the north-east of France. While Shakespeare was writing "A Midsummer Night's Dream" on the banks of the Avon, Claude Lorraine, the first landscape painter, was born on the banks of the Moselle. Shakespeare had no contemporaries in the fine arts, and accordingly he who knew so much about nature knew very little about art in any form. In everything relating to the technique of the painter's art Shakespeare was at fault; in everything relating to his own art, the poet stood supreme lord and master of the human heart; and the fact that this absence of technical knowledge did not lessen the beauty of Shakespeare's work should teach one of the most difficult lessons for the artist to learn—that of modesty. Shakespeare could do without the knowledge that seemed so priceless to others. He had painters enough, his contemporaries—names not necessary to remember, as during the reign of the Georges there were architects enough in

England—men who had everything except genius. Shakespeare knew nothing of art, owed nothing to art, learned nothing from art. In no other of the great poets of the world could they find a parallel case. It was not necessary to prove the exquisite splendour of Shakespeare's vision of the natural world; the curious thing was that his contemporaries in art did not share the vision. It had its fruition later in the rise of a great school of landscape painting.

SURREY ARCHÆOLOGICAL SOCIETY.

THE first annual meeting of the Surrey Archæological Society since the headquarters were transferred from London to Guildford was held on the 25th inst. at the Castle Arch. Viscount Midleton, president of the Society, occupied the chair. The Chairman, having moved the adoption of the report and balance-sheet, and this having been seconded by Colonel Godwin-Austen and agreed to, proceeded to say that the special work which the Society had done during the past year, in addition to putting that house in order, had been the excavations which, under the superintendence of their hon. secretary, Mr. Cooper, had been carried out at Waverley. Those excavations had brought to light a great deal that had previously been unsuspected. They had been met in a very kind and liberal spirit by Mrs. Anderson, the proprietor of the estate, who had relieved them of certain expenses in connection with removing the soil and other things, which would otherwise have fallen upon the Society. But there was a great deal more to be done, and one of the things which they would be asked to do at the end of that meeting would be to authorise a grant of 25*l.* towards carrying out further excavations, from the funds now invested in the names of trustees. There, again, they could find room for a much larger expense, because the ground to be covered was very considerable, and there was no doubt that many other interesting discoveries would be made if they had the funds necessary for carrying out the work. That work could only be effectually carried on during the summer months, because when he was last there, intending to have gone over the ground, he found that it was under water in consequence of the encroachments of the Wey. The site was a low one, and they knew from the ancient records that its former inhabitants, the Cistercian monks, were constantly in trouble from the influx of water during the winter months. Consequently it was only in the summer, during six months of the year, that it could be done. What they wanted was to tax the generosity of the county still further, first, in aid of the remaining alterations and improvements which they would like to carry out in the building in which they were assembled, and to enable the Society to prosecute a really important work in developing what he might call the hidden treasures of Waverley. He thought they might fairly appeal to the county, because they could not claim for Surrey that it was as rich as some other portions of England in archæological remains. But they had in Waverley Abbey a most interesting relic of the past, one with which a great deal of history was mixed up, and the site of which had never been thoroughly examined, since a very considerable portion of it was used somewhere towards the end of last century for building the present house, which was now called Waverley. The old walls of the abbey were recklessly pulled down in order to form a quarry for the building which now stood at a short distance from them. Having referred to the interesting character of the last number of the "Proceedings" of the Society, the President said the more funds placed at their disposal the better it was possible to make the "Proceedings" in the way of illustrations and diagrams. They were now exchanging them with other associations of the same character, and they were gradually forming what he hoped would eventually be a valuable county library bearing upon archæological work not only in Surrey but in several of the neighbouring counties. It was very gratifying to find that the result of the move which had been made to the old county town had been so substantial an increase in the number of members. He hoped the increase would be progressive and that the Society might become what it ought to be, but had never yet thoroughly been, essentially a county Society, in which those who were interested in the county and the many residents within its borders would not only take an interest, but to which they would give an efficient support.

Mr. Giuseppi and the Rev. T. S. Cooper were re-elected hon. secs., and briefly returned thanks. The Rev. T. S. Cooper expressed his thanks to Mr. Malden and Mr. Edmond Foster for their help in arranging the library, to Mr. Henry Horncastle for his help in arranging the museum, and to Mr. Mill Stephenson, who had spent six long days in getting in order the monumental brasses, &c. The Society would always be glad to receive volumes relating to Surrey archæology. As regarded the museum, much yet remained to be done. They had received a lot of gifts, and he had no doubt that, with a little trouble, they would receive many more. Speaking of the Waverley excavations, Mr. Cooper said that was really a mo important work than people might generally think, becau Waverley was the first Cistercian abbey that was establish in this country. He thought they ought to put their shoulde to the wheel to excavate it. He had very little hesitation saying that they had a plan of the whole abbey undergroun and he thought it would be made out so that any mon expended there would certainly be of interest to archæologis beyond the borders of the county, and would, he was perfect certain, do their Society an immense deal of good in the ey of archæologists generally.

Messrs. W. F. Potter and Cecil T. Davis were re-elect auditors, with thanks for their past services.

Lord Ashcombe proposed a special vote of thanks to M Ralph Nevill for his gratuitous services as architect in co nection with the alterations to that building. Mr. Nevill h he said, taken a special interest in the architecture of t county, and the work could not have been in better hands.

Mr. A. J. Style seconded the motion, which was carr unanimously.

Mr. Ralph Nevill, in reply, said as Colonel Godw Austen had reminded him, it was a great many years since took to heart the plan of getting the Society to Guildford. had always been backed up by Lord Midleton, but it too good deal of silent pegging away before they were abl make that move. As they knew, the care of old building that neighbourhood had been a matter of love to him. W one began to deal with an ancient building it was not easy as one might think. Everyone would like to keep it it was, but those whose business it was to deal wit knew that that was not always possible. They had to do w they could, and he hoped that in this case they had not d more than they ought to have done. He spoke with feel because he knew that there were people who would have l things done in another way. They had done their best, he did not think anybody who was not very violently disp the other way would say that they had done any injury to place, but rather that they had brought out the good feat which were not to be seen before. He acknowledged the co-operation of the Town Council and the borough surve The Corporation had found themselves with a bigger bill they expected, but he had not heard of any recriminations, he hoped that they would feel that they had got s thing eventually for their money. He was sure it w be a satisfaction to them to have the Society there.

BRITISH ART SCHOOLS AND AUSTR HUNGARY.

AN interesting and instructive commentary upon national scheme of art education has recently been writes a correspondent of the *Times*, in connection wit exhibition on the Continent of works executed by stude the schools of art of the United Kingdom. Such an exhi is, I believe, without precedent; but the circumstances fully justified the step taken by the Lords of the Commi Council on Education in response to a request from the A Hungarian authorities. Following the practice now h to many continental art officials, M. Radisics de Kutas, d of the Royal Hungarian Industrial Art Museum at Bu visited at South Kensington the exhibition of art school which had obtained medals and prizes in the annual co tion. He was so impressed with the excellence of th exhibition, particularly in the matter of decorative desig his report resulted in a request from Hungary for the lo number of them for special exhibition in Budapest. Th sent of the students who had executed them havin obtained, the works were sent to Budapest at the exp the Hungarian Government.

The following extracts from leading Hungarian new will be of interest as showing the opinion formed of the our schools. One newspaper says:—

"At the present time we see in some of the ro our Industrial Museum such an exhibition as has in us a great desire to recommend it as one worthy o tion to those professors and pupils who are striving the standard of the national taste. We expecte from this exhibition. But what we see to-day excels expectations. We are most favourably impresse the perfection of these works. The general chara of the exhibition is originality. We do not find her iscences of the history of art or variations style. If there were to be an exhibition of the drawin our gymnasia, real schools and industrial institutes, we re vinced that our course of instruction would produ imitations of old styles and spiritless uninteresting works. We wish to accentuate the fact that this exhibi great event, and one which will not soon be repeate English artists, jealous of the ability of foreigners to

them, will not soon again allow our eyes to be opened ich an instructive collection."

nother journal says :—

The exhibition starts with models of heads, busts and s from the antique. To this category belong also the es of foliage modelled from nature and fresco-work. e are followed by models of the human figure and decora- from mould castings. The third section consists of works lief; the fourth contains sketches from antique models ; ifth, sketches from living examples ; the sixth, paintings the life of human beings and animals ; the seventh, of ings of flowers and still life ; the eighth, of monochrome ations ; the ninth, of paper hangings and wrought-iron ; the tenth, of coloured ornaments, book decorations and angings ; the eleventh, of lace and embroidery ; and the h, of wall slabs, earthenware, mosaics, painted glass and indings. Taking the exhibition as a whole it is one of ighest order, and it is evident from it that the English ction in industrial art is the finest in the world, even ing that of the French. They have three grand principles nified simplicity, novelty and practicalness."

t another says :—

The exhibition is exceptionally beneficial to those who are ied in industrial art here, but is interesting and instruc- the cultured public as well. Gradually we shall get to ne beautiful objects of art and learn to depreciate the ese wares and the German articles from Nuremberg. injurious has the German nation been to us in this t? Their manufactured goods have, as it were, sup- d our industrial art. We all begin to see this better and

This exhibition from London (although it be of objects he schools) will prove a powerful incentive in arousing elf-consciousness, which, if thorough, will insure the nce of Hungarian art industry for ever."

e Austrian authorities requested that after the Budapest tion was closed the works should be allowed to be ted in Vienna, where they have been shown under the ntendence of Count Hofrath von Scala at the Imperial m. They are then to be sent to Prague, Bozen and enberg. The most practical sign of appreciation lies, er, in the fact that the Hungarian authorities have ed to purchase thirty of the exhibited works, which are dded to the permanent collection at Budapest.

is is a state of things which should be gratifying to the ts who produced the works, to the art teachers and to epartment of Science and Art ; and the evidence it of the good effected by our national scheme of art ion will be received with pleasure by all who are ted in the art development of our nation.

LY ARCHITECTURE IN WARWICKSHIRE.

paper read before the Archæological Section of the idland Institute by Mr. J. A. Cossins on "Early Archi- in Warwickshire," he said :—Though it cannot be called of architecture, the great monolith, called the king's at Long Compton, is the oldest erection by man in stone ing in the county. Of Roman buildings we have nothing to nothing. The oldest fragments of building remain- e very probably some pieces of masonry in the wing hich crosses the moat at Tamworth Castle and the and second storeys of the central tower of Wooton Church. These are of the kind generally called Saxon, ough the well-known arches of the tower at Wooton have all the most prominent characteristics of that is very probable the church was not built by the great luential Wagen, from whom the place derives its name, Robert de Toner, to whom the Conqueror granted the ery soon after the Conquest, certainly not later than the h century. There are some fragments of wall here re in some of our oldest churches which may be of a rlier than 1066, but it is by no means certain that they ld. There can be but little doubt that for a century or fore the year A.D. 1000 very little building that was not ght and temporary nature had been done, for it was nerally believed that the world would come to an end in r, and in anticipation of the dissolution of all worldly s many wealthy men had made over their lands and to the Church. After the year had passed, with a ble allowance for errors in computation, it is not ig, considering how long church building had been d and how full the coffers of the Church had become, ding in stone began to be general, and that it was n with feverish haste. After the establishment of the power, and during the reigns of the first three kings, ls, monasteries and churches were built in amazing , but the wealth and energy of the nation during the f Stephen were bestowed chiefly on building During his reign there were founded, and either wholly or partially built, at least 1,500 castles, of which 1,150, it is said, were destroyed by Henry III. How all this building was accomplished in about eighty years, if the population was as small as it is generally supposed to have been, must for ever remain a mystery. There is very little doubt that the Saxons, when they built in stone, made copies from the already rude architectural fragments of Roman works, which must have been then very plentiful. But our earliest real Norman work was either done or superintended by masons brought over from the Continent. It was at first rude and simple, with very thick mortar-joints, but very soon improved, and very noble and grand works of extraordinary richness were produced. In Warwickshire we have in Bickenhill Church arcade an example of the ruder kind; in Polesworth an arcade as simple, but better executed; and in Beaudesert and Stoneleigh works of extreme elaboration. Of the 288, or thereabout, churches in the county, about eighty-five have remains of Norman work, but there are many more that are of early foundation of which no remains exist that can be recognised as Norman or earlier; about thirty-five are mentioned in Domesday Book as being then in existence, and it is probable that those belonging to monasteries were not included.

GLASGOW ECCLESIOLOGICAL SOCIETY.

THIS Society met on the 21st inst. in the hall of Woodside Church, the Right Rev. Bishop Harrison in the chair, when a paper was read by Professor Cooper on "The Post-Reformation History of Elgin Cathedral." Professor Cooper pointed out that in Morayshire none of the ecclesiastical buildings had suffered any damage at the time of the Reformation. In the North of Scotland the people were inclined to the old faith, and the churches were as far as possible preserved and maintained. The cathedral gradually fell into a ruinous condition owing to the fact that for long it was not used, and there were none to bear the burden of keeping it in repair. The session records of Elgin were exceedingly interesting, and threw much light on the religious habits and customs of the people. We were able to trace from entries contained in them the gradual decay both of the cathedral and the church of St. Giles, which was the parish church of Elgin. Professor Cooper read many interesting extracts from these records. His paper was listened to with much attention and excited an interesting discussion.

THE PHYSIC GARDEN, CHELSEA.

THE Physic Garden, Chelsea, has been handed over to the trustees of the London Parochial Charities, who have agreed to dedicate a sum of 800*l.* yearly to its maintenance. Under the new scheme the garden is to be administered exclusively for the promotion of the study of botany with especial reference to the requirements of general education, scientific instruction and research in botany, including vegetable physiology and instruction in technical pharmacology as far as the culture of medical plants is concerned. The practical management of the garden will be vested in a committee formed of representatives nominated by the trustees of the London Parochial Charities, the Treasury, the Lord President of the Council, the Technical Education Board, the Royal Society, the Royal College of Physicians, the Society of Apothecaries, the Pharmaceutical Society, the London County Council and the Senate of the University of London. Earl Cadogan and his successors, as representing Sir Hans Sloane, who conveyed the garden in 1722 to the Apothecaries' Company in trust for the encouragement of botany, is also a member of the committee. The garden, which comprises nearly 4 acres, facing the Embankment, was founded about 1673 by the Apothecaries' Company, and held by them on lease until 1722, when it was conveyed to them by Sir Hans Sloane on the trusts already mentioned, with a proviso that, if the conditions were not fulfilled, the land should be held by his heirs in trust for the Royal Society or College of Physicians to carry on the garden for the same purpose. The Apothecaries' Company have recently found difficulty in keeping the garden in a proper state of efficiency, and neither the Royal Society nor the College of Physicians were prepared to undertake the trust on the condition of providing funds for its maintenance. The only course then appeared to be to sell the garden and apply the purchase money on a *cy-près* object, but happily the trustees of the London Parochial Charities have come to the rescue and saved the garden.

Mr. Justice Cozens-Hardy has dismissed with costs the application of the contractor for the municipal buildings at Llandudno, who sought an injunction to prevent the District Council from stopping his building operations because of some contention between their architect and himself. The judge held that plaintiff's remedy, if he had any grievance, was by action for damages, and not by injunction.

NOTES AND COMMENTS.

THE introduction of the cock on the new gold coinage of France as the heraldic emblem of the country is not received with general approval. There is no doubt it has been used for a long time on medals and in various designs. But in most of the large memorials erected since the last war it is the lion which has supplanted chanticleer. In England we claim a monopoly of the lion as of the bull, but when English kings possessed more authority in France than at present, leopards appeared on their standards. Some fastidious Frenchmen are inimical to the cock because it is supposed that his Latin name *Gallus* dictated the choice of the bird as the representative of the Gauls. But if punning heraldry is to be set aside the science would be much circumscribed. The old devisers of emblems were not controlled by the laws of taste which prescribe modern nomenclature. The cock should be preserved if it were only as evidence that Frenchmen at one time were joyous, a quality of which we may now be sceptical. DE QUINCEY several years ago wrote some remarks on the subject. He said:—"The cock, *Gallus gallinaceus*, has always been the symbol chosen and consecrated by the Franco-Gallic people as their true adequate heraldic cognisance. An Englishman pauses in wonder. For undoubtedly the cock embodies some favourable features of the French character and the French demeanour, but (as a keener spirit of discrimination would suggest) viewed under an angle of mockery and exaggeration. The bluster, the arrogance, the tendency to gasconade, are all there; there also is the indomitable courage, for amongst all breathing creatures there is hardly one (unless the bull-dog) more victorious over passion than the game-cock. But still, men generally would not relish a mirror help up even to their noblest qualities if this were done under a concurrent attempt to throw cross lights of ridicule upon the total ensemble of their character." The objection against the cock, which undoubtedly is rendered with great spirit on the coins, may in reality arise from the misgiving that it is too true a representative of the French people.

THE late RICHARD CADBURY, who died suddenly in Jerusalem, deserves remembrance for his belief in the effect of buildings in aiding social progress. One of his works was the Friends' Hall and Institute in Moseley Road, Birmingham, on which he expended about 30,000*l*. At Bournville he erected and endowed a group of thirty almshouses which cost him at least 40,000*l*. His former residence, Moseley Hall, he had converted into a convalescent home for children, and this gift is worth 30,000*l*. From time to time he presented large sums to the building funds of various institutions. The regret in Birmingham for his loss is therefore well founded. One of the members of the Corporation, in referring to the event, said that "Mr. CADBURY seemed to regard himself rather as the trustee than as the possessor of his own wealth, and in every instance in which he gave he was very careful that his gift should not be misbestowed, but should be productive of the greatest good possible. When he was so convinced there seemed little limit to his generosity. Birmingham would miss in him a friend whom it would be impossible to replace, and there were many in their back streets and in the courts who would feel that now they had lost a true benefactor." Unlike many philanthropists, Mr. CADBURY has left memorials of his generosity which will long endure.

ACCORDING to the *Times* correspondent in Vienna, Mr. G. F. BODLEY, A.R.A., has represented England on the jury which has just awarded eight prizes for designs for the memorial church to be erected in Vienna in commemoration of the jubilee of the Emperor FRANCIS JOSEPH. This jury, which also includes prominent representatives of the profession in Germany, France and Italy, has postponed the selection of the architect to be entrusted with the work. The competition was confined to Austrian subjects. The 48 designs sent in were in the Gothic, Lombardic and Renaissance styles, and were carefully prepared. A strong desire is felt that this church, which is to comprise a chapel dedicated to the memory of the late Empress ELIZABETH, should be a dignified and monumental structure, worthy of the occasion and of the present advanced condition of ecclesiastical architecture. This is the first time, we believe, an English architect has officiated as a judge in a continental competition, although occasionally Englishmen have taken part in them. The case of the Californian University does not count, for it is an American project, and it was anticipated there would be English competitors. Nor can the competition for the Constantinople church be considered, for the building was to be constructed by the aid of English money. That in a contest between Austrian subjects Mr. BODLEY was selected suggests that his Gothic buildings are worthily appreciated abroad.

AMONG the economical beliefs of the present time is one which assumes that a social difficulty would be overcome if the humbler classes possessed their own houses. It is not merely that they would have a guaranteed shelter, but it is concluded that an income could be derived from the property. It is supposed that the problem of finding provision for old age could be easily solved in that way. The new theory is recognised by Sir SAMUEL MONTAGU, who has offered to the London County Council 25 acres of land at Edmonton to serve as sites for working-class dwellings. He has laid down the following conditions of the gift:—"(1) That the land shall be used for the erection of dwellings for the working classes at such rents as will about cover the interest and sinking fund of the outlay; (3) the occupier to have facilities for the acquisition of a long lease at a low rent. If the leasehold is acquired, it must be conditional on occupation, when that ceases the leasehold to be sold to the London County Council at a valuation; (3) residents in Whitechapel of over three years' duration to have the preference as tenants whenever a vacancy occurs (say for a month) without distinction of race or creed." It is not apparent that the Council could accept land on such terms, for there is a limitation to their powers in selling and leasing land or houses. The housing of the working classes committee have given attention to the scheme, and they have adopted the following recommendations: "That the Council do accept the offer of Sir SAMUEL MONTAGU, Bart., M.P., of land at Edmonton for the erection of dwellings for the working classes, subject to the following conditions:—(1) That residents in Whitechapel of over three years' duration shall have the preference as tenants of the dwellings to be erected on the land when vacancy occurs (say for a month) without distinction of race or creed; (2) that Sir SAMUEL will procure sufficient land for the construction of an approach road to the north-east corner of the land; (3) that Sir SAMUEL will undertake to satisfy all the requirements of the local authority as regards Salmon's Brook."

THERE are so many guide-books for English tourists it is difficult to obtain a footing for a new series. "The Story of Rouen," by T. A. COOK, illustrated by H. M. JAMES and J. E. COOK, if considered as the first of an experiment in publishing, has a passport to success from resemblance to Messrs. DENT'S publications in combining beauty, clearness and accuracy. As an example of typography it is worth notice, for the delicacy of the illustrations matches the type, and every page is pleasant to look on. But appearance is not the only quality. The author appears to be familiar with Rouen, and he describes it like an enthusiast who is possessed of knowledge he has tested. Every year crowds of English tourists visit Rouen, and they would find their pleasure enhanced by carefully reading "The Story" beforehand, and following the order in which the buildings are described, with the little volume as a guide. Such elegance and portability are rarely found together.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: GALILEE, LOOKING SOUTH; GALILEE FRESCO, ALTAR OF OUR LADY OF PITY

THE QUEEN OF HOLLAND'S WORK-ROOM, AMSTERDAM

147 HARLEY STREET.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

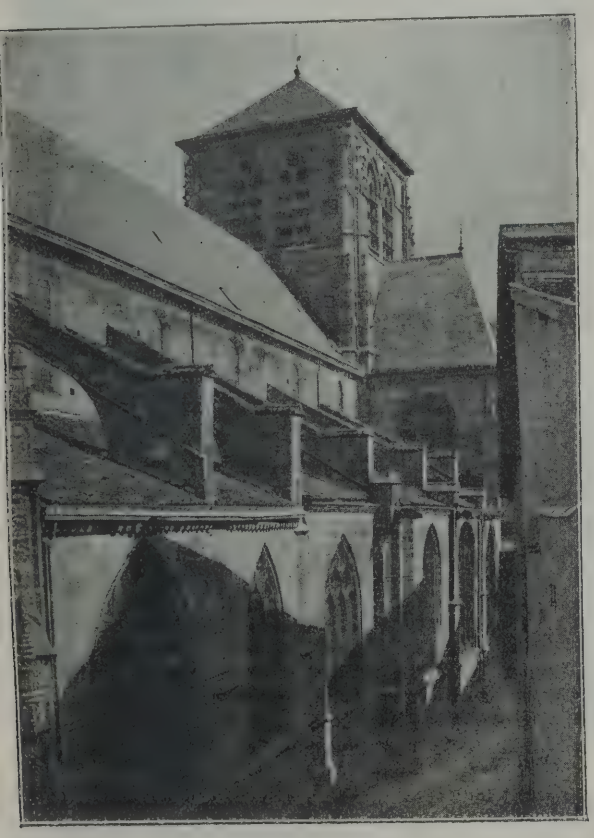
BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &c.

(*Continued from page* 195.)

Troyes. Châlons-sur-Marne.

XV.

RETURNING to the Cathedral on Monday morning, after another protracted ramble about the city, I find the ons in the choir reciting their matutinal offices in notone. Mass is said by one of them in lace alb and n crimson chasuble. Sext follows. During its progress the ristan is busied with preparations for a funeral. A black ntal is placed upon the high altar, and a cope of the same our is hung in readiness on a stand near the sacristy door. the conclusion of Sext, I request one of the cantors to show the music of the office hymn sung yesterday. With much iteness he repairs to the vestry, situated in the south aisle of nave, and returns with a paroissien. Hurriedly pointing the place, he is obliged to take his station in the little ocession, which I see is just emerging from the south choir le. It consists of the crucifer and taper-bearers, the cantors d the officiating priest. They all leave the cathedral by the eat portal of the north transept, and wend their way along e streets to the house of the deceased. I follow them. Very turesque is this little procession, with the sun flashing



CHÂLONS: ST. ALPIN.

on the silver crucifix and the white surplices. Returning with he mourners and friends, all on foot, some rather dreary chanting begins, and is continued till the west door of the cathedral is reached. While the coffin is removed from the hearse the officiant walks up the nave, and, assuming the black cope, meets the cortège at the entrance to the choir. The preliminary office over, the priest retires, returning shortly in a black and silver chasuble, and accompanied by deacon and subdeacon. The Mass begins; no organ is used, but a violoncello gives richness to the plain chant, of which I am unable to distinguish much beyond the *Dies Iræ*. It is not a little diverting to watch the friends, the male members of whom—accommodated with stalls in the choir, and like the young MacStingers "knowing little about the ceremony, and caring less"—slip out to a neighbouring café, "*pour passer le temps*."

By midday I have taken my last walk round the cathedral, and have closed the west door behind me with a regretful sigh. Shortly after I am *en route* for Châlons. It is very hot. There is André, about to start on a tour to Switzerland. Papa and M. le Curé have come to see him off. "Bon voyage" is said. The engine shrieks, and the train is making its circuit of the city, which lies in a vast plain, to join the main line. Although very beautiful, the flat champagne country gets wearisome after a bit. Luckily I am provided with literature—Hare's entertaining volume on N.E. France; Murray's capital handbooks; and a volume of Albert Smith, who always reads well abroad.

There is a grand turn-out at Châlons, where several omnibuses from the various hotels are drawn up in the station yard. I mount the box of that belonging to the Hôtel de la Haute Mère de Dieu, and the vehicle, after dawdling about the yard in the vain hope of catching a priest or two—numbers of whom are arriving for the prize-giving at some Lycée or another—and for the edification of the solitary inside passenger who has been informed that it is going directly, starts for the town. We rattle gaily over the bridge, and past the cathedral of St. Etienne, which is far finer than books or common report have led me to expect; just catch a glimpse of the spires of Notre-Dame; turn sharp round the corner by the church of St. Alpinus, where a curtain waving in the western door has quite an Italian air; and so draw up at the excellent hostel above named, where Monsieur and Madame, as in all well-regulated inns, are waiting to receive me, just as though I had written to announce my coming a week beforehand. Presently



CHÂLONS: INTERIOR OF NOTRE-DAME.

I am shown to a nice airy bedroom, with acacias waving in the garden below in the afternoon sunlight, and commanding a view of the cathedral. Then comes some refreshing tea in the courtyard,* and a pleasant stroll about the streets.

I devote the whole of Tuesday, August 9, to Châlons and its neighbourhood. Although inferior ecclesiologically to the church of Notre-Dame, the cathedral of St. Etienne,† by its simple

* There is something extremely enjoyable in taking refreshment in the courtyard of a French hotel with the feeling before you that there are so many interesting things to be seen. One of the pleasantest I know is that of the Hôtel de l'Ecu at Sens. It was dark when I arrived in that little archiepiscopal city, and had no idea where the cathedral was. On throwing open my bedroom windows a huge mass, from which a grand, calm, white figure stood out, confronted me. It was the front of the cathedral, and the figure that of the Majesty, adored by angels, in the western gable. This great grey front, rising above the tiled roofs of the hotel, presents a most enchanting picture.

† The large number of French cathedrals and churches bearing the name of the pro-martyr is very remarkable. Among the cathedrals

solemn grandeur, impresses me as much as any of the glories of France I have seen this year. Standing with the whole of its northern side thrown open to the main street,* with a prettily laid-out flower-garden in front, the noble array of Geometrical Decorated windows in aisle and clerestory is seen to great advantage. No doubt the exterior suffers much from want of a proper western façade, the present being an abrupt Italian one of the seventeenth century, erected after a fire which did much damage, necessitating repairs and additions in the taste of their age. The oldest portions of Châlons Cathedral are the towers, which, Teutonic fashion, stand to the east of the transepts. There is much in the disposition of the plan of this cathedral that brings Westminster to mind—the grandly exposed north side of which I have already spoken; the entering by the north transept door, and finding the poorly-stalled *chorus cantorum* arranged in the eastern part of the nave, and on the left the short apsidal choir with its encircling chapels. After five-aisled Troyes the nave of Châlons Cathedral looks narrow, but this impression wears off after a visit or two, and the eye soon dwells contentedly on the grand, unbroken and lofty arcade of German-looking round columns, with their foliaged capitals, and upon the superb series of windows in the aisles, which do not open here into chapels of a later age—quite a relief this.

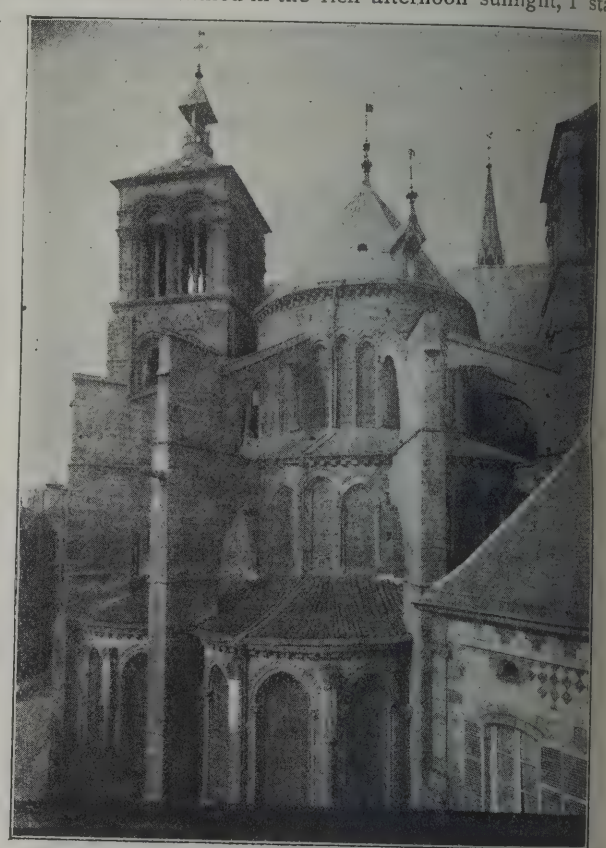


NORTH-WEST VIEW OF NOTRE-DAME AT CHÂLONS.

From the cathedral I go to Notre-Dame, without doubt the noblest specimen of Early Pointed France can show, wonderfully little damaged by time, showing few or no additions in subsequent styles, and singularly fortunate in having been restored under the care of a true ecclesiologist—M. le Curé Champenois—about forty years ago. Like the cathedral, the choir—the shortest in France, I believe—is flanked just east of the transepts by steeples, and there is another pair surmounted by leaden spires at the west end. In their incomplete state these eastern towers have a grand and massive effect, taken in conjunction with the boldly sweeping apse and the circumambient chapels.* Excellent taste characterises all the instrumenta in the interior of this noble church, and the modern stained-glass by Lusson deserves the highest praise.

The other Châlons churches have their especial points of interest. St. Alpinus, with its long Early Pointed nave and low central tower pyramidically capped, looks well over the tops of the houses in the large Place. St. Loup, Middle Pointed, has a long Teutonic-looking choir with lofty windows, all glowing with rich modern glass. St. Jean, with its narrow Romanesque nave, its transepts with an eastern aisle to each, affording lovely perspective views, and its long, square-ended English-like chancel in Early Pointed, approached by flights of steps, leaves a most profound impression upon me.

I get all my church-hunting over by midday, and rest, as I have a pilgrimage to make in the evening to the celebrated Sainte Marie de l'Epine,† situated about five miles to the east of Châlons. From a café in front of Notre-Dame, whose western front is bathed in the rich afternoon sunlight, I start



CHÂLONS: EAST END OF NOTRE-DAME.

for Epine, and, being in good form, enjoy the walk, which lies along a high road with a vast expanse of flat country on either side, amazingly. It is about seven o'clock when I reach Epine, and while making the circuit of the exterior of St. Marie's the bell begins to toll. Knowing from experience that this is the signal for closing the church, I hurry round to the west entrance, just inside of which I find a Sister of Mercy and the custodienne engaged in this calisthenic exercise. And here I meet with a little bit of true French politeness. Seeing that I have walked some distance, and am anxious to see the church, instead of following me all round and jangling keys, as the Mrs. Miff or the Mr. Sownds of an English church would probably do, the Sister and the custodienne, an elderly female, betake themselves to a seat at the west end and engage in

having this dedication may be named those of Agen, Auxerre, Bourges, Cahors, Châlons, Limoges, Meaux, Metz, Sens and Toulouse; whilst in almost every town is a St. Stephen's Church. It is curious that this dedication should so rarely be found among our old churches.

* That hallowed *religio loci* which seems to pervade the immediate neighbourhood of our English cathedrals is almost entirely wanting abroad. In nearly every city the cathedral rises in the midst of the town, from the main street or large stony square, and often encroached upon by secular buildings, as at Rheims and Rouen, Sens and Troyes. To be sure there is a certain calmness about the locales of Auxerre and Bayeaux, Beauvais and Chartres; but the smooth lawns, umbrageous trees, grave old prebendal houses, cloisters and other entourages which unite in giving such an air of calm seclusion to the closes of Winchester and Canterbury, Lichfield and Salisbury, Lincoln, Wells, and Peterborough, are entirely wanting. The well-kept country churchyard is rarely, I may say never, met with in France.

* The façade of the south transept, with the tower rising just to the east, strongly recalls the south-east one at our own glorious Canterbury.

† Commenced towards the middle of the fourteenth century this is one of the most graceful churches on a moderate scale that France can show in a mingling of the Geometrical and Flowing Decorated periods. One of our most accomplished lady writers of travel has compared the light open spires to handfuls of wheat bound together.

rivate devotion. After I have sat for about twenty minutes in ont of the elegant stone rood-screen, admiring this lovely rench Decorated church which, built of white stone streaked ere and there with brown, looks as if formed out of alabaster, e elderly female advances quietly up the south aisle, kneels r a few minutes before the quaint image of the Blessed Virgin nd Child, enshrined amid flowers and tapers, and presently hispers, "Sir, it is time to close the church." I, of course, se to go, and during the purchase of a few souvenirs, ologise to the good Sister for detaining her in the church so ng beyond the ordinary hour of closing. With the customary urtesies we part, I to walk back to Châlons, towards which I n but half-way when some ominous-looking black clouds put an appearance. But no rain comes. "I wish it would," marks a carter who gives me a pleasant "Good-night" as he gs on his way to the hamlet I have just quitted. Still I am t sorry when I regain Châlons, with its paved streets, gas-mps and policemen. Smoking a meditative after-supper garette on the bench outside the hotel door, the strains of Veber's "Invitation to the Waltz" float across the square om an upper room, where some sons of harmony meet once a eek to practise, and thus closes a very enjoyable day.

Two years afterwards, being *en route* from Rheims to angres and Dijon, I took the opportunity of a wait at Châlons



Interior of the Church at Epine.

o renew my acquaintance with its architectural glories. I evisited the cathedral with pleasurable feelings, spending a onsiderable time in its solemn nave, so Anglican from absence f side chapels, so Teutonic with its tall round columns, so leasing altogether from its simplicity. Over a confessional in ie northern choir aisle I read, "Deutscher und französischer eicht-Vater," while a printed notice near the north transept ntrance set forth the information that an "Instruction" in erman would be given on Saturdays in St. Joseph's Chapel, ear the college. Significant, this.

From the cathedral I strolled on to Notre-Dame, where I und a priest catechising a score or so of small children seated n chairs at the west end of the nave. One of their number, a ttle boy expelled from the class, doubtless for bad behaviour, as kneeling all by himself on the stones in the central passage. he instant I set foot in the church forty small eyes were rned inquiringly upon me, following me whithersoever I ent. But the excitement reached its acme when, in the ourse of inspection, I passed round to where all the little eople were gathered about their pastor. "Enfants! attention, s'il vous plaît," cried the priest, slapping his book on the chair-ledge in front of him, "et ne regardez pas ce monsieur-là!" But without much effect, for I still continued to be "the observed of all observers" until I deemed it prudent to conceal myself in the dusky recesses of one of the circumambient apsidal chapels. A year later I entered a German Protestant church at Dortmund under much the same circumstances, meeting, however, with a totally different reception; being, in fact, motioned to the door by the irate "pastor," or whatever he called himself.

Few French churches have passed under a more quiet and conservative restoration than this noble Transitional one of Notre-Dame at Châlons-sur-Marne, and this is owing to the jealous care of the aforementioned curé, M. Champenois, whose acquaintance Mr. Street made while on a tour in this part of France about the year 1857. "Here," writes Mr. Street, "I made the acquaintance of M. Champenois, a charming little enthusiast who is busy restoring the whole church. He has cleaned and restored the interior completely, showing all the stone in the groining, and it looks so well. I told him my name, and he was quite up to all about the Lille competition, the more by token that Clutton and Burges's design was to a great extent (as I saw directly and as he told me) a copy of his church."

This refers to the competition, open to the architects of



West Front of Church at Epine.

Europe, for the erection of the church of Notre-Dame de la Treille at Lille. The design furnished by Messrs. Clutton and Burges was placed first; that of Mr. Street second—a fact quite sufficient to prove the infinite superiority of our architects (travelled and cultured men) over those of the Continent at that period (1855-57). It is almost needless to say that this competition resulted in nothing but waste of time and the ultimate selection of a French architect. Mr. Street's design, which lies before me as I write—a most masterly conception—bore the motto, "Quam dilecta tabernacula Tua, Domine virtutum." It was an unmistakable French church, and rigidly observant of the strictest interpretation of the conditions of the competition. As in all such cases, the designs ranged from the sublime, through the mediocre, the insipid and the wildly extravagant to the ridiculous. One or two looked more like the vagaries of insane pastrycooks, and as such only tended to bring ridicule and disgrace upon the name of Pointed architecture.

Notre-Dame at Châlons-sur-Marne belongs to that grand group of churches which shed a lustre upon the last half of the

twelfth century, truly an Augustan age in the annals of French ecclesiology—an age which produced Mantes and Laon, Chartres and Soissons, Saint Leu and Noyon, and at home the choir of our own glorious Canterbury and the Round of the Temple Church—an age in which the Romanesque had just passed into the grace of the Early Pointed.

Its quadruple division into arcades, lofty triforium of two pointed arches springing from a slender shaft with an unpierced tympanum, a smaller triforium of lancet arcades, and a clerestory of tripled lancets of equal height, imparts a far grander appearance to the interior of Notre-Dame at Châlons than is at first suggested by its somewhat heavy and German external appearance. Of far greater interest than the cathedral, which has suffered much from incendiary causes and injudicious repairs consequent upon them, Notre-Dame may be taken as a typal French church of the earliest Pointed period, and in many features bears a great resemblance to St. Remi at Rheims. In plan and design the apses of the two churches are similar, and though that of Notre-Dame is on a smaller scale, the triple tier of windows, large single-light ones in the chapels and equal heighted tripled lancets in triforium stage and clerestory, the large plain semicircular flying buttresses, the neatly-planned choir and circumambient aisle roofs, are all points of resemblance to St. Remi much too obvious to be overlooked. Its undisturbed plan and the presence of but few late additions or insertions are all elements conducing to place Notre-Dame at Châlons very high among French churches of the second class. Perhaps its most singular external features are its western steeples flanking a typal Early French Gothic front with three broad lancets and a rose above, like Chartres. Of the spires which surmount the towers, that on the south is a remarkably elegant and curious specimen of lead-work, very lofty, having four tall pinnacles growing out of it at its base and a cluster of eight spire lights—one to each face—about midway up. Very precious is this south-west leaden spire of Notre-Dame at Châlons as affording evidence of the extraordinary extent to which decoration was carried in the Middle Ages. The northern spire is a copy, and it has been proposed to raise similar ones on the pair of Romanesque towers flanking the one-bayed eastern limb, but from the shortness of the church they would have too much the effect of reducing all to the dimensions of mere turrets, a result by no means desirable, at any rate if one may judge from a drawing of the church, as "proposed to be restored," which appeared about the year 1851.

A large Flamboyant porch protects the noble but sadly mutilated south portal—a very elaborate specimen of Romanesque work, from which there is a descent of several steps into the church, necessitated by its being built upon ground sloping gradually from south to north. During his visit to Notre-Dame at Châlons, Mr. Street, in the course of conversation with its devoted curé, touched upon the choral arrangements. "Concerning which," wrote the future architect of St. John's, Torquay, St. Mary Magdalene, Paddington, and St. John the Divine, Kennington, "he is heterodox. How curious to find a French priest, actively engaged in church restoration, arguing in favour of singing in a western gallery, and of admitting the 'faithful' into the choir, and I, an Anglo-Catholic, protesting against both. Yet so it was. However, we parted excellent friends."

Probably no architect of his day, Anglican or Roman Catholic, English or Continental, knew so thoroughly and exactly as Mr. Street did what were the requirements of a modern cathedral, and this makes us regret all the more that he was not elected to carry out the cathedral at Edinburgh.* The present structure, although doubtless ecclesiologically correct and most sumptuously fitted, is, like most of Scott's churches, cold and unsympathetic. Mr. Street's designs, on the other hand, were stamped with a genuine cachet which it was impossible to mistake. Without descending in the least degree to bizarrerie, his plans for St. Mary's, Edinburgh, are distinguished by slight and temperate departures from ordinary types of form and decoration, and thus, without any startling oddities of design, the cathedral would have had a novel grace imparted to it consistent in some measure with its romantic locale.

But I am wandering far away from Châlons and lovely tawny-coloured Notre-Dame. Its south transeptal elevation, rather suggesting the eastern one of Canterbury, combines with the spireless towers flanking the eastern limb and the triple fenestration of its apse, a most enchanting architectural group from the street upon which it abuts.

In the north aisle windows—Flamboyant insertions—is much valuable Cinque Cento painted glass. The apse chapels opening from the aisle by tripled arches on slender pillars as at St. Remi are very Mediævally appointed, and their windows, as well as those which peer so bewitchingly through the trifolial arcade, and those of the clerestory, are good specimens of modern French vitreous decoration, and thoroughly in keeping with the surroundings. As in the cathedral, the oldest parts of Notre-Dame are the eastern walls of the transept against which the Romanesque towers abut.

Placed against the south wall of the transept is the only piece of rococo furniture in the church—the old high altar, apparently forming a species of cheffonier for a miscellaneous collection of articles, but retained here doubtless from considerations of sentiment, for, as I may remind my readers, in 1793, while the nave of the church was dedicated to the Goddess of Reason, Mass was said in the choir with only a few days' interruption.

(*To be continued.*)

* It is interesting to note that Mr. Burges's design for Edinburgh Cathedral was a modification of his prize one for Lille.

PRE-HISTORIC EGYPT.

THE discoveries made during the last five years in the Nile Valley have completely changed our views as to Egyptian history and civilisation. Until quite recently, says the *Glasgow Herald*, the horizon of monumental Egypt was marked by the pyramid of Senefru at Medum, where we found civilisation, art, and sociology fully developed, indicating by this perfection centuries of growth and development, of which, however, no trace existed. That vast area of the pre-dynastic and pre-historic age of Egypt seemed to be lost—to have passed away without leaving the smallest record of those who for successive ages had toiled in laying the foundations of Egyptian civilisation. Now, however, that the work of exploration is being carried on, not only with energy, but also in a strictly archæological and scientific manner, even the beginnings of this civilisation can no longer remain hidden. Tradition, the last flashes of the lamp of history, had always pointed to Koptos as one of the earliest settlements of the Nile Valley, and the explorations of Professor Flinders Petrie on the site of this city have proved that this supposition was correct. The pre-historic statue of the local god Min, wrought before the use of the chisel was known (which is now in the Ashmolean Museum at Oxford), as well as the first efforts in art found in the red-clay figures of animals, made it plain that here we had to deal with an age long prior to that of Senefru and the Pharaohnic dynasties. Koptos was not, however, the only pre-historic settlement in Middle Egypt, the region in which it is now evident that Egyptian civilisation first grew. At Ballas and Nagada, on the edge of the Libyan Desert opposite Koptos, as well as at Abydos, remains of the so-called New Race (now known to be the pre-dynastic Egyptians) were found; and more recently at Hierakoupolis, M. Quibell has made a still more important discovery. At the same time M. de Morgan, the director of the Museum at Gizeh, has uncovered the great royal tomb, with its buried treasures, which has been identified by M. Maspero and most Egyptologists as the burial-place of Menes, the first of the Pharaohs.

It would seem that when once the pre-historic age had begun to yield up its secrets it did so in no stingy fashion, for the work of M. Amélineau at Abydos resulted in the recovery of several more royal tombs of the earliest dynasties, or, lastly, in the recovery of the mythic tomb of Osiris, the most holy spot in all Egypt. The publication of the works of MM. de Morgan and Amélineau and the exhibitions of the finds of M. Quibell have certainly, as has been remarked, produced a complete revolution in our knowledge of the beginnings of civilisation in the Nile Valley. In Egypt the epoch of pre-historic time does not permit of strong distinctions, as in other primitive countries. There is no clear separation between the Neolithic and the pre-historic Bronze period, and the use of stone extends far into the historic, as shown by the representations of making flint knives in the twelfth-dynasty tombs at Beni-hassan, and therefore of a date as late as B.C. 2500. The discovery of the great royal tomb at Nagada, however, marks now the threshold of Egyptian history, long prior to the former starting-point of

e age of Senefru; but here again we have numerous and rcible indications of a vast antiquity behind even this remote ɔoch, which cannot in reason be placed lower than 4000 B.C. he tomb of Menes shows no trace of primitive culture and the eginnings of a civilised community only emerging from the rk ages of savagery. It is the work of a people long used to iilding construction and to the employment of the fine arts, ɔt by any means isolated from the outer world. The dis- ɔvery from an archæological point of view cannot be too ghly estimated. The building—for it is not an excavated mb, but a royal dwelling-place of the dead—is a parallelo- ram measuring 54 metres by 27, or 100 cubits by 50, a pro- ɔrtion of importance. It is built of crude brick, and the outer alls have buttresses placed at regular intervals. The orienta- ɔn of the building is remarkable, the angles being turned to the ardinal points. To the student of Egyptian archæology e structure seems at once of a non-Egyptian character, id immediately calls to mind the brick architecture of ancient haldea, as seen in the temples and palaces of Judea (B.C. 3oo), at Tello and at Nippur. This idea is still more enforced hen we consider the proportions of the building, which are e ratios almost invariably employed in Chaldea; and lastly, id of great importance, the orientation, which is that of the haldean builders, and not that of the architects of the Nile alley, as shown by the earliest pyramids. The interior rrangements are most curious; the building may be divided to two portions, the tomb and the other chambers. Imme- iately adjoining the outer wall are a series of sixteen chambers f nearly equal size, forming a corridor round the inner portion. These were found to be store chambers, filled with all kinds of rovisions, furniture, &c, for the deceased. The inner por- on, or tomb proper, consisted of five chambers, arranged gain in corridor form, with doors communicating from the ntrance at the north-west end. The central chamber of these as the largest, and evidently the burial chamber, but no ɔrtion showed any signs of painting or decoration of even the mplest kind. The most astonishing result of the explorations as the revelation of the fact that the whole of the edifice and s contents had been at some remote period subjected to a reat conflagration, which had reduced everything to ashes or harred remains.

It was at first thought that this burning had been part of ne burial ceremony, but this seems doubtful. It certainly ook place at a remote period prior to the Middle Empire, as urials on the upper strata of the mound show no trace of fire. t is, moreover, evident that long before the time of the Rame- ides the building had been quite covered and hidden, as no race of any later occupants were found. Indeed, it would eem probable that the tomb was early closed for ever. It esembles those discovered by M. Amélineau at Abydos, but is f earlier date; and as in these latter were found the clay seal- ngs of jars of Semti and Mer-bau, the fifth and sixth kings of ne first dynasty, the discovery of the name of Mena or Menes n an ivory plaque is not out of reason. The provisions for he deceased in these early tombs were enclosed in jars of reat size; their tops were covered with clay caps and im- ressed with seals, with computations of the amount or number f the objects they contain. Most of the vases, as well as he miniature ivory and ebony furniture placed in the omb for the use of the dead, were broken; but this was no loubt done so that the *kas*, or spirits of the objects, might not uit the service of the dead. The objects discovered are most ariable. Ivory and ebony show distinctly a trade with the Upper Nile, and especially important are some fragments of rhinoceros horn, an article of rare occurrence. The stone vases are very interesting, there being specimens of porphyry, quartz, geoborite (carbonite of magnesia—an extremely rare material), diorite, dolomite and the well-known Egyptian alabaster. The vases are artistic in form, and are moulded by the use of polish- ing stones, and hard stone cores to hollow the interior. The vases resemble those of the New Race found at other sites, and show considerable artistic merit. It is noticeable that all the pottery is hand-made, the wheel being unknown. One of the most important finds here consisted of several objects of obsidian, a valuable commodity in the Neolithic age, not, how- ever, found in Egypt, and almost entirely a product of Western Asiatic origin. It was known at the earliest ages in Mesopotamia, and is found in the ruins of the cities of South Chaldea and in the Neolithic settlements on the Persian frontier. The presence of obsidian in the Nile Valley at this remote epoch is a strong proof in favour of the existence of a close trade intercourse between Syria, Egypt, and Chaldea at this distant period. We have already seen how the architectural features of the tomb, as well as the carved ivories, favour this theory of intercourse. Among the objects discovered were portions of several ivory boxes or caskets containing spice or aromatic gum. These vessels were supported by bulls' feet, the workmanship of which is extremely un-Egyptian, resembling in a wonderful degree the feet of the winged bulls so common in Babylonian and Assyrian art. The same remark applies to the carved figures of dogs and lions. To anyone who has a knowledge of Chaldean art of the earliest period, as illustrated by the state of the Vultures now in the Louvre, the Chaldean appearance of the sculptures in such fine pieces of work as the state tablet of victory of Nar-mer or the mace heads of the same king admits of no other explanation than an intercourse of considerable close- ness between those two ancient civilisations, and perhaps after- researches may show the point of union to which they are tending, and after all the beginnings of civilisation in the Old World may be obtained.

RESTORATION OF THE ROYAL STEWART VAULT AT HOLYROOD.

VISITORS to the Chapel Royal at Holyrood, says the *Scotsman*, will no doubt note with interest a work of renovation which has recently been carried out by command of the Queen upon the royal vault at the south-east corner of the roofless interior. Upon the entrance to the vault, which had hitherto been quite open to the air, and protected only by a wide iron grating, a door of light oak has been placed, bear- ing a brass plate and an inscription to the effect that "This vault of the Scottish kings contains the remains of David II.; of James II. and his Queen, Mary of Gueldres; of Arthur, third son of James IV.; of James V., his Queen Magdalen, and second son, Arthur, Duke of Albany; and of Henry Lord Darnley, consort of Mary Queen of Scots." The inscription goes on to say that "their resting-place was desecrated in the year 1688," and that recently "these mortal remains of her Stewart ancestors were reverently collected and en- tombed by command of Queen Victoria."

The remains to the re-entombment of which Her Majesty has thus paid such considerate attention have had an interesting history, and one not particularly creditable to the country. When the royal vault was constructed at Holyrood in the first half of the sixteenth century all the remains that could be collected were carried thither, an operation which was easy enough, inasmuch as they were embalmed and enclosed in lead. So they rested in safety until the troublous times of 1688, when the Revolution mob "wrenched open the leaden coffins and scattered the bones of James V. and Magdalen of France, with those of other royal personages, over the paved aisles of the abbey church." For a century or so the remains were exposed in the open to the elements and to the public gaze. Robert Chambers records that in the beginning of the present century a beldame cicerone would describe the bones in this style, "King Jamie's shouther, and nearly the hale o' the Countess o' Roxburgh, and baith Lord Darnley's thie banes, wi' a gude bit o' the Yerl o' Buchan's back." Shame at length compelled the authorities to collect the remains and place them in the vault on stone shelves laid in the wall of the old Norman doorway. There they lay, bleached white, up till a few months ago, when by Her Majesty's command they were carefully collected and reinstated in the restored tomb. The only coffin in the collection is that which is supposed to contain the remains of Mary of Gueldres, which was unearthed in 1848 in the removal of Trinity College Church to make way for the North British Railway.

GLASGOW ARCHITECTURAL ASSOCIATION.

AT the usual fortnightly meeting on Tuesday evening, March 21, in the rooms, 187 Pitt Street, Mr. Alex. McGibbon, M.A., in the chair, the chairman referred to the recent resolution sent to the Aberdeen Town Council regarding Greyfriars Church, mistakenly called St. Nicholas in the letter, and for which he took all blame. It was, of course, a confusion of names only; there had been no confusion of the buildings.

Mr. Sam Mavor then delivered a lecture on the "Electric Lighting of Interiors." The lecturer pointed out that it does not require a skilled craftsman to lay electric-light conductors in the grooves of wood casings erected by a joiner, nor to screw to their bases manufactured switches and such apparatus. The result is that much wiring work is done by men and lads who are not tradesmen and who are ignorant of the consequences which might arise from their inexperience or carelessness. Many defects are of a kind which cannot be discovered by ordinary tests after the completion of the work, and it is there- fore of great importance that wiring work should be inspected during progress. Architects were strongly urged to encourage their clerks of works to qualify as inspectors of electric-light wiring, as they only were in a position to give inspection of the nature required. The best arrangement of electric lamps in residences and other buildings was described, and the relative reflecting powers of walls of various colours, and the ratio of candle-power to superficial area and cubic contents to be lighted were given. It was pointed out that much money was wasted in the lighting of shop windows by unsuitable arrange- ments of lamps. Arc-lamps were often fitted too low, and

passers were dazzled by the glare, so that they could not see the goods exhibited. The barbarous practice of interposing unshaded electric lamps between the goods and the observer is much too frequent in shop windows. Lamps so placed make it impossible for an observer, without a painful effort, to see the objects beyond him. The vendor thus renders an inspection of his wares a disagreeable operation instead of an inviting diversion.

At the close Mr. Mavor was awarded a hearty vote of thanks for his valuable and instructive paper.

CONTINENTAL KURSAALS.

THE Corporation of Harrogate are about to erect a Kursaal, and for that purpose it was arranged to send a deputation to visit continental spas with a view to obtaining information and suggestions. The following descriptions are taken from the report :—

Ostend.

At the end of the Esplanade arises a magnificent building known as the "Kursaal." There are little or no grounds attached to it. The back part of the Kursaal is occupied by the following rooms :—A large ball-room, dining-room, café, billiard-room, gambling saloon with five gaming tables, reading-room, writing-room, flower shop, cloak-rooms, telephone exchange, &c. The front part consists of an oval-shaped concert-hall, capable of holding 6,000 people. The roof of this hall is arched and supported by several columns. A gallery 6 feet wide runs round it about 16 feet from the floor, with another smaller gallery close to the roof. The floor is tesselated. At the back of the hall there is an alcove with a curved roof. In this alcove is a gallery which projects slightly into the body of the hall and drops somewhat lower than the large gallery above referred to, and in this gallery the orchestra play, the effect of the curved roof being to send the music out into the body of the hall. At the back of this gallery is an organ. The hall is lighted by thirteen arc lamps, and we observed that there were one or two additional lamps which could be lighted when necessary. There is also a row of glow lamps round the arch, which is over the orchestra. Considerably more than half of the concert-hall is built on iron pillars, filled in with windows which in warm weather are hydraulically lowered into the ground, thus throwing the concert-hall almost entirely open. The concert-hall itself is surrounded by a covered promenade, which is closed in in winter by boards, and used partly as a winter garden and partly as a promenade, the concert-hall proper or the central portion being closed. Beyond the covered promenade is an open terrace overlooking the Digue. The furniture of the hall is of the simplest description, the tables being small round wooden ones, and the chairs being also wooden, with cane bottoms.

Spa.

The grounds attached to the Kursaal are about twice the size of the Harrogate spa. They are well timbered with full-grown forest trees. Between the trees are wide avenues, which form extensive promenades. In the centre of the principal promenade the ground opens out, forming a large circle. At one side of this circle there is a large café, in front of which the people sit in fine weather and listen to the band which plays in the centre. There is little attempt at gardening, most of the ground beneath the trees being covered with gravel, but here and there ornamental flower beds add light and variety to the scene. Everywhere beneath the trees were innumerable chairs and tables. In lieu of a Kursaal there is a fine covered promenade, composed of glass and iron with the exception of the roof, which is of slate and timber. The building is about twice the length of the winter garden at the Royal Baths, but not so elaborate, although it has the reputation of being the finest covered promenade in Europe. There are numerous curtains which give the place a more comfortable look than it otherwise would have, and we noticed that here instead of the wooden chairs and tables which they had at Ostend, they had a combination of iron and wood chairs and tables.

There is also in the town itself a rather extensive winter garden, adjoining the famous Pouhon Well or pump-room, which can be used for dancing, or in wet weather for a promenade for the water drinkers. We particularly noticed a pretty arrangement of palms, the plants being in large tubs raised on peculiar shaped pedestals of wood.

Aix-la-Chapelle.

The Kursaal here is a massive building, very like an ordinary concert-hall, and would not be at all suitable for Harrogate. Attached to the concert-hall is a very good ball-room and reading-room. There is a small garden attached to it, and the usual tables and chairs are placed under the trees for visitors to sit and listen to the band, smoke and drink coffee, beer, &c. The concert-hall itself would hold about 800 people, and smoking is allowed at ordinary concerts.

Ems.

This is a pretty little town with a river running through the centre and well wooded hills all round. The Kursaal is connected with the baths and has some lovely grounds overlooking the river. In the grounds is a covered promenade open at the sides, the roof being supported by iron pillars. The grounds are bounded by iron railings and not very extensive, and the band can be heard as well from the outside as from the inside.

The concert-room itself is square, with large plate glass windows. The furniture is of a very expensive nature, the chairs being mahogany and red plush, or mahogany and cane, the latter being exceptionally light and pretty. There was a square vestibule with parquetry flooring. No promenading is done in the room to judge from appearances, but there is an extensive balcony outside, whence the music can be heard, which answers the purpose. The internal decorations are of white and gold, with arched ceilings. Attached to the Kursaal is a very handsome newsroom, with large windows overlooking the grounds, parquetry flooring and handsome chairs and tables.

Wiesbaden.

This is another pretty town, which while standing at a lofty elevation, has a mild climate owing to its being surrounded by hills.

The Kursaal is a fine building, but rather dark. It is in the form of a parallelogram with pillars on both sides, and lit by large windows at either end and skylights in the roof. The floor is of parquetry, with sitting accommodation for 800, the gallery above accommodating an additional 350. No promenading or smoking is allowed in this room, and it is only used in winter and on wet days. There is in connection with it four reading-rooms, which are much frequented, and no fewer than 400 papers of all nations are taken in. There is also in connection with it a fine ball-room (which before 1873, when gambling was abolished in Germany, was used as a gaming-room), and large dining-rooms ; and we were informed that as many as 2,000 to 2,500 attended a fancy dress ball held there in the preceding winter.

In the grounds is a covered promenade, and one portion is fitted with all kinds of swings and games for children. There are also rows of small lock-up shops for the sale of fancy articles. The grounds are only separated from the public roads by railings, and the public may therefore enjoy the music free of charge, whilst the better class who may not wish to be unduly crushed can, by paying for the privilege, enjoy the music in the grounds.

The Council are not satisfied with the present Kursaal or concert-room, and are preparing for a new building more in accordance with modern requirements, which it is expected will cost £100,000.

Frankfort.

The principal place of entertainment is a handsome park, owned by a private company, and known as the Palm Garden. In the park is a concert-hall, but it is of secondary consideration only, and may be briefly described as a large and very lofty hall lit from the top and sides. A broad gallery for promenading, raised on pillars 17 to 18 feet high, goes round three sides of the hall. The flooring is of parquetry, and smoking is allowed all over. Although the hall must have cost a good deal of money, it does not appear to be much used, as the band during the season plays outside entirely. The principal attraction in addition to the band is the lovely grounds. The bedding out is of the most ornamental description, the colours being bright and pretty, and as the flowers decay they are replaced by others. There is also a wonderfully beautiful rose-garden. Roses of all sorts and colours in rich profusion are prettily arranged in groups and are also trained to form arbours and to grow round trees. Indeed everything of a permanent nature, even to the lamp-posts, is covered with roses. To keep the rose-garden clear of insects tobacco powder is used, and we were informed that this is found to be much more beneficial than any other thing that has been tried. The public are not allowed to walk on the grass, the verges being protected by curved iron hoops artistically formed to represent the branches of trees.

In addition to the above there is a large tennis-lawn, which, by a simple arrangement, can be flooded in the winter and used for skating. The ground round the lawn is raised 1½ foot, the grass growing well over the verges and being kept short like the lawn itself.

In the grounds are numerous artificial grottos, waterfalls and fountains and a large lake. As there is no natural stream to supply these, they use the old water over and over again, pumping it up by steam power. In consequence the water is somewhat dirty and unsightly. All the grounds are lit with the electric light.

Homburg.

The Kursaal is a magnificent building erected in the old gambling times. The rooms, which are all gorgeously painted

decorated, consist of a ball-room, dining-room, used in the time as a gaming-room; three reading-rooms and another ng-room overlooking the terrace. This dining-room with terrace is let for 1,700*l.* a year. Attached to the Kursaal covered promenade with marble and tiled floors. The menade is handsome but somewhat heavy.

Here again at the chief springs we noticed a very handsome ered promenade for the water drinkers. It is 100 yards and 8 yards wide, the roof being supported by pillars n either side. These pillars are made very pretty with bing plants. In this park also there is a rose-garden, the s being arranged in festoons and otherwise trained along rs and wires in a very pretty way.

Nauheim.

The Kursaal is on a large scale, and as in other places Germany, is a legacy from the gambling times. The cert-hall proper, which is immediately opposite the main ance, would be better described as a small theatre, and is bright and pretty. At one end of the building overlook- the garden is a large dining-hall with painted ceiling, and handsome mirrors all round the walls, and at the other is a reading-room. In addition to the above there are r reading-rooms, billiard-room, &c. 140 papers of all ons are taken in.

Baden.

The Kursaal here is another legacy from the gambling es. The principal concert-hall is in the shape of a paral- gram, decorated in white, blue and gold. It has a balcony ach end, parquetry flooring and verandah outside, where ple can promenade and hear the music at the same time. chairs are of a very light and pretty description, and have od deal of gilt about them. In connection with the concert- are many handsome rooms, including a large salle hand- ely painted and decorated, called the Hall of Flowers, and cipally used for dancing; a picture gallery, the pictures g on loan or for sale; billiard-rooms, ball-rooms, dining- ms, &c. The principal dining-room is let off for 750*l.* a r. In the park are several shops for the sale of ornaments. st of these shops belong to the town, and bring in a large enue.

Aix-le-Bains.

The Kursaal which was built in 1882 is a magnificently orated place, the accommodation being similar to the ers described, namely, theatre, concert-hall, dining-room, ling-rooms and gambling-rooms.

The Kursaal which cost some 120,000*l.* appears to be a l of joint-stock affair, divided into 320 parts or shares, on ch no interest or dividend is paid. The shares are held as ws :—Eighty belonging to the Government, twenty to the n, twenty to the charities, ten to the town of Chamburg, and to the general public. Whatever profit is made after ng expenses is divided and given half to the Church and to the poor.

Vichy.

The Kursaal or casino, as well as the baths and springs, are property of the State, and are leased to a company for 0*l.* per annum. In addition to this rental the company to keep in order the parks, light the town, and to give e concerts each week to the public, free. The Kursaal lf is nothing very special, the principal hall for music being ier small. The front of the Kursaal is all doors, with a ered terrace outside, and the people can sit either in or out ording to the weather, the hall being open to the garden. mbling is carried on extensively, not only in the Kursaal, but ll the cafés of the town.

TESSERÆ.

The Language of the Arts.

MODES of representing feeling pass away, even when the feelings themselves are innately human. The con- tional mask and representation of the Greeks become nged—we are too civilised for the simple, grand and some- t uncouthly vigorous forms of other days. We are not nout the genius that begets them—great things, grand and ple in conception and action—but we have other modes of ulging our fancy in them. In this respect literature has en place of the arts. The grand moral effect of pictures n the mass of people has passed away, and we doubt if it ever speak as it has spoken. We say not that grandeur is ttainable in the arts, far from it; but even that grandeur ch is inherent in all genius must invent itself new ways, and st upon the world, unconnected with what has gone before, manner, and perhaps in a style, that none can beforehand ct, and of which even the highest genius is as yet uncon- us. In other ages architecture and painting were the great book, as it were, which a whole people read; they had little other direct appeal to them. The appeal was with force and awful authority. It was practically as the Bible, before they had that in their hands to look to—the embodying and making palpable great moral and divine truths. Cathedrals spoke visibly, mankind were made greater by feeling a grandeur above themselves; they habitually felt the awe of genius, and genius then had scarcely another mode of speaking to the world. And great was the language of architecture and paint- ing; nor was the effect lessened by other distractions and other modes of speaking. Printing and diffusion of letters, the very circulation of the sacred book, have increased the re- sources of all civilised people. Among many voices, the one once so great and powerful is less heard. The language of architecture and painting has, if the expression be allowed, lost its divinity.

Gavelkind.

Gavelkind is, strictly speaking, a tenure, not a customary mode of descent. There are many places in and out of England where lands have immemorially been divided among all the sons, and indeed it was long before the doctrine of primogeniture was generally established in England. It was not till the reign of Henry III. that an ordinary freehold, not being held by military service, descended as a matter of course to the eldest son. In the West of England, and notably at Exeter, Wareham and the Isle of Portland, as well as in Norfolk, Suffolk and Nottinghamshire, it was usual to divide land on descent. Yet in none of these places was the name of gavel- kind heard until, in the sixteenth century, the judges, by giving special prominence to the most startling of the customs of Kent, introduced the habit of calling everything gavelkind which involved partability of land. Gavelkind was really the ancient law of socage tenements in Kent, and the free tenants, who held portions of Kentish manors by payment of rent or performance of general services of husbandry, were the "men of gavelkind." The Conqueror guaranteed the preservation of their laws, and in order that the powerful barons and knights might not buy up the freeholds and extinguish the peculiar tenure, it has been a maxim of the law, from the earliest Norman reigns to the present moment, that all land in Kent shall be presumed to be subject to gavelkind till the contrary is proved. There was no hardship in this to the feudal tenants whose military lands were always registered by the officers of the Exchequer, and there was great safety to the inferior tenants. Even before the Conquest the estates of these "gavelmen" or yeomen (they were much in the position of the Cumberland "statesmen") were kept apart from the estates of the gentry, and it was easy, as far as appears in the most ancient Saxon times, to specify which land belonged to gavelmen and which to the thanes. The first lands of the higher degree were held allodially by the king, the Church and the nobles. The lands of the gavelmen were held as petty freeholds by the rural tenants, who paid their rent in kind or in labour. When the rent was in kind it was called gavel-honey, corn-gavel, gavel-rafter and the like, and it is said that the name of the last remains in the gable end of houses, that portion being often built with the materials of the tenants who owed gablum or rent. In the Isle of Thanet the farms are still distinguished as corn-gavel and penny-gavel lands. At the Conquest the state of things in Kent was not much dis- turbed. There was a change of owners without a change of boundaries. In other words, the Norman baron or knight stepped into the place of the ejected thane, and received from the tenants of his manor precisely the same rents and services as his predecessor.

Clustered Columns.

The clustered column is one of the most prominent features of a Gothic vaulted room, and is therefore always set forth as a leading characteristic of the style. But the clustering of a pier is not merely a kind of enriched fluting, for every shaft and moulding which compose it bears a definite relation to the parts which lie above it, every one of which receives, in the decorative sense, an independent support from some member of the cluster. And notwithstanding the apparent variety of these groups, a remarkable degree of system may be detected by the comparison of them. If it were merely for the illustra- tion of the subject, it would be worth while to attempt to recover the laws and rules by which this system was governed; but when we discover in addition to its uniformity in one age and country that it was practised in different manners in different ages and countries, that its various parts may be traced from different districts, some from the earliest ages, others of later invention, the whole being gradually brought together with increasing complication, a new interest is excited, and the investigation becomes absolutely necessary to the history of architecture. We have said, "recover the laws," because the possibility of detecting them proves that they were recognised by the artists, and there is no doubt that the parts of Gothic decoration were as well defined in their own age as the division of a Roman entablature into architrave, frieze and

cornice, which, had Vitruvius been lost, we must have picked out for ourselves from a comparison of examples. Clusters are largely employed for the support of arches, as in rich doorways or the pier arches of churches. An archway of this kind may either be considered as a single arch decorated with a quantity of mouldings disposed in succession on its slanting surface and supported by a group of shafts and moulded pier-edges, or it may be resolved into a number of concentric archways successively placed within and behind each other. When these arches are considered as a whole, the variety of them appears so great and the decoration so various that no systematic description can be applied to them, and as many drawings therefore as there are examples are required to convey an accurate idea of them; but by dividing them into separate arches it will be found that the treatment of these is reducible to a few simple principles, of which a correct idea may be conveyed by figures, and that it is by variously combining these arches that so many different ones are produced, all of which may easily lend themselves to the language of description when the elementary notions are thoroughly acquired.

Greek Libraries.

Amongst the Greeks, as amongst other nations, the first libraries consisted merely of archives deposited, for the sake of preservation, in the temples of the gods. The sacred books, of which mention is made by Dionysius of Halicarnassus under the denomination of Deltids, were of this description. It has been often said that Pisistratus the tyrant was the first who established a public library in Athens, but the statement rests mainly on the testimony of Aulus Gellius, who wrote about 700 years after the time of Pisistratus. In this alleged library the founder is said to have deposited the works of Homer, which he had collected with great difficulty and at a very considerable expense, and the Athenians themselves were at great pains to increase the collection. The reputed fortunes of this library were various and singular, if true. It was transported to Persia by Xerxes, brought back by Seleucus Nicator, plundered by Sylla, and at last restored by the Emperor Hadrian. The entire story, however, is a conjectural one. That Pisistratus was a promoter of learning, and that he rendered eminent service by his Homeric researches, is incontestible. But that he formed anything which even remotely resembled a library, in the ordinary meaning of the term, is an assertion unsupported by adequate evidence, and just as little foundation is there for the romantic vicissitudes which complete the tale. Nor is there much better authority for the statement that when, on the invasion of the Roman Empire by the Goths (A.D. 260), Greece was ravaged, and in the sack of Athens they had collected all the libraries, and were upon the point of setting fire to this funeral pile of ancient learning, one of their chiefs, interposing, dissuaded them from the design, observing at the same time that as long as the Greeks were addicted to the study of books they would never apply themselves to that of arms. Strabo has stated that Aristotle was the first known collector of a library, and that to him was also due the honour of having suggested to the Ptolemies the formation of that great collection, which was scarcely more the wonder of antiquity than it has been the conundrum of modern scholarship. Aristotle bequeathed his library, with many of his own writings, to Theophrastus, who appears to have made considerable additions to it, and who, in his turn, bequeathed it to Neleus. The latter, according to Strabo, carried the collection to Scepsis in the Troad, where it subsequently fell into disorder, and was at length concealed in a cave, that it might escape the eager researches of the kings of Pergamus. "At length," continues Strabo, "but not before the books had been injured by damp and worms, they were sold to Apellicon of Teos—rather a collector than a philosopher—who, by unskilful attempts at the restoration of defective and mutilated passages in the writings of Aristotle, increased the injury by corrupting the text." On the capture of Athens by Sylla, the library of Apellicon—not that of Pisistratus—was seized by the conqueror and carried to Rome.

Piers and Shafts.

The various styles that immediately succeed the Classical are distinguished from each other principally by the different manner of using shafts, which in some styles are mere accessories, in others real supporters of weight. Thus in the interiors of the Christian Roman and Pisan churches the walls entirely rest on bearing shafts, and there are no compound piers. In the Romanesque of Lombardy and of the Rhine compound piers are universal, and often alternate with bearing shafts; and in the South of France the compound piers are used alone, and the bearing shafts employed are confined to the apsis. In the Byzantine, the principal feature of which is the mode of roofing by domes and waggon vaults, we find huge piers with their faces decorated with tiers of arches, but the shafts are confined to the support of decorative arcades, and hold no essential place in the mechanical structure, except in some smaller specimens, as at St. Fosca, Torcello, where they are placed under the arches that support the dome. There are no genuine compound piers, and the introduction of the essential feature of the Gothic appears due, therefore, to one of the Romanesque styles. In the Early Norman there is much greater massiveness and rudeness than in any other; their builders are fond of employing bearing shafts of two or three diameters in height, and their piers when compound are more complex than those of their contemporaries. Considered in the order of art, the Pisan style holds undoubtedly the first rank, from the classical beauty and elegance of their sculptured ornaments and mouldings. Of all the Romanesque styles, that of the South of France appears to possess the most simplicity and plainness of decoration, and yet the greatest complication of plan. Here, too, pilasters are used in the interior, of so Classical an appearance that if these were not pretty universal one should be tempted to believe them subsequent interpolations. They are fluted, sometimes with zigzag flutes, or else decorated with arabesques or sculptured mouldings; examples of them occur in the triforium and apsidal aisle of La Charité sur Loire, in the triforium of the choir of Lyons, and at Autun and Clugny. In the dispositions of the smaller shafts the angle-shafts afford a ready characteristic: these are susceptible of two modes of application, as edge-shafts and nook-shafts. The first kind are used in the Byzantine, South of France and Norman styles, the second in the Lombard, while in the Romanesque of Germany both kinds appear. The edge-shafts are introduced with much the greatest profusion in the Norman style, and to this belongs the introduction of them on the edges of the compound piers where they are never placed in any other style. Hence arises a greater richness and multiplying of parts in the piers, which led the way to the elaborate compositions of the Early period.

GENERAL.

Mr. J. Williams Dunford, architect, has been elected member of the Walthamstow Council as representative of the Wood Street ward.

The Metropolitan Asylums Board on Saturday adopted the preliminary plans for the erection of the proposed South Hospital, and it was ordered that they be transmitted to the Local Government Board for consideration prior to the completion of finished drawings.

The Fund for the Leeds Church Extension Scheme now reaches 30,000*l.* towards the 100,000*l.* required. Mr. W. Jackson and Mr. W. H. Kitson have each given 1,000*l.*, and there are several additional subscriptions of 500*l.* and downwards.

Mr. F. W. Pomeroy is making satisfactory progress with the statue of Mr. Gladstone, and it, as is hoped, the work completed by the end of this year, the memorial will be veiled in the Central Lobby of the Houses of Parliament the opening of next session.

The Greek Government have appointed a committee arrange for the construction of a pavilion in which the products of the country will be shown for the Paris Exhibition of 1900. The plans, prepared by an Athenian architect, have received the approval of the authorities of the Exhibition.

M. Rodin, the French sculptor, proposes to open a special exhibition of his own works in 1900 if the French Government will grant him a site for a temporary building.

The Late Dr. W. H. Willshire has bequeathed to the Corporation of London, for the Guildhall Library, his collection of books, prints and playing cards, and the cabinets and frames containing them.

Visitors to Barbizon, which is the abode of many French painters who have followed Millet's example, will shortly have the advantage of a tramway connecting the village with Melun.

The Loan Exhibition in the art gallery of the Guildhall, which is now being arranged, will be open on Sunday afternoons as well as on weekdays.

Mr. Paulton, M.P., asked the First Lord of the Treasury on Friday whether he was aware that, in the process of decorating St. Paul's Cathedral with Byzantine mosaics, the lettering and stencilling in red paint, the original stonework had been cut away to make room for the mosaics, and whether, having regard to the importance of preserving intact the architectural and artistic features of this great national monument, he will use his influence to assist in having inquiry made into the subject of the injury alleged to be caused in these respects by carrying out the present scheme of decoration. Mr. Balfour, in reply, said the Government had no power either of control or advice in the matter. He felt certain that the great artistic authorities who were concerned in the work of decorating St. Paul's Cathedral would feel, as everybody must feel, the great importance of preserving the historic structure unimpaired.

THE

rchitect and Contract Reporter

IMPORTANT NOTICE.

ORKMEN'S COMPENSATION ACT.

view of the many difficulties which are certain to in connection with the law, practice rules and dure under the above Act, we have added to our A VERY EMINENT BARRISTER, who has made ubject a special study, and will be glad to answer e columns of this paper any questions relating to omplicated matters arising from the provisions of difficult Act. Our LEGAL ADVISER will further er any legal question that may be of interest to readers. All letters must be addressed "LEGAL ISER," Office of "The Architect," Imperial Build- Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

uthors of signed articles and papers read in public must ecessarily be held responsible for their contents.

mmunication can be inserted unless authenticated by the ame and address of the writer—not in every case for ublication, but as a guarantee of good faith.

spondents are requested to make their communications brief as possible. The space we can devote to Corre- bondence will not usually permit our inserting lengthy mmunications.

TENDERS, ETC.

s great disappointment is frequently expressed at the non- ppearance of Contracts Open, Tenders, &c., it is par- cularly requested that information of this description be rwarded to the Office, Imperial Buildings, Ludgate rcus, London, E.C., not later than 2 P.M. on Thursdays.

NEW READING CASE.

Librarians of the Public Libraries and Reading- .—A new handsome Reading Case can be supplied nominal charge of 2s. by post 2s. 6d., on early ation to the Publisher, Imperial Buildings, Ludgate , London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

ADFORD.—April 14.—Designs will be invited for the n of the Bradford Corporation Cartwright Memorial t a cost of 38,000*l.* Three prizes will be offered, value 00*l.* and 50*l.* respectively. Particulars will be found in r column.

CONTRACTS OPEN.

BEXHILL.—April 22.—For erection of three police constables' cottages adjoining the county police station. Mr. F. J. Wood, county surveyor, County Hall, Lewes.

BRADFORD.—April 11.—For erection of chapel and schools, &c., in Carlisle Road and Drummond Road, Manningham. Mr. J. Ledingham, District Bank Chambers, Bradford.

BREAMORE.—May 1.—For erection of bridge over the river Avon at Breamore, Hants. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

BRIGHOUSE.—April 8.—For erection of retort-house and coke-tower at the Brighouse Gasworks, Mill Lane, for the gas committee. The Engineer, the Gasworks, Mill Lane.

BRISTOL.—For additions and improvements to Kingswood Church. Mr. E. H. Lingen Barker, architect, 15 Bridge Street, Bristol.

BRISTOL.—April 5.—For erection of a rope factory, &c., Bath Road, Arno's Vale. Mr. Henry Williams, architect, 24 Clare Street, Bristol.

CARDIFF.—April 8.—For completion of the Hayes End of the Morgan Arcade, Cardiff. Messrs. James & Morgan, Charles Street Chambers, Cardiff.

CARDIFF.—April 18.—For erection of a stable, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

CARLISLE.—April 14.—For completion of a school, out-offices, boundary walls, teacher's house, &c., at Botcherby. Mr. A. W. Johnston, architect, 81 Castle Street, Carlisle.

CHELSEA.—April 18.—For reconstruction of the two bath turrets at the infirmary in Cale Street. Mr W. M ller, clerk, 250 King's Road, Chelsea, S.W

CHESHIRE.—April 11.—For erection of six cottages near Helsby station, for the joint committee of the London and North-Western and Great Western Railway Companies. Mr. A. E. Bolter, secretary to joint committee, Paddington.

CUMBERLAND.—April 4.—For altering and renovating Clifton parish church. Mr. James Howes, architect, Workington.

CUMBERLAND.—April 5.—For alterations and additions to the Roman Catholic schools, Egremont. Mr. J. S. Stout, architect, Gillfoot, Egremont.

DERBY.—April 10.—For extensions to the electric-lighting station. Mr. Arthur Eaton, architect, 6 St. James's Street, Derby.

DURHAM.—For erection of seventeen self-contained dwelling-houses (brick) at Stella. Mr T. C. Nicholson, architect, Blaydon-on-Tyne.

DURHAM.—April 7.—For erection of the Ushaw Moor Wesleyan chapel at Ushaw Moor, near Durham. Mr. J. Walton Taylor, architect, Newcastle-on-Tyne.

DURHAM.—April 11.—For erection of the Johnston Electric School. Messrs. Oliver & Leeson, architects, Bank Chambers, Mosley Street, Newcastle-on-Tyne.

EVEN SWINDON.—April 8.—For erection of Primitive Methodist chapel in Rodbourne Road. Messrs. William Drew & Sons, architects, Victoria Street, Swindon.

FLEETWOOD.—April 4.—For construction of an underground convenience and other works. Mr. Joseph Tildesley, clerk, Town Hall, Fleetwood.

FORFAR.—April 8.—For erection of two cottages respectively at Glenprosen and Clova. Mr. D. Ross, surveyor, Kirriemuir.

GATESHEAD.—April 13.—For rebuilding the Foresters' Arms, Askew Road. Mr. A. G. Kyle, architect, 145 Pilgrim Street, Newcastle.

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GREAT YARMOUTH. — April 4. — For alterations and additions to Northgate school. Messrs. Bottle & Olley, architects, Queen Street, Great Yarmouth.

GREAT YARMOUTH.—April 8.—For additions to the Devonshire Hotel, Howard Street. Mr. Chas. G. Baker, architect, Great Yarmouth.

HALIFAX.—April 6.—For erection of an iron foundry, with workshops and offices, in Albert Road, near reservoir. Messrs. Jackson & Fox, architects, 7 Rawson Street, Halifax.

HALIFAX.—April 12.—For erection of sixteen houses on the Newstead Estate, Gibbet Lane. Mr. W. Clement Williams, architect, 29 Southgate, Halifax.

HALIFAX.—April 15.—For erection of dwelling-house and shoeing forge in Westgate. Messrs. Chas. F. L. Horsfall & Son, architects, Lord Street Chambers.

HASTINGS.—April 3.—For erection of stabling, loose-boxes, &c., at Rock-a-Nore Vine Farm, St. Helen's, and Silverhill. Mr. Ben. F. Meadows, town clerk, Hastings.

HULL.—April 5.—For construction of two river walls and contingent works, at the St. Andrew's Dock entrance, for the North-Eastern Railway Company. Mr. T. M. Newell, engineer, Dock Office, Hull.

IPSWICH.—April 13.—For erection of an addition to one of the wings of the new workhouse. Messrs. Salter & Adams and W. L. Newcombe, architects, Board Offices, Tower Street, Ipswich.

IRELAND.—April 8.—For erection of a church at Durrus, co. Cork. Mr. M. A. Hennessy, architect, 74 South Mall, Cork.

KEIGHLEY.—April 10.—For erection of foundry and other buildings in Bradford Road. Messrs. W. H. & A. Sugden, architects, Keighley.

KENDAL.—April 10.—For converting Old Zion chapel into Sunday schools. Mr. Stephen Shaw, architect, 45 Highgate, Kendal.

KIRKBY-IN-ASHFIELD.—For erection of schools. Mr. Lawrence Bright, architect, 9 St. Peter's Church Walk, Nottingham.

LANCHESTER.—April 5.—For construction of a bridge over New House Burn. Mr. W. H. Ritson, clerk, Lanchester, Durham.

LENBOROUGH.—April 8.—For erection of a farmhouse or the Lenborough Estate, near Buckingham. Mr. W. H. Castle surveyor, Town Hall, Oxford.

LEYTON.—April 4.—For erection of public baths. Messrs Harrap & Duffield, architects, 34 Queen Street, E.C.

LONDON.—April 10.—For construction of two underground conveniences near Camden Town station. Mr. W. N. Blair surveyor, Vestry Hall, Pancras Road, N.W.

LONGFORD BRIDGE.—April 8.—For taking-down and re building the south-easterly retaining walls, new fencing, inci dental works, &c. Mr. W. H. Radford, county bridgemaster County Offices, Preston.

LOWESTOFT.—For erection of a villa residence on the Ganton Cliffs Estate. Mr. W. J. Roberts, architect, Lowestoft

LOWESTOFT.—April 10.—For erection of a laundry a Oulton Workhouse. Mr. Alfred Clarke, architect, 126 Londor Road, Lowestoft.

MANCHESTER.—For erection of two temporary wooden stands at Old Trafford Cricket Ground, each to hold 1,000 people. The hon. secretary, 26 Barton Arcade, Manchester.

MANSFIELD.—April 17.—For additions to the Fores Hospital, Southwell Road. Mr. R. Frank Vallance, borough surveyor.

MARK.—April 8.—For erection of a new clyse near Stool House. Mr. Oliver Urch, Mark, Highbridge, Somerset.

PENZANCE.—April 17.—For erection of a new buoy stor and other works at Trinity Store. The Secretary, Trinity House, London, E.C.

SCOTLAND.—April 3.—For addition to Ardrossan Academy Ardrossan. Mr. John Armour, jun., architect, Irvine.

SLEAFORD.—April 4.—For erection of the superstructure o the new lunatic asylum at Rauceby, near Sleaford. Mr. Georg T. Hine, architect, 35 Parliament Street, Westminster, S.W.

STROUD GREEN.—April 10.—For erection of buildings fo a branch public library. Mr. E. J. Lovegrove, surveyor Southwood Lane, Highgate, N.

TIPTON.—April 6.—For erection of a block of schools a Ocker Hill, Tipton. Mr. Alfred Long, architect, 21 High Street, West Bromwich.

WALES.—April 3.—For erection of seventeen houses a Cwmaman, Aberdare. Mr. Llewellin Smith, architect 20 Commercial Street, Aberdare.

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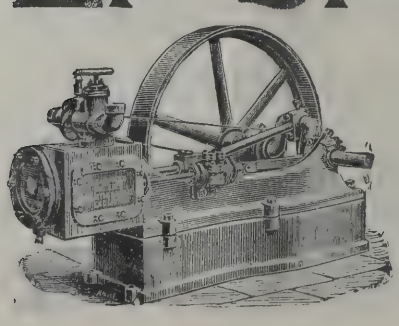
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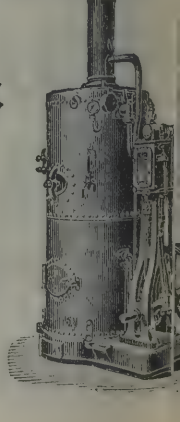
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[*Mention this Journal.*]

WALES.—April 3.—For erection of a chapel, vestry-room caretaker's house, Pontycymmer. Mr. P. J. Thomas, itect, Bridgend.

WALES.—April 5.—For erection of a concrete wall, drainage other works to support the landslip between the main road the river Usk, near the village of Llangrwyne, between khowell and Abergavenny. Mr. H. Edgar Thomas, clerk, nty Hall, Brecon.

WALES.—April 8.—For erection of a county school, &c., at 'refail, near Carnarvon. Mr. Rowland Lloyd Jones, itect, 14 Market Street, Carnarvon.

WALES.—April 10.—For alterations and improvements to rnacle, C.M. chapel, Blaenau Festiniog. Rev. R. R. ris, Bronygraig.

WALES.—April 10.—For erection of a villa residence at elly, near Pyle. Mr. P. J. Thomas, architect, Bridgend.

WALES.—April 19.—For erection of a Board school and er's residence at Johnstown, Ruabon. Messrs. J. Morison n, architects, King Street, Wrexham.

THE Berkefeld Filter Company, Limited, inform us that all dining, luncheon and kitchen cars of the new Great ral Railway have been fitted out with Berkefeld filters.

PLANS for the new post-office for Ormskirk have been pre- d by Mr. John Riding, architect. The selection of tenders he work will take place in a few days, and a start will be e as early as practicable. The new premises, which are to rected in Aughton Street on the site of very old buildings, not far from the present office on the Cross, are as central ould in the circumstances have been obtained, and the ion meets with the approval of the majority of the business le, a counter petition in favour of a site in Burscough et having failed. The frontage will not be imposing or of rnamental character, but the convenience and aptitude in rd to the internal arrangements will be highly satisfactory. new plans provide for a large sorting-room, telephone and raph, female clerks' and other rooms, and attached to the will be the postmaster's house.

TENDERS.

BRIXTON.

For erection of shops and flats, Cold Harbour Lane. Mr. E. C. HOMER, architect.

Minter	£20,375	0	0
Grover & Sons	20,364	0	0
Godson & Sons	20,082	0	0
Patman & Fotheringham	19,757	0	0
Chessum & Sons	18,990	0	0
Nightingale	18,953	0	0
Kirk & Randall	18,840	0	0
Killby & Gayford	18,836	0	0

FULHAM.

For erection of generating station, &c., in the Townmead Road, for the Fulham Vestry. Mr. F. H. MEDHURST, consulting electrical engineer, Westminster Chambers, 13 Victoria Street, Westminster, S.W. Quantities by Mr. WALTER HERRING, Trafalgar Buildings, Charing Cross, W.C.

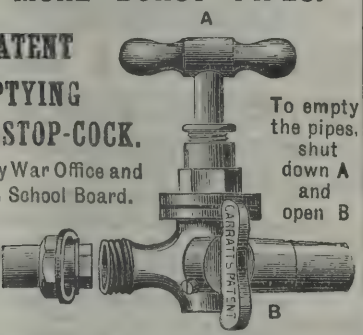
T. Bendon	£26,805	0	0
Clift Ford	24,690	0	0
C. G. Hill	24,515	0	0
B. E. Nightingale	24,355	0	0
Spencer, Santo & Co., Limited	24,254	0	0
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J. Carmichael	5,054	0	0
C. Wall	5,028	0	0
W. Johnson & Co., Limited	4,952	0	0
Lathey Bros.	4,690	0	0
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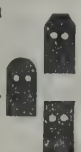
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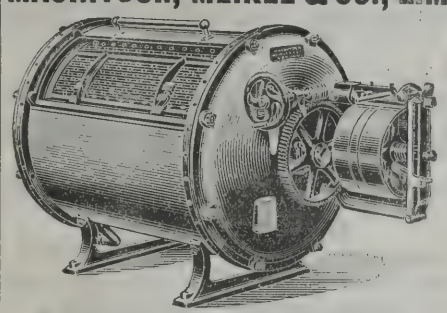

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Rice & Son	599 0 0
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Lathey Bros.	3,042 0 0
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C. W. Killingback & Co.	2,877 0 0
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J. C. & J. S. Ellis, Limited	247 10 0
W. G. Cannon & Sons	240 0 0
A. J. Kallaway & Co., Limited	209 0 0
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Snewin Bros. & Co.	274 0 0
W. Shurmur	262 0 0
W. Silk & Son	246 0 0
Collis Willmott	215 0 0
Marchant & Hirst	169 0 0
J. Kybett	168 0 0
G. Barker	162 0 0
J. Haydon	158 0 0
S. H. CORFIELD (*accepted*)	128 0 0

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For interior cleaning, Belvedere Place.

Lathey Bros.	£272 15 0
Edwards & Medway	246 15 0
H. J. Williams	223 0 0
J. F. Ford	207 0 0
F. R. Blaxton	201 19 0
E. Proctor	193 0 0
E. Triggs	170 0 0
B. E. Nightingale	162 0 0
HOLLIDAY & GREENWOOD (*accepted*)	154 0 0

For interior cleaning, Ricardo Street.

C. S. Jones	£283 0 0
A. W. Derby	266 10 0
T. Wilson	206 0 0
S. H. Corfield	157 0 0
J. Kybett	156 0 0
J. F. HOLLIDAY (*accepted*)	145 0 0

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J. Grundy	532 0 0
T. S. Knight & Sons	468 0 0
G. Davis	460 0 0
Duffield & Co.	450 0 0
C. KITE & CO. (*accepted*)	435 0 0
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Kirk & Randall	5,118 0 0
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E. Proctor	4,626 16 0
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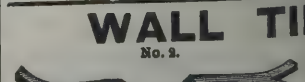
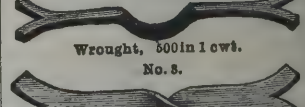
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…r new school, Princess May Road.

G. S. S. Williams & Son	£24,674	0	0
J. Chessum & Sons	24,648	0	0
F. & F. J. Wood	24,384	0	0
J. & M. Patrick	24,311	0	0
W. Johnson & Co., Limited	24,262	0	0
W. M. Dabbs	24,197	0	0
T. L. Green	24,175	0	0
C. Cox	23,722	0	0
J. Grover & Son	23,619	0	0
W. Scrivener & Co.	23,521	0	0
L. H. & R. Roberts	23,132	0	0
E. Lawrance & Sons	23,064	0	0
Perry & Co. (*accepted*)	22,423	0	0

…r scheme of structural alterations and improvements, Tennyson Street school, Battersea.

J. Marsland	£18,390	0	0
C. Cox	18,243	0	0
Kirk & Randall	18,205	0	0
F. & H. F. Higgs	18,158	0	0
E. Parsons & Co.	18,083	0	0
Holloway Bros.	17,912	0	0
J. Carmichael	17,818	0	0
W. Downs	17,775	0	0
Lathey Bros.	17,685	0	0
W. Johnson & Co., Limited	17,533	0	0
E. Lawrance & Sons	17,492	0	0
Edwards & Medway	16,568	0	0
Gregory & Co.*	15,987	0	0

…r forming manual centre, Tower Street school, Seven Dials.

W. Hornett	£331	0	0
T. Cruwys	325	0	0
Johnson & Co.	240	0	0
T. Nicholson*	195	0	0

…r erecting gallery across girls' hall, Mansford Street school, Old Bethnal Green Road.

E. Spencer & Co.	£569	10	0
E. Lawrance & Sons	397	0	0
J. Grover & Son	384	0	0
G. S. Williams & Son	379	0	0
McCormick & Sons	298	10	0
Marchant & Hirst*	282	0	0

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For sanitary and drainage works, St. John's Road school, Hoxton.

J. Willmott & Sons	£2,076	0	0
E. Lawrance & Sons	2,064	0	0
G. Foxley	2,045	0	0
R. P. Beattie	2,014	16	2
Marchant & Hirst	1,927	0	0
Ashby & Horner	1,911	0	0
Stevens Bros.*	1,864	0	0

For works to offices, Station Road school, Highbury.

Ashby Bros.	£1,924	0	0
McCormick & Sons	1,800	0	0
F. Britton	1,600	0	0
G. Godson & Sons	1,584	0	0
Rice & Son	1,437	0	0
F. Gough & Co.	1,401	11	0
Ashby & Horner	1,336	0	0
C. W. Killingback & Co.	1,242	0	0
Martin Wells & Co.*	1,229	0	0

For cutting-out lower part of house for new entrance and adapting upper rooms for schoolkeeper, John Ruskin school, Beresford Street.

E. Lawrance & Sons	£1,068	0	0
J. Marsland	830	0	0
H. & G. Mallett	688	0	0
J. Smith & Sons	649	0	0
Jones & Groves*	570	0	0

For adaptation of house for schoolkeeper, Blomfield Road school, Plumstead.

Thomas & Edge	£425	0	0
J. H. Hodgin	415	0	0
C. Foreman	387	0	0
E. Proctor	350	0	0
Jones & Groves*	269	10	0

For electric lighting, Upper Kennington Lane school.

Drake & Gorham	£385	10	0
The Westminster Engineering Company, Limited	369	10	0
F. Geere Howard	318	0	0
Laing, Wharton & Down, Limited	292	0	0
Wood & Co.*	267	0	0

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H. C. Price, Lea & Co.	£98 0 0
J. Fraser & Son	96 0 0
J. Esson	85 0 0
J. & F. May	82 0 0
J. C. & J. S. Ellis, Limited	72 10 0
Palowkar & Sons	59 15 0
G. Davis*	55 0 0

For additional heating, Addington Street school.

Comyn Ching & Co.	£58 0 0
Vaughan & Brown, Limited	57 0 0
W. G. Cannon & Sons	55 0 0
W. Simmons	49 19 0
T. S. Knight & Sons	44 10 0
Stevens & Sons	40 0 0
J. Grundy	38 9 0
Duffield & Co.*	37 0 0

For additional heating, Hatfield Street school, Blackfriars.

H. C. Price, Lea & Co.	£285 0 0
J. C. & J. S. Ellis, Limited	239 5 0
W. G. Cannon & Sons	234 0 0
Wenham & Waters, Limited	222 0 0
G. Davis	220 0 0
Sharp, O'Brien & Co.	205 0 0
Berry, Campbell & Co.	182 10 0
C. Kite & Co.	175 0 0
G. & E. Bradley*	169 10 0

For double windows for rooms in front of school, Gravel Lane school, Houndsditch.

H. Line	£535 0 0
Johnson & Co.	520 0 0
G. Munday & Sons	457 0 0
F. R. Blaxton*	246 10 0

For partition in boys' department, Vauxhall Street school, Lambeth.

G. Brittain	£47 10 0
J. Marsland	45 0 0
B. E. Nightingale	42 10 0
W. V. Goad	33 10 0
Rice & Son*	30 0 0

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For improving ventilation of large classroom, William Street pupil teachers' school, Hammersmith.

G. H. Sealy	£195 0 0
F. T. Chinchen	124 10 0
W. Hammond	113 5 0
R. S. Buckeridge	107 0 0
W. R. & A. Hide	95 15 0
W. Brown	92 0 0
C. Gurling*.	85 0 0

For partition in infants' department, Honeywell Road school, Wandsworth Common.

W. Hammond	£175 0 0
R. E. Williams & Sons	165 0 0
Lathey Bros.	149 0 0
B. E. Nightingale	134 0 0
Maxwell Bros., Limited	134 0 0
E. Triggs	112 0 0
J. Garrett & Son*	108 0 0

For partition in boys' department, Sherbrooke Road school, Fulham.

Maxwell Bros., Limited	£77 0 0
Lathey Bros.	75 0 0
W. Hammond	68 10 0
E. Triggs	62 0 0
J. Garrett & Son*	57 0 0

For partition in girls' department, Rotherhithe New Road school.

J. C. Chalkley	£97 0 0
W. V. Goad	85 0 0
Bruce, Croom & Co.	75 17 6
J. F. Ford	72 0 0
J. Marsland	68 0 0
E. Spencer & Co.	61 0 0
Maxwell Bros, Limited	57 0 0
W. Martin*	54 0 0

For enlarging boiler-room, Bromley Hall Road school, Bromley.

G. Barker	£220 0 0
A. W. Derby	197 0 0
J. F. Holliday	167 18 6
J. T. ROBEY (*accepted*)	160 0 0

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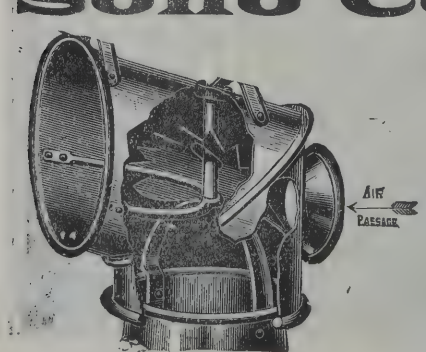
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OVERTON.

For various works required to be done in alteration, addition and repairs to the Red Lion inn. Mr. R. S. WALLIS, architect, Basingstoke.

Musselwhite & Son	£654 0 0
E. Kersley	630 0 0
J. Harris	487 0 0
E. J. BATTEN, Overton (*accepted*)	483 0 0

PORTISHEAD.

For reconstruction of drainage at Northwoods. Mr. T. J. MOSS FLOWER, engineer, 28 Victoria Street, Westminster.

Jenkins	£72 0 0
Woodford	56 0 0
G. BISS & SONS, Portishead (*accepted*)	49 16 0

SCOTLAND.

For erection of a cottage to be built at South Side, Grantown. *Accepted tenders.*

A. Grant, Grantown, mason	£265 0 0
R. Ross, Grantown, carpenter	239 10 0
W. Duffes, Grantown, plasterer	121 17 6
J. Stewart, Grantown, plumber	84 0 0
R. Bain, Grantown, slater	49 10 0
Dixon & Bain, Grantown, painter	36 0 0
J. Smith, Grantown, blacksmith	12 10 6

WEST HAM.

For supply and erection of about 890 feet run of wrought-iron fencing, with gates, at the West Ham Park, Portway. Mr. LEWIS ANGELL, borough engineer.

Vaughan & Brown	£620 0 0
Fowler & Co.	505 0 0
J. Elwell	431 10 0
Raybould & Co.	429 0 0
Young & Marten	414 10 0
Reedman & Co.	397 10 0
Bayliss, Jones & Bayliss	372 7 6
Hill & Smith	371 0 0
Hayward & Sons, Limited	370 0 0
McVEY, RENNIE & Co., Kennington Park Road (*accepted*)	355 15

WHITBY.

For reroofing and other alterations at St. Hilda's Terrace. Mr. E. H. SMALES, architect, 5 Flowergate, Whitby.

J. Braim	£438 0 0
J. Gladstone	425 0 0
J. Russell	421 11 0
W. G. Harrison	420 0 0
T. R. Fletcher	334 19 0
C. WINTERBURN, Silver Street (*accepted*)	297 0 3

WOOLWICH.

For sewering, levelling, paving and channelling Barge House Road. Mr. H. O. THOMAS, surveyor, Town Hall, Woolwich.

W. GRIFFITHS, North Woolwich (*accepted*)	£455 0 0

WORSBOROUGH.

For construction of 150 yards of sewer, with manholes, &c., at Worsborough Bridge. Mr. J. WHITAKER, surveyor.

W. Higham	£61 0 0
F. C. Brown	56 17 0
H. Burrows & Son	55 9 6
PORTER & SON, Worsborough Dale (*accepted*)	47 3 0

THE county borough of West Ham, having acquired the Rookery Farm at Dagenham, Essex, 116 acres in extent, have isolated a space of 3¾ acres on which they have erected a smallpox hospital, from designs prepared by Mr. Lewis Angell, the borough engineer and architect. The hospital comprises an entrance lodge and offices; an administration block, including the medical officer's and matron's rooms, twenty-eight bedrooms for nurses and attendants, mess-rooms, dispensary, kitchen, laundry, and other offices; two pavilions containing four wards, each ward 60 feet long by 26 feet wide, also a receiving-room, bath-rooms, nurses' duty-rooms and sanitary annexes; isolation block for four beds and offices; discharging block, laundry, disinfecting chamber and mortuary. The hospital will accommodate forty-four patients and necessary staff. The materials used are stock bricks, with Portland stone and red brick dressings. The buildings have cost about 17,000*l.*, exclusive of site. Messrs. Gregar & Sons, of Stratford, were the contractors.

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TRADE NOTES.

MESSRS. E. H. SHORLAND & BROTHER, of Manchester have just supplied some more of their patent Manchester grates to the Girls' Intermediate Schools, Cardiff.

ADDITIONS are being made to the Larbert Imbecile Institution (Messrs. A. & W. Black, of Falkirk, architects), and special attention is being given to the ventilation, which is being carried out by means of Cousland's improved "Climax" patent direct-acting invisible roof-ventilators, supplied by the "Climax" Ventilating and Heating Company, Limited, sole manufacturers, 93 Hope Street, Glasgow.

MR. JOSEPH BLACKBURN, of Gresham Works, Nottingham, informs us that he has made arrangements for the introduction of further working capital into his business by converting it into a private limited company, and has registered same as "Blackburn, Starling & Co., Limited," which will be advertised during the week. No change will be made in the management of the various departments, nor will any shares be publicly offered.

THE Catholic College of St. Cuthbert, Ushaw, Durham, which stands on a bleak eminence overlooking Beaurepaire (or Bear-park), was founded by Dr. Gibson, the Catholic bishop, in 1804, for refugees escaping from France during the Revolution. It is now a seminary for Catholic students, and was enlarged in 1849. The chapel was designed by the late A. W. Pugin, and the library contains about 50,000 volumes of books. To commemorate the restoration jubilee, a new illuminated turret quarter-chime clock, showing the time upon two external dials, is now being erected by Messrs. Wm. Potts & Sons, clock manufacturers, of Guildford Street, Leeds, and Newcastle-on-Tyne, from orders received from the committee. Messrs. Wm. Potts & Sons are also fixing four new illuminated dials, 7 feet each in diameter, at the Town Hall, Darlington, co. Durham, for the mayor and corporation. The mayor and corporation of Carlisle have also given instructions to Messrs. W. Potts & Sons to make and fix a new illuminated clock at the Town Hall, Carlisle, new illuminated dial and clock at Christ Church, restore Holy Trinity Church clock and clean the Corporation large clocks at the markets and free library. Messrs. Potts have the above now in hand.

THE recent great fire at the Hotel Windsor in New York once more brings to the fore the great necessity for having these establishments properly protected from sudden outbreaks of fire. It is very satisfactory to learn that most of the principal hotels in England are fully equipped with the latest and best fire-extinguishing plant, but it does not necessarily follow that the employés at these hotels know either where they are kept or how to use them when found. It is therefore a matter of the most vital importance that some organisation should exist among the members of the staff. Some responsible employé should be appointed as "captain," and it should be his duty to see that every employé, male and female, is acquainted with the best way in which to use the fire-fittings should a fire at any time take place. Occasional "parades" should be arranged and fire-drill gone through, utilising the apparatus which would be employed at an outbreak. Every employé should have his or her definite fire duty to do, so that no confusion need arise at a time when every moment is precious, and when the value of perfect discipline is most appreciated. Every member of the staff must know how to use the "Chute" fire-escapes, which should be found in every hotel, and which are such excellent means for rapid and safe egress from a burning building. Among the hotels and clubs which have followed this system under the supervision of Messrs. Merryweather & Sons—who send experts to keep the staff and fire appliances in an efficient and ready state—may be mentioned the Bath Hotel, the Berkeley Hotel, Charing Cross Hotel, Carlton Club, Café Royal, London, the Reform Club and many others. We can only hope that their example will be followed by other proprietors for their own sakes, as well as for the safety of the travelling public.

ELECTRIC NOTES.

THE electricity committee of the Manchester Corporation have received the sanction of the Board of Trade to their proposal to supply electrical energy to the districts of Levenshulme, Moss Side and Withington on what is known as the extra high pressure principle. Under this system a maximum pressure of 500 volts will be reached. The electrical energy will be transmitted at this voltage to distributing stations in the area of supply, and there transformed into a low-pressure direct continuous current. The communication from the Board of Trade sanctioning the application was read at a recent meeting of the committee.

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A new system of incandescent electric light has been evised by Professor Nernst, of Gottingen. It is stated that he light produced requires neither vacuum nor tender fila- ents. The essential point of the invention is that when agnesia is heated above 3,000 deg. C. (a temperature far bove the melting-point of platinum) it becomes a good con- uctor, and a very weak current is sufficient to keep it in an tensely luminous condition. As advantages over the ordinary candescent lamps Professor Nernst claims that the same mount of light can be furnished at one-third the cost, and at, as the magnesia allows of being heated to a much higher egree than a carbon filament, a purer light is obtained. At he Society of Arts meeting last Wednesday lamps of Dr. Nernst's invention were exhibited which shone like little suns, nd were urged by currents so intense that any type of lamp present in use would have been destroyed at once. The eculiarity of the invention, as stated above, is that the filament replaced by a rod, not of carbon, but of metallic oxides. Dr. ernst at first tried magnesia and lime, but has lately substi- ted for these the same materials as are used in the Welsbach antles, thereby adding greatly to the luminosity. Another ature of these lamps is that they do not require to be enclosed a vacuous bulb, and, strangest of all, they need the aid of match or spirit lamp to start them. This last condition is not r the ordinary purpose of kindling anything, however. The ason is that the cold rod has a resistance so great as to rbid the passage of a current along it, so that merely turning e switch produces no result; but when the resistance is suffi- ently diminished by heat the lamp lights up brilliantly. It mains to be seen whether the invention will prove a com- ercial success.

At the monthly meeting of the Bettws-y-Coed Urban istrict Council, a report which was presented by a committee residents who had been appointed by a public meeting to port upon the advisability of carrying out an electric-lighting heme for Bettws-y-Coed, set forth the opinion of the com- ittee that the only available water supply for the purposes of local instalment was the Swallow Falls. An instalment could e put down, including building and the "wiring" of the strict, for less than 2,000*l.* They believed that by using the ater power from the falls the electric energy could be supplied consumers at 5*d.* per unit, with a substantial margin, if the arl of Ancaster would grant the necessary permit at a nominal nt. The report further advised the ratepayers to authorise e Council to employ Messrs. Gilbert Gilks & Co., Kendal, to report upon the scheme, at a fee of 10*l.* 10*s.* Mr. E. Davies Jones considered it was inadvisable to utilise the Swallow Falls for such a purpose, as it was one of the sights of Bettws- y-Coed, and it was better to have no electric lighting than to detract from the beauty of the falls. Mr. Rowlinson said that if their gasworks were not such a rotten affair, the electric light would be unnecessary. The Chairman fully concurred in the importance of doing nothing that would detract from the beauty of the falls, which were such an attraction to visitors. Mr. R. Pullan moved that the electric-lighting question be deferred for the present. Mr. E. Davies Jones seconded and it was carried.

VARIETIES.

The Prince of Wales has consented to lay the foundation-stone of the new Post Office Savings Bank building at West Kensington. The ceremony will probably take place in June.

A valuable antiquity has just been presented to the Canterbury Museum in the shape of a chair, stated to be the authentic chair used by St. Augustine in the sixth century.

New schools in connection with Chapel Lane Unitarian chapel, Bradford, which have been built on the site of the old schools, have been opened. The cost of the schools is 1,700*l.* The buildings include an assembly hall called the Channing Hall, which has been added as a memorial to the late Dr. Channing.

At its first meeting after the Easter recess the London County Council will be advised by its improvements committee to contribute one-fourth of the net cost of widening Lower Thames Street to 60 feet between Botolph Lane and Fish Street Hill. This contribution is estimated at 50,000*l.*

The Edinburgh Architectural Association visited on Saturday afternoon last four houses now in course of completion at Mortonhall Road. The plaster-work in these houses is exceptionally interesting. The leader, Mr. Harold Tarbolton, architect, who modelled the decorative plaster-work, referred to the difficulty experienced by architects in securing good modellers, and urged the Edinburgh plasterers to assist architects in this matter, as the ability to carry out good work would create a demand for it. The party then visited Grange House.

Mr. Aston Webb, architect, has been elected an Associate of the Royal Academy. The new Associate is a son of the late

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Mr. Edward Webb, engraver and water-colour painter, was in 1884 president of the Architectural Association, and is a vice-president of the Royal Institute of British Architects. His name is associated with churches and public buildings, not only in London, but in many parts of the country as well He is the architect for the completion of the South Kensington Museum, and, with Mr. Ingress Bell, designed the new schools of Christ's Hospital.

IN the course of extensive alterations at a shop in Dudley Street, Wolverhampton, the workmen came upon a circular opening at the end of the cellar beneath the shop floor. On passing through the opening several of the workmen saw an ancient well, with an old iron ladder of seventy rungs reared up to the top of it. At a depth of 85 feet was a bricked chamber, and at a higher level was a low brick-lined passage 45 feet long, and terminating underneath the South Staffordshire Brewery in Market Street. A few months ago a deep well was accidentally discovered in the same street, and ancient wells with secret passages were found when making excavations for the Empire Music Hall.

THE new chapel which has been erected to meet the wants of the rapidly-increasing Primitive Methodist community in Oswestry was formally opened on the 13th inst. The building will seat 425 people, and it has been erected at a total cost of 1,600*l*., from the designs of Mr. J. D. Mould, of Manchester. The builder is Mr. Jabez Higgins, of Oswestry. The electric light is installed throughout, and the building is heated by means of hot-water pipes.

A GOVERNMENT proposal to erect a police-station on the outer moat of Castle Rushen, a fine Manx fortress 700 years old, was referred to a committee of the Legislature, and the committee have reported disapproving of the site. They say:—"The Manx people are justly proud of Castle Rushen, the ancient historic monument of this ancient kingdom. We think the people would prefer to incur the expense of a new site rather than that the castle should not be seen in a manner worthy of its grandeur and importance."

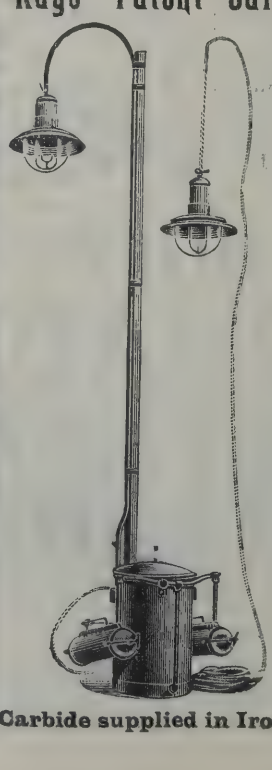
THE Ayr Town Council met on the 16th inst. to consider and, if so resolved, to confirm the recent resolution of the Council to acquire a part of the Boswell Field, Sandgate Street, in which to erect a new town hall. The site was to cost 4,200*l*., and the hall was estimated to cost about 23,000*l*. After discussion Provost Templeton moved, seconded by Dr. Naismith, that the resolution to acquire the Boswell site be confirmed. Bailie Smith moved an amendment in opposition which was seconded by Mr. William Lamb. On a division the amendment was carried by eight to seven—that the site be not acquired. A petition from about 100 ratepayers was laid on the table asking that the hall be rebuilt on the old site.

WHEN the bicentenary of the building of the Rawdon Friends' Meeting-house was celebrated in 1897, it was decided to commemorate that interesting event by doing something to improve Rawdon School and raise its scientific equipment nearer to the standard of modern educational requirements. A new laboratory was planned, with a workshop for the boys and music-rooms for the girls. A new gateway and improved approach also entered into the memorial scheme, which further provided for the introduction of hot-water heating apparatus throughout the school. The foundation-stone of the proposed wing was laid on June 4, 1898, and on Saturday afternoon this new wing was formally opened.

THE Director of Antiquities and Fine Arts in Tunis has undertaken a series of excavations which have led to important discoveries. After having penetrated below the upper strata, which contained tombs and mosaics of the Byzantine epoch, a colossal head of Marcus Aurelius was found, together with two large mosaics, one representing Venus and the other a race between armed horsemen. These mosaics covered a tomb, into which a door opened. In the tomb a number of statues of priestesses were found, and eight or nine statuettes. In addition forty tombs of the Punic epoch, containing Carthaginian vases, ostrich eggs and collars of precious stones, were found. The excavations are still going on.

A PUBLIC wash-house, erected by the Corporation of Glasgow for the Townhead district of the city, at a cost of about 5,000*l*., was opened on Friday last. The building, situated in Kennedy Street, is a substantial one of red sandstone, and is fitted up with fifty washing-stalls, several washing-machines driven by hydraulic power, and ample hot-air drying apparatus. Each washing-stall has a raised tub for washing smaller articles of clothing, and a lower and larger one for the tramping of blankets and heavier articles. A charge of 2*d*. per hour is made for each stall. All that the owner of the washing has to supply is soap and the labour. The drying apparatus is so effective that the washerwoman is enabled, very shortly after the washing process is completed, to carry off the clothes perfectly dried.



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THE large new hall and other premises which have been n course of erection during the past year in connection with Jnion Street U.P. church have been recently opened. The hall ias a handsome frontage to Union Street, immediately adjoin- ng the church, and forms a valuable and much-needed addi- ion to the resources of the town. It is capable of accom- nodating an audience of 450, and for ordinary purposes is ivided by folding doors into two smaller halls of different size. The partition doors fold back into a recess on each side of the all, and form no obstruction when the whole hall is used. Behind it are a large new session-house, cloak-rooms, and other ccommodation. The cost has been about 2,000*l.*

HIGH STREET CHURCH, Bolton, which has for some time een closed for redecoration and the installation of the electric ght, was reopened on the 12th inst. The body and gallery of ne church are now lighted by five 7-light coronas, and the hoir gallery by two 4-light coronas. Separate screen lights re provided for the organist and pulpit. The entrance and estibule have floral wrought-iron cylinder fittings. The large choolroom is illuminated by two 10-light coronas, of similar esign to the church, and the whole of the vestries and class- ooms have been relighted with fittings of a chaste design. The controlling switch and distribution boards are of a special esign, being sunk flush with the wall and mounted on namelled slate bases, with glass front panels, ivory labels eing provided to denote the separate controlling switches. No pains or expense have been spared by the chapel trustees o make the relighting both artistic and effective. The decora- on of the ceiling is of Italian design, formed into nine panels, ith moulded cornice. The whole of the ceilings have been lined with paper and then painted, and finished in ivory white and light fawn. The cornice and enrichments have been picked out in subdued colours to harmonise.

ADDINGHAM CHURCH, after undergoing restoration, has now been reopened. Messrs. Oliver & Dodgshun, Carlisle, were the architects employed in the restoration, and the work done, which cost about 500*l.*, is as follows:—The chancel has been reroofed entirely, and it and the body of the church have been reseated. The inner roof of the chancel is of oak, as also are the new choir stalls, the pulpit, &c. A new inner ceiling with Canadian redwood mouldings has been placed underneath the old roof of the nave, taking the place of the old flat ceiling, and in the reseating of the nave much of the old oak, of which the old seats were largely made, has been reused. The arch which now divides the chancel from the nave is an old arch which was discovered underneath the lath and plaster orna- mental arch which was put in about the beginning of the present century, and which has been demolished. The sanctuary is paved with black and white Frosterley marble, and the chancel has been repaired with blue and grey stone. The vestry roof has been raised and a new organ chamber has been formed by taking down part of the north wall of the chancel, and to that chamber the organ has been moved from the south side of the chancel.

IMPORTANT new schools and laboratories have just been completed in connection with the Middlesex Hospital, and form the most recent and best-equipped additions to institu- tions for medical instruction in London. The authorities have recognised the importance of affording to those who carry on the medical and surgical treatment of the great number of patients received into the wards every opportunity of utilising all the most modern methods known to science for the investi- gation and cure of disease. In the construction and general arrangements of the buildings no pains have been spared to fulfil these conditions. The walls and floors are made of smooth, non-absorbent surfaces, easily cleaned, and the class- rooms are so abundantly lighted with large windows that the finest microscopical work may be carried out without unduly straining the eyesight. The rooms are warmed by hot water, and when necessary lighted with electric light throughout. The dissecting-room, about '75 feet long, is situated at the top of the building, lighted from above, and ventilated by means of electric fans. Its glazed brick walls and its terazzo floor with rounded angles and its spacious cubical area make it peculiarly

TO ARCHITECTS, SURVEYORS, &c.

The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent") having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

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BUILDING AND BUILDERS.

MEMORIAL stones of new Sunday schools at rear of the United Methodist Free church, Washwood Heath, Birmingham, were laid on Saturday last.

THE Wesleyan Methodists of Nelson have decided upon a scheme of extension which includes the erection of three chapels at a cost of 10,000*l.*

SOME scaffolding on which three men were working at a new factory being erected for Messrs. W. D. and H. O. Wills, the tobacco manufacturers, at Bristol, gave way one day last week. Benjamin Beer sustained fatal injuries, and his two companions were badly hurt.

A KURSAAL is to be erected on the Harbour Parade, Ramsgate, in accordance with a scheme approved by the Town Council, and from designs by Mr. T. W. Cutler. On the ground-floor there will be a buffet extending back from the parade a distance of 100 feet. A second-class restaurant, to afford seating accommodation for 300 persons, will adjoin the buffet. Overhead there will be first-class dining or supper-rooms, consisting of a saloon and a number of smaller apartments. An assembly-room, 100 feet by 70 feet, will be situated on the ground-floor to the west of the restaurant. In addition to a theatre occupying the floor above the banqueting-hall, there will be provided a roof-garden in the continental style.

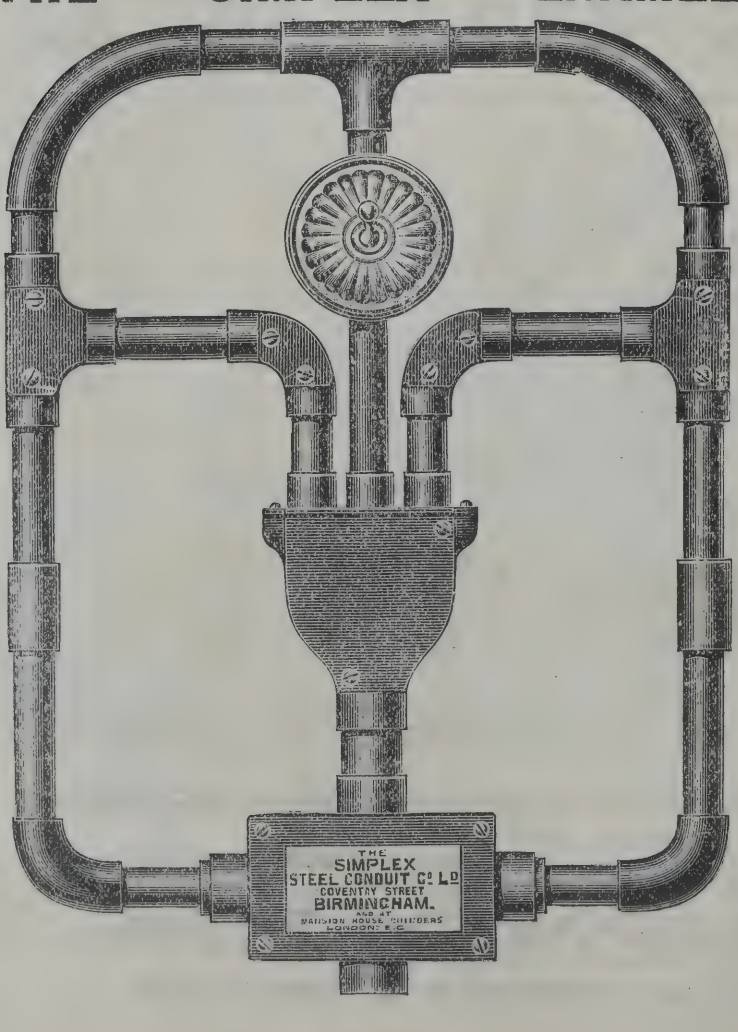
THE Victoria Hall Company, Aston, Birmingham, have decided to increase the accommodation at the hall by building upon the land in the rear, adjoining Witton Road. Plans have been drawn by Mr. A. Edwards, of Bennett's Hill, for the erection of a block of buildings, which, when completed, will be a valuable addition to the present structure. The additions will consist of a large hall, 47 feet by 46 feet, cloak rooms, refreshment room, small dining hall, and suite of Masonic rooms. The new large hall will accommodate about 100 dancers, or an audience of about 400. The total cost of the buildings and furnishing now proposed is estimated at about 3,000*l.*

A WIDELY representative conference in regard to a draft Bill for the national registration of plumbers was held at the Institution of Mechanical Engineers on Friday, under the auspices of the National Association for the promotion of Technical and Secondary Education. Sir Henry Roscoe, the hon. secretary of the Association, presided. A draft Plumbers' Registration Bill was considered by the conference, and was ultimately adopted with certain amendments, but without prejudice to the question as to whether any Bill is desirable or not. Before the conference terminated, the question as to whether such a Bill is desirable or not was, however, discussed, and the following resolution was eventually passed by a large majority:—"That, having regard to the division of view manifested at this meeting in reference to the desirability of a Bill for the national registration of plumbers, no further steps be taken in the prosecution of such a measure."

"YOU would be surprised to hear how superstitious some men employed in the building trade are," said an elderly builder's foreman representative. "For instance, it's considered by some a most unlucky thing to lay the top brick at the north corner of a building. I've known men do all sorts of things to escape this duty. They will undertake some harder work, sham dizziness or even lose half a day's work. To brick up in the recess of a wall a cast horseshoe with a penny tied to it is usually recognised as a sure forerunner of a season when work is plentiful. Another belief, that by substituting a sovereign for the penny a man will never meet with an accident or be out of work, is very often talked about, but I have never heard of a man trying it. All sorts of things are bricked up in walls 'just for fun,' and not because they have any charm or good omen about them. Newspapers, old boots, bottles and such-like things are served in this way, and a favourite way of playing a joke on a 'mate' is for a man to conceal his beer can in the wall, and then build it in."

THE foundation-stones of St. Michael's Church, Belfast, have been laid. The site is a piece of unoccupied ground in Craven Street, off Shankill Road, which was purchased some time ago by the congregation for the sum of 1,450*l.* The cost of the entire structure when completed will be about 3,300*l.* The dimensions of the new church are 104 feet by 74 feet. It will be capable of comfortably accommodating between seven and eight hundred people, while the plans provide for the erection of a gallery, which could seat about 150 more. The style is Gothic, and the material used in the walls is brick, with Dumfries red sandstone dressings. The inside

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olumns are to be built of white Bath stone, and all the internal oodwork will be pitch pine. The heating and lighting will be arried out in accordance with the most modern improvements. he builder is Mr. James Kidd, and the architect Mr. Samuel . Close.

THE Redditch Urban District Council, having recently pplied to the Local Government Board for sanction to borrow 600*l.* to purchase the old police-station in Evesham Street, edditch, and adapt it for public offices, fire-engine station nd public baths and wash-houses, Mr. G. W. Willcocks, C.E., ocal Government Board inspector, held an inquiry respecting ie application at the Council offices, when it was explained iat it was proposed to provide four hot baths, Council-hamber, fire-engine station, public offices, &c. The county uthorities were erecting a new police-station, and it was con-dered to be a favourable opportunity for acquiring the pro-erty for the purposes mentioned. A description was given of ie intended alterations, for which it was proposed to borrow n additional 250*l.*, making 1,600*l.* The surveyor presented lans, and remarked that owing to the recently-increased price f certain material, the estimates would probably be increased y 75*l.* Evidence was given by several councillors, and the roceedings closed.

AT a Tynwald Court held at Douglas on the 15th inst. the own Council applied for leave to borrow 16,000*l.* to acquire t. Matthew's Old Church and land adjoining, and erect iereon new public market buildings. It was proposed to extend the repayment of the loan over a period of fifty years, ie annual cost representing a rate of 1¼*d.* in the pound. It as stated that the net liability of the borough would then and at 224,070*l.* 6*s.* 3*d.*, the annual payment on which was 020*l.* The whole charge, however, would not fall on the orough rate, as some of the works, including the market, were emunerative. The ratable property in Douglas was about 37,000*l.*, and the borough rate for the current year 2*s.* 3*d.* in ie pound. The application was granted.

THE York City Council, having applied to the Local Government Board for sanction to borrow 2,130*l.* for the urchase of land to carry out street improvements in Davygate nd College Street, Mr. W. O. E. Meade-King, inspector of ie Local Government Board, held an inquiry into the matter i the Old Council Chamber of the Guildhall. The Davygate nprovement was first inquired into, and the Town Clerk xplained that it involved the widening of the street at the end ear St. Sampson's Square. The property required had been purchased, and the work of improvement commenced, for the sum of 700*l.*, part being paid in cash and part by property in exchange. The land required would be about 120 square yards, 77 of which would be used in widening the street. In connection with the College Street improvement, the Counc had purchased 686 square yards from the Ecclesiastical Commissioners for 1,350*l.* and interest from September 29 to the completion of purchase. It is intended to pull down some old property and widen the street, which is a near route from Goodramgate to Lendal Bridge. There was no opposition offered.

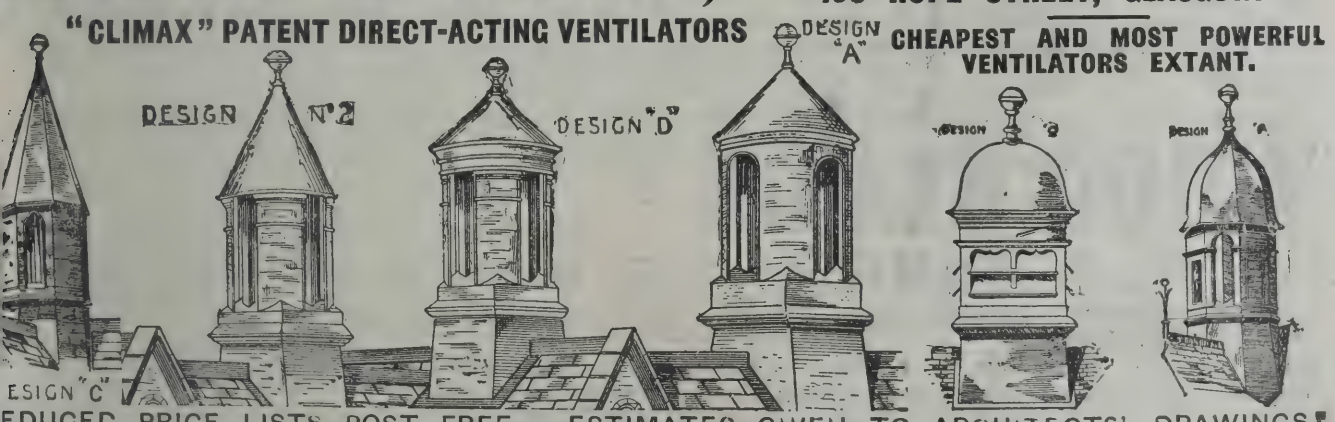
THE SUDAN RAILWAY.

A CORRESPONDENT of the *Times* says:—A good deal of comment has been caused by the news that the contract for the bridge which is to carry the new Sudan railway over the river Atbara has been given to an American firm, and it seems to have been assumed in some quarters that a Transatlantic ironmaster had been preferred to a British manufacturer, and that the Egyptian Government had gone out of its way to ignore this country. But the facts are exactly the reverse. The English agents for the Egyptian Government, who had the ordering of the Atbara bridge, gave the first chance to British traders, and would doubtless have given them the sole chance but for the imperative importance of speedy delivery. Of the British ironmasters approached not one could guarantee delivery in the time at which delivery was required. One English firm ran the Americans pretty close as to time; but speed being of paramount importance, and as the Americans could insure it in the greatest measure, there was no choice but to go to them for the work. In contrast to the promptitude with which they have shipped the component parts of the bridge may be placed the fact that the agents of the Egyptian Government had to wait four months for one small bridge of 31 tons ordered in England. Probably the recent engineering dispute was responsible for this. It will be found that the locomotives for the Sudan Railway, or, at all events, the first batch delivered, will come from America. The reason in this case is precisely the same. The desire is to get delivery with all possible despatch, and as America is in a position to guarantee greater speed than England, the Government agents, with every desire to place their orders here, have had no choice but to go to the States for at least that portion of the order which could not wait.

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CRAIGMILLAR PARK FREE CHURCH.

THE foundation-stone of Craigmillar Park Free Church, Edinburgh, which was laid in May last year, is now completed, and was opened on the 8th inst. It is cruciform in plan, consisting of nave, aisles and transepts, and semi-octagonal apse. The principal entrance is under the tower, which communicates by a pointed arch with a spacious vestibule extending the whole width of the nave, giving easy access to all parts of the church. An exit door is also provided through a porch in the south aisle. The aisles are merely used as passages, so that a clear view of the pulpit is obtained from every part of the church. There is a gallery at the west end of the nave over the vestibule. It is intended shortly to introduce an organ, and a chamber has been provided for this purpose. The church is designed in the Late Decorated period of Gothic. The nave is divided into three bays, with stone pillars and richly-moulded stone arches, over which are the clerestory windows, each of three lights with traceried heads. The intersections of the transepts with the nave are spanned by a single arch. The apse is also separated from the nave by a richly-moulded arch springing from impost pillars with moulded bases and caps.

NON-FLAMMABLE WOOD.

THE British Non-Flammable Wood Company, Limited, Army and Navy Mansions, Victoria Street, have sent us on one of their new illustrated booklets. It is well printed and nicely got up generally, and it contains an exhaustive history of the company's non-inflammable wood from the first inception of the idea through its various stages of research and experiment to its present triumphant result in an established and widely-recognised building material of great and increasing importance. We have on two occasions given reports of public experiments to which the prepared wood has been subjected, and we now give a description, which we take from the book in question, of the process of rendering wood non-inflammable as carried out at the company's extensive riverside works, covering an area of about 3½ acres, at Fulham.

"The timber to be treated is stacked on low wheel trollies running on tracks laid from the stacking yard into the treating retorts or cylinders, which are 105 feet in length and 7 feet in diameter. The loaded trucks are then run into the treating cylinder, more or less trucks being employed according to the quantity of timber to be treated, and the door of the cylinde closed. Since it is essential that the cylinders be airtight an capable of sustaining great pressure, this door or lid, whic weighs no less than 7 tons, must be capable of making a perfe airtight joint. This is effected by means of radial bolts special design. The load is now subjected to changes of ten perature and certain manipulation, by which means the volati and fermentable constituents of the wood are withdrawn an the pores of the wood prepared for the reception of the fire proofing ingredients. When the timber is ready, the latter presented to it in the form of a solution of a certain definit strength, such strength varying with the description of woo under treatment. Hydraulic pressure is next applied until th wood is thoroughly saturated. The cylinder is then opene and the load withdrawn, which, if the cylinder be full, wi consist of 20,000 feet.

"The wood now thoroughly saturated, and consequentl more than double its original weight, is restacked and run int the drying kiln, which is a large room fitted with heatin apparatus and air fans to circulate warm currents of air, an condensing apparatus to condense the vapour arising from th wood. In about thirty days a load of wood of average thick ness should be dry, that is, the aqueous portion of the solutio has been drawn off, leaving the fireproofing ingredients closel incorporated with the cellulose in the pores of the wood. Th wood is now ready for delivery, and owing to the fact that th volatile and fermentable constituents have been driven off an their place filled with antiseptic material, no rot can take plac Besides, as the wood has been equably dried, the possibility after-warping is avoided, and since the interstices of the woo are packed with material no after-shrinkage is possible.

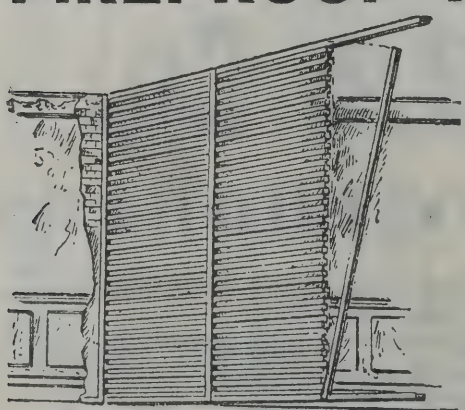
"One great advantage of this process is that it is immateria for how long or short a time the wood has been felled or sawr as within one month it is rendered non-flammable, seasone and dried.

"There are certain peculiarities in nearly all descriptions wood, and as no engineer, however skilful, will guarantee t make a large steel or iron casting without internal air bubble so in wood certain small streaks sometimes appear to have th property of resisting impregnation, although the solution ha penetrated all round and beyond them. This, though interestin from a technical point of view, does not affect the general nor inflammability of the wood so treated.

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SECTION OF SHEET.

NEW CATALOGUE.

om Messrs. Nicholls & Clarke, of Shoreditch, we have eived a copy of their new catalogue, and a beautiful work is. Our readers, no doubt, remember that we gave some ie ago a descriptive account of a stained-glass window which d been designed and executed by Messrs. Nicholls & Clarke. The memory of this artistic effort gave assurance that thing which the firm might produce would be all which e, skill and a disregard of expense could make it, and thus fully expected that an examination of the new catalogue uld show it to be a work of the highest character. It is mirably printed on thick hot-pressed paper, and bound in h a way that the book will lie open at any page—a great nvenience, and one not often studied. Then the covers are ut and handsomely gilt-lettered, so that the volume would m a useful and durable work of reference for architects and veyors. There is hardly an item whose character and form not demonstrated by an engraving. Moreover, these gravings are well cut, and "come out," as is the technical m, beautifully. Altogether, if simply regarded as an effort the printers' and the bookbinders' art, the catalogue of ssrs. Nicholls & Clarke would be hard to beat.

Its contents are equally deserving of praise, for not only are se conveniently arranged for reference but in every instance fullest details are given. Of this a striking example is nd on page 184, where, under the heading "Notes on mps," is given some valuable information as to the con-uction, management and power required for pumps of all ds—information which would render the catalogue useful as ork of reference for surveyors and others interested in such tters. This is but one instance out of many.

Another important feature in this work is the fact that rein are illustrated and described not only the specialties of ssrs. Nicholls & Clarke themselves but those of other well-own firms. Thus architects and others can see all the best ods in each department and decide on the most suitable icle to be specified, without the loss of time involved in nsulting a number of catalogues.

We have spoken of the excellent arrangement of the con-ts of the work. This is the more noticeable from the number departments which are dealt with and the great variety of ods set forth. The catalogue is divided into sections—some enty-six in number—while a copious general index renders it sible to at once refer to any article however small which is ntained in the work. Some idea of the size and comprehen-siveness of this catalogue may be obtained when it is mentioned that it consists of 408 pages, of which no less than sixteen are devoted to the index.

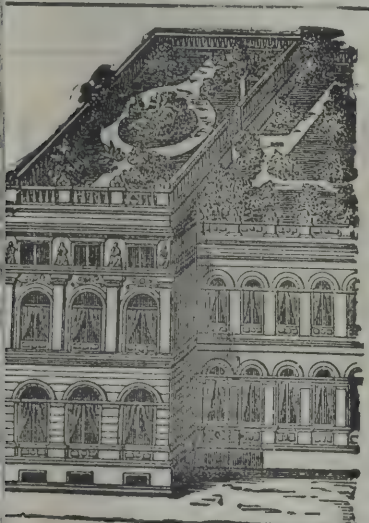
A further and important merit of the work is that it contains the model by-laws of the Local Government Board for the use of sanitary authorities, the by-laws of the London County Council, the regulations of all the London water companies, as well as those of the most important provincial corporations.

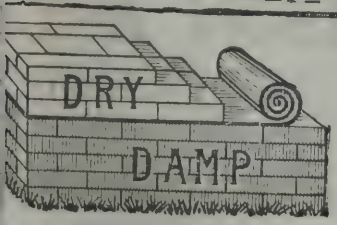
Altogether the catalogue of Messrs. Nicholls & Clarke is a work which should be in the possession of architects, surveyors, builders and everyone engaged or interested in constructional work of any kind.

WORKMEN'S COMPENSATION ACT AND ALTERATIONS.

The decision in the case Hoddinott *v.* Newton, Chambers & Co., Limited, which was given in the Court of Appeal on Saturday, reveals that the Workmen's Compensation Act is inapplicable to accidents caused during the alterations of buildings. According to the *Times* report, the claimant was the widow of a deceased workman, who was at the time of his death in the employment of the appellants, who were builders. It appeared that a stable had been built for the London General Omnibus Company about six months before the time of the accident, and was occupied by the company. After it was occupied the company's engineer considered that it was requisite to strengthen the structure by putting in iron stays to prevent vibration. The appellants were employed by the company to put in the stays fastening together the columns and girders of the stable. For that purpose three planks were placed on two trestles about 8 feet from the ground, and the workmen stood on the planks while at work. These trestles and planks were removed each night on account of the horses in the stable. At the time of the accident the deceased man was standing on the planks engaged in assisting to raise up one of the iron stays, when he overbalanced himself and fell off and was killed. Two questions were raised—(1) whether the building was over 30 feet in height, and (2) whether it was being "constructed or repaired by means of a scaffolding" within section 7, subsection 1, of the Workmen's Compensation Act, 1897. The height from the ground to the parapet of the building was 28 feet, and from the ground to the top of the roof the height was 36 feet. The contention on

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behalf of the employers was that, inasmuch as nothing was being done to the roof, the height of the building must be taken, as in section 5 of the London Building Act, 1894 (57 and 58 Vict. c. ccxiii.), from the ground to the top of the parapet. It was also contended on their behalf that the building, if over 30 feet in height, was not being "constructed or repaired by means of a scaffolding," the work consisting of alterations to the building, and not repairs, and the arrangement of planks and trestles not being a "scaffolding." The County Court judge decided both the questions in favour of the claimant, and awarded her 24*l.* 14*s.* as compensation. It appeared that the claimant had brought an action under the Employers' Liability Act, 1880, to recover damages, alleging that the planks and trestles were defective, but the County Court judge gave judgment for the employers in this action, and then, upon the application of the claimant, the judge proceeded, under section 1, subsection 4, of the Act of 1897, to settle the question of compensation under that Act. The judge, as above stated, awarded the claimant 24*l.* 14*s.* as compensation, but deducted from this sum the costs of the witnesses called by the employers in the action under the Employers' Liability Act, 1880. The employers appealed.

Mr. R. M. Bray, Q.C., and Mr. G. Spencer Bower, for the appellants, contended that the work being done was not repairing work. It was alteration work. Section 7, subsection 1, used the words "constructed and repaired" with reference to a building; the word "altered" was not used; whereas in the definition of "undertakers" in subsection 2 the words used in connection with engineering work were "construction, alteration or repair." Nor was the building being "constructed." Even, however, if it was being constructed or repaired, it was not being constructed or repaired by means of a "scaffolding." This arrangement of planks and trestles did not constitute a scaffolding; it was a mere temporary structure, and it was inside a completed building. Secondly, this building was not over 30 feet in height within the meaning of section 7, subsection 1, of the Act. The height from the ground to the parapet was that to be looked at. This was shown by section 5 of the London Building Act, 1894. And even if the building was 30 feet high the scaffolding was not 30 feet high. The section must be read as making the Act apply to a building being repaired at a height of 30 feet by means of a scaffolding.

Mr. Ruegg, Q.C., and Mr. Moyses, for the respondents, argued that this was a case of the construction of a building. The building had never been properly constructed before, and it was being perfected. If it was not construction it was repair. And it was by means of a scaffolding. The word "scaffolding" was not used in the Act in any technical sense, but in its colloquial meaning. It was not necessary for the scaffolding to be 30 feet high. The Act might be illogical, but the words were clear.

The Court allowed the appeal.

Lord Justice A. L. Smith said that in this case an action had been brought under the Employers' Liability Act. The County Court judge held that the case did not come within the Employers' Liability Act, and thereupon an application was made to frame a claim under the Workmen's Compensation Act. The accident happened in a building which had been erected by the London General Omnibus Company for stables. The first question was whether, for the purpose of satisfying the requirements of section 7, subsection 1, of the Workmen's Compensation Act, the height of a building was to be measured to the top of the upright walls or to the top of the roof. He would leave the question as to the proper method of measuring the height of underground buildings. With regard to this case, it was only necessary to say that the building was shown to be more than 30 feet in height up to the top of the roof; and, in his opinion, the applicant had thereby made out that the building exceeded 30 feet in height within the meaning of the Act. The next question was whether it was a building which was being either constructed or repaired by means of scaffolding. With regard to the question whether the planks and trestles constituted a scaffolding the County Court judge had found that they did; and, in his opinion, it could not be said that there was no evidence of a scaffolding having been used. Speaking for himself, he thought it was immaterial whether that which was alleged to be a scaffolding was inside or outside a building. Neither did he think that the scaffolding need be 30 feet high. The Act did not say so. The words of section 7, subsection 1, were "Any building which exceeds 30 feet in height, and is either being constructed or repaired by means of a scaffolding." It did not say by means of a scaffolding 30 feet in height. He passed on to the question whether the deceased man was employed by the undertakers on a building which was being either constructed or repaired by means of a scaffolding. "Undertakers" were defined in subsection 2 of section 7, and were stated to be, in the case of a building, the persons undertaking the construction, repair or demolition. Here the building was

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already completed and was in actual use. After it was completed something which was not in the original design was found to be necessary in order to strengthen it. Thereupon ironmasters were called in to put in girders for this purpose. Could it be said that the ironmasters were constructing the building? No, it had been already constructed. In his opinion, it was impossible to say that this was employment by the ironmasters on a building which was being constructed. In the case of an engineering work "undertakers" were defined to be the persons undertaking the construction, alteration, or repair. But the Legislature, when they came to the case of a building, left out the word "alteration." Then was this a case of repairing a building? In his opinion it was not. Nothing was out of repair; the building was a new building, which wanted something additional in order to strengthen the roof. Putting in that something additional was not repairing. He thought that the claim failed on the ground that this was not a case of employment on a building which was being constructed or repaired. The appeal must, therefore, be allowed.

Lord Justice Collins was of the same opinion. He thought it was necessary to look at the provisions of the Act as a whole to see what the Legislature meant. The Act applied to employment by the undertakers as therein defined on any building which exceeded 30 feet in height, and was being constructed or repaired by means of a scaffolding, or being demolished. He thought that scaffolding must have some relation to the height of the building. It must be interpreted by reference to the nature of the work for which the Legislature contemplated it was to be used—*i.e.* in the construction or repair of a building exceeding 30 feet in height by an undertaker, who was defined to be the person undertaking the construction, repair, or demolition. This definition threw some light upon the question, what sort of operation the Legislature was contemplating. It was the construction, repair, or demolition of a building which would *prima facie* suggest the building as a whole. And the operation to which scaffolding was contemplated as an essential would seem therefore to be *prima facie* the work of constructing or repairing such a building as a whole, an operation to which a scaffolding was essential. It was not necessary, and it would be impossible to define what was the exact legal meaning of scaffolding as used in this connection, nor was it necessary to decide whether something short of construction or repair of a building over 30 feet high as a whole, carried out by means of a scaffolding in the full sense of the term, such as might be used for dealing with a building over 30 feet high, might not be within the Act. But though definition was difficult or impossible, it was possible to say as to certain cases that they fell within or without the Act. It seemed to him that the present case could not be brought within the Act without straining the particular words at the expense of the general intention. It was impossible to suppose that the Legislature fixed 30 feet as an arbitrary line having no relation to the actual risk provided against, so that, when a building had once reached 30 feet high, any operation which could be called construction or repair of any part of the building inside or out, however near the ground, where the workman had to stand on an arrangement which might be termed scaffolding in order to reach it, would be within the Act, and give him a remedy if he fell. Such an interpretation would give no reasonable ground for the introduction of 30 feet at all. It never could have been meant to cover the case of a man employed to put up a rod to hang pictures on in a drawing-room, though he supported himself on a platform which could be called a scaffolding, in order to do it. It was obvious that the height of the house could have no bearing whatever on the risk of such an operation. It might be said that was not a case of repair, but no more was the case before the court. But the same observation would apply to whitewashing a ceiling. He came to the conclusion that the case did not come within any view which could possibly be taken of the intention of the Legislature.

Lord Justice Romer delivered judgment to the same effect.

PARIS EXHIBITION, 1900.

It has been the custom, on the occasion of every recent International Exhibition held in France, to pass a temporary Act, giving protection to patents, designs and trade-marks, in addition to the Act of May 23, 1868, which is quoted in the French Regulations of the Paris Exhibition of 1900. In view, however, of a recent decision of the French Court of Appeal, which has attracted much attention, the French Government are taking special steps to protect exhibitors in 1900. The Royal Commission for the Paris Exhibition have been officially informed by the Consul General of France that a Bill will shortly be laid before the French Chamber, in which certain clauses referring to the invalidation of patents are suppressed. The Act of 1868 will be re-enacted on the present

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occasion with some amendments. It will give the owner of a design the rights conferred by patent from the date of admission to three months after the close of the Exhibition without prejudice to any patent or registration which he may effect before the expiry of that period. This gives a longer protection than is afforded in similar cases in the United Kingdom by British law, which specifies that application for the registration of the design must be made before or within six months from the date of the opening of the Exhibition. Her Majesty, by an Order in Council dated February 2, 1899, has declared that the provisions of sections 39 and 57 of the Patents, Designs and Trade Marks Act of 1883 shall apply to the Paris Exhibition of 1900. This relieves exhibitors from the conditions specified in the said sections of giving notice of their intention to exhibit. The new French Act, it is believed, will give British subjects greater protection than the ordinary British law affords to French subjects; and this, coupled with the fact that French judicial decisions have no effect as binding precedents, should allay any fears which British exhibitors may entertain with regard to exhibiting at the Paris Exhibition of 1900.

MEASUREMENT OF LATHWOOD.

THE Board of Trade have received information (through the Foreign Office) from Her Majesty's Consul at Riga that, in consequence of the frequent litigation which has lately attended the shipping of lathwood from that port, a meeting of Riga exporters was held on the 3rd inst. for the purpose of discussing a scheme designed to check the claims for short measurement which are continually being sent in by English buyers. A resolution was adopted by all the firms represented at the discussion embodying the following reglations:—"(1) A measurer will be appointed, whose duty it will be to control the measurement of the lathwood to be shipped, to see that the said measurement is correct and to hold himself responsible to the shipper for correct shipment; (2) the measurer will issue a certificate for each parcel of lathwood shipped, stating the exact measure in fathoms, and this certificate will be attested by the British Consul; (3) the exporters bind themselves to buy only from those dealers who allow the shipments to be made under the control and certificate of the sworn measurer; (4) the exporters bind themselves to sell lathwood to Great Britain only on condition that the buyers accept Riga measurement; (5) the exporters bind themselves not to make any shipment of lathwood save under the control of the sworn measurer and the attestation of the British Consul."

LONDON GOVERNMENT BILL AND THE BUILDING ACTS.

THE works committee of the London School Board have considered the London Government Bill "to make better provision for Local Government in London." The following is clause 6 of the Bill:—

"The committee of the Privy Council hereinafter mentioned shall make a provisional order determining which of the powers under the London Building Act, 1894, or any amending Act, other than the powers mentioned in Part 1 of the second schedule to this Act, are to be exercised by the London County Council and the borough councils respectively, and the conditions under which they are to be exercised, and may embody in the order such modifications of the London Building Act, 1894, and such provisions for the protection of existing interests as may appear expedient for giving effect to the determination."

The works committee, having considered the matter, now recommend that the following petition be presented to the House of Commons:—

"To the Honourable the Commons of the United Kingdom of Great Britain and Ireland in Parliament assembled.

"The humble petition of the School Board for London under their common seal.

"Sheweth—

"1. That a Bill has been introduced and is now pending in your Honourable House intituled 'A Bill to make better provision for Local Government in London.'

"2. That your petitioners are a Corporation constituted under the Elementary Education Act, 1870, and as such Corporation are the public body required under the said Act, and the various amending Acts affecting the same, to provide school accommodation and make educational provision for the whole of the metropolitan area.

"3. That the metropolitan area is for the purposes of the Elementary Education Acts parcelled out into several divisions, and these divisions are for the said purposes subdivided into smaller divisions, and the whole of such area coincides with the area of the administrative county of London.

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"4. That your petitioners are required to provide in every such division, school accommodation sufficient for the wants of each of such divisions and subdivisions, and where it is found that there is insufficient school accommodation in a division for the number of children who are subject to the Elementary Education Acts, your petitioners, after the selection of sites for the building of schools and for enlargement of existing schools, prepare and submit plans to the Education Department of the Privy Council for their approval.

"That the plans so prepared of schools to be erected on land purchased by the Board since the passing of the London Building Act, 1894, are subject to the provisions of the London Building Acts, and the schools are built in conformity with such provisions.

"That by Clause 6 of the said Bill it is proposed that the committee of the Privy Council hereinafter mentioned shall make a provisional order determining which of the powers under the London Building Act, 1894, or any amending Act, other than the powers mentioned in Part I of the second schedule to this Act, are to be exercised by the London County Council and the borough councils respectively, and the conditions under which they are to be exercised, and may embody in the order such modifications of the London Building Act, 1894, and such provisions for the protection of existing interests as may appear expedient for giving effect to the determination.

"That it is also proposed by the said Bill to divide the administrative county of London into fifteen metropolitan boroughs, and if the Bill pass into law as it now stands the powers and provisions which have hitherto been in force under one authority may be divided and varied by each of the metropolitan boroughs and different building provisions be made applicable in each borough. That your petitioners are subject to the building rules of the Education Department, and the power to make modifications in the London Building Acts proposed to be conferred on the new authorities may in some cases be in conflict with those laid down by the Education Department.

"That in some instances schools are placed upon sites standing in two parishes, which may hereafter stand on sites in two adjoining metropolitan boroughs, and the buildings forming part of the same school may, under the powers proposed to be conferred on these boroughs, be subject to provisions different from and conflicting with each other.

"That your petitioners are of opinion that great advantages have hitherto been derived from the uniform administration of the London Building Acts under one central authority, and the proposed devolution of powers under these Acts to the various metropolitan boroughs would, your petitioners submit, lead to difficulties in carrying on the work of the Board.

"Your petitioners submit that the powers and provisions of the London Building Acts should be retained under one authority, and that no power should be vested in the metropolitan boroughs to vary the powers and provisions of the said Acts in obedience to the views of the numerous authorities to be created under the Bill, and that the proposed powers will prejudicially affect the rights, property and interests of your petitioners, and your petitioners object to the same.

"Your petitioners therefore humbly pray that the said Bill may not be allowed to pass into law as it now stands, and that the provision relating to the transfer or modification of any power now possessed by the London County Council under the London Building Act, 1894, or any amending Acts shall be struck out of the Bill, or that such other relief may be given to your petitioners in the premises as to your Honourable House shall seem meet."

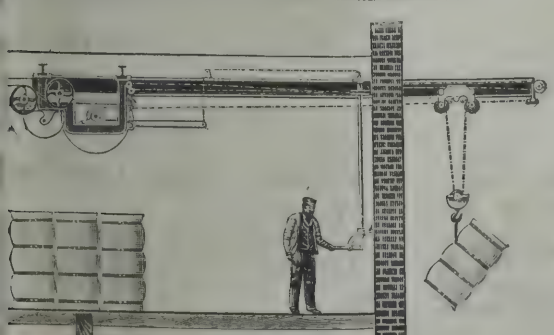
THE PURIFICATION OF PUBLIC WATER SUPPLIES.

AT a meeting of the Civil and Mechanical Engineers' Society, held on March 16, a paper on the "Purification of Public Water Supplies" was read by Mr. W. N. Twelvetrees, M.I.M.E., M.S.I., and was illustrated by a large number of diagrams, some of which were exhibited by permission of the Institution of Mechanical Engineers and of Mr. P. H. Palmer, borough engineer of Hastings.

Before proceeding to describe in detail the construction of mechanical and other filters, and of plant in which physical and chemical agencies are employed for water purification, Mr. Twelvetrees directed attention to the physical characteristics of water derived from various sources, and mentioned the problems always presented when river water is used for the supply of waterworks. Filtering media of various kinds were next considered, and the conclusions arrived at after exhaustive tests by Dr. Sims-Woodhead, Dr. Cartwright Wood, Dr. Netter of Paris, and others, were quoted. The result of the investigations in question bears out the statement that in a general way the public safety depends largely upon the watchful care of water engineers and of other scientific officials,

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and in a lesser degree upon the intrinsic merits of any given filtering medium.

After dealing with the question of natural and artificial purification, by percolation and by deposition, the author demonstrated by the aid of sectional drawings the actual nature of the process taking place in sand filtration beds. Sand in itself presents no special recommendation as a filtrant. The efficiency of a sand filter does not become established until a gelatinous layer, composed of mud, algæ and micro-organisms, has been formed upon the surface. Incidental reference was made to Hunter's sand-washer, the construction and working of which was made clear by a series of diagrams illustrating the application of the apparatus in the Leicester Corporation Waterworks at Swithland. Another type of sand-washer, invented by Mr. A. T. Walker, water engineer to the Reading Corporation Waterworks, was also described.

Leaving ordinary sand filtration, Mr. Twelvetrees proceeded to discuss some modified methods which have been adopted with great success. One of these is known as the Morison-Jewell process, of which the distinctive feature consists in the substitution of a clean film of gelatinous aluminium hydrate for the casually accumulated layer constituting the chief purifying medium in ordinary filter-beds. Another modified mode of sand filtration is one in which polarite, alone or mixed with sand, takes the place of one of the strata of sand. Polarite is the name given to a specially prepared and porous form of magnetic oxide of iron. Water passes freely through as well as around the granules of this substance, within the pores of which polarised oxygen is contained, and which, upon contact with suspended or dissolved substances, produces oxidation. This action is not carried on at the expense of the material itself; and, further, polarite being absolutely rustless, is practically everlasting. Fresh supplies of oxygen are of course necessary, and periodical washing is also required. Some interesting diagrams were shown of polarite filters as used at the Hastings Corporation Waterworks, the Reading Corporation Waterworks, and an arrangement of a polarite filter for purifying rain water was exhibited.

Methods of purification for hot and cold climates, where sand filtration is often impracticable, were next discussed and illustrated. Many forms of apparatus coming under this category show considerable mechanical ingenuity, and installations upon a large scale are noteworthy for the magnitude of their output as compared with the limited space required. Amongst filters of this kind may be specially mentioned the "Riddell," the "Torrent," the "Howatson," and the "Wilson" filters. These have all been applied for public purposes, and in installations capable of dealing with from 1,500,000 to 2,600,000 gallons of water per twenty-four hours. Various ingenious contrivances for cleansing are generally used in addition to reverse currents of water. The Riddell filter has an arrangement of radial arms, which are moved up and down as well as in a rotary manner by hydraulic power. In the Torrent filter compressed air is employed, and in the Wilson apparatus a very ingenious automatic flushing system is adopted.

Mr. Twelvetrees next drew attention to the example of waterworks filtration by the Pasteur method, as used at Darjeeling. The output is about 250,000 gallons daily, and as the Pasteur filtration employs the only known absolutely germ-proof medium, the installation in question may be regarded as unique. Another mode of water purification is that patented by Anderson in 1889, where water is agitated in revolving drums containing fragments of metallic iron. Some of the iron is dissolved, and as the water passes from the apparatus to settling-tanks it is aërated. Oxide of iron thus formed carried down impurities by deposition.

Sterilisation by heat at a temperature of 240 deg. Fahr. affords perfect immunity from pathogenic bacteria, and an apparatus known as the Vaillard-Desmaroux heat steriliser was described and illustrated. This form of appliance has been adopted for the water supplies of towns in Russia and in Brazil. It should always be borne in mind, however, that the extinction of germs and spores is one matter, and that the removal or oxidation of poison in solution is another and not unimportant problem.

Water softening employed for the purification of public water supplies was illustrated by a set of drawings and photographs of the Ashby-de-la-Zouch Waterworks, where the Archbutt-Deeley process is used with great success. Mr. Twelvetrees, in conclusion, emphasised the desirability of regarding efficiency as the first consideration in every case, and expressed the hope that the line of defence established by water engineers in the interests of public safety might always be furnished with weapons of the most modern and scientific kind.

Mr. Baines Dadley, president, in opening the discussion, remarked that the subject before the meeting was one of great public interest, especially at the present time, when the future water supplies of the Metropolis were receiving so much attention. It was a matter of surprise to him that the London water companies had allowed provincial authorities to take the

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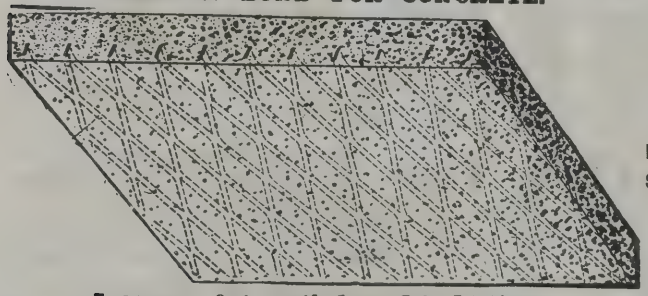
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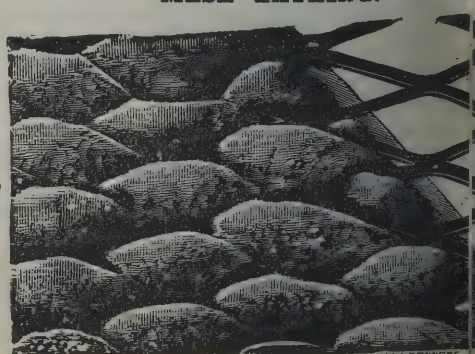
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nitiative in respect of some of the improved methods of purification, to which attention had been directed by the author. A discussion followed, and the author was thanked for his paper.

THE CENTRAL LONDON RAILWAY.

THE Central London Railway, which, at any rate so far as the ine itself is concerned, is now rapidly approaching completion, ›ids fair, says the *Daily News*, to be one of the finest bits of ailway work in the world. Indeed, in its way it will be found ar ahead of anything yet attempted. Sir Richard Farrant, vho is chairman of the company actually making the railway, s immensely proud of it, and ascribes its superiority to their aving plenty of money. Undoubtedly that has been a most mportant factor in the business. One can see evidences of it n all hands. But though plenty of money is an extremely mportant matter, it needs some good heads to make the best se of it, and the enterprise seems to have had this too. As nost people know the line runs from the Bank to Shepherd's Bush, and at each end a very remarkable piece of work is going on.

At Shepherd's Bush the company have got a terminal depôt overing 19 acres of ground, and they are getting rapidly owards completion with what will pretty certainly be the finest lectrical installation in the world. Americans who have been o see what is going on are fain to admit that they have nothing o touch it, and that it must be admitted is an admission not asily wrung from Brother Jonathan. The electric sprite to be conjured up here will have to be versatile as well as tremendously powerful. It will not only drive all the trains and light all the carriages and stations, but it will work innumerable passenger lifts and run all sorts of machines in the repairing shops they are setting up at the depôt—lathes and boring tools, drilling machines, saws, presses and so on. The steam engines and electrical machines are beginning to arrive now and are getting into the huge buildings. They have got a boiler-house 150 feet long by 85 feet wide, and their coal-scuttles will hold somewhere about 900 tons of coal. Fortunately these coal-scuttles have not to be carried to the coal, the coal is carried to them. They are huge bunkers fixed high up overhead. The coal will be brought into the depôt from the North-Western or the Great Western, and will be shot into a sort of hopper outside the building. From thence it passes down into a kind of underground culvert, where it will be scooped up by an endless series of dredging buckets, or something like them, carried up aloft and then pitched into the bunkers from each of which a shoot runs down to each of the furnaces under the sixteen multitubular boilers. Down these shoots the coal will be mechanically driven, and when it has been mechanically stoked into the furnaces, the ashes dropping out underneath will be scraped out by the ubiquitous mechanism, passed down a channel and dropped into a railway truck down in the shades below, ready to be hauled away, the whole business of supply, stoking and clearing going on almost without human intervention.

At the back of the boiler-house stand two stately and innocent-looking chimneys—new, clean and respectable as two church steeples. They stand 200 feet high, and nobody to look at them would ever believe them capable of rolling out dense volumes of pestilential smoke to smother the neighbourhood. These tall twins have tremendous sucking power. Either of them could by itself do the whole work of the line, but it seems to have been the rule throughout this model railway to duplicate everything, and to spare no expense in guarding against the possibility of a breakdown anywhere. Near the foot of the chimneys is a vast sunken water-tank, holding about a day's supply of water, so that if anything should go wrong with the mains there will be a reserve. The cold water before it reaches the boilers will pass through what are known as Green's economisers—receptacles standing in the full rush of the fiery blast that roars along from the furnaces to the chimneystacks. The waste product of the furnaces, so to speak, is thus used to give a preliminary heating to the water, which reaches the boilers at very nearly boiling-point. This of course saves coal.

Adjoining this boiler-house is the power-house, a vast building 200 feet long and 85 feet wide. The pipes will come from the boiler-house through into a basement 12 feet high. This basement is at present all open, and they have planted in it huge masses of solid concrete 25 feet by 32 feet, upon which the engines and dynamos will rest as secure as though built on solid rock. These concrete foundations are finished, and they are putting in six Allis engines, from Milwaukee, of 1,300 horse-power each. They are in direct connection with three phase alternators. These six engines run six dynamos generating current at 5,000 volts pressure. This formidable current is transmitted from the power-house at Shepherd's Bush to four sub-stations at Notting Hill Gate, Marble Arch, Davies Street and Post Office, where

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this high-pressure alternating current is transformed to direct current at 500 volts pressure, the usual thing for working a railway. By this arrangement a very efficient working power is provided throughout the double line, which is 6½ miles from end to end. Besides these great buildings for boilers and engines and dynamos, a striking feature of this depôt are the carriage sheds and carriage repairing sheds, which cover three acres. The carriage sheds can take in twelve complete trains of seven carriages, each train capable of carrying 350 passengers, and the repairing sheds can take in nearly as many more. There will, by the way, be only two classes on this new railway. They will be first and second. There will be no third. The fares are not yet arranged.

The tunnels are now complete throughout, and some of the permanent way is laid. Nothing finer of the kind has ever yet been done, and probably nothing equal to it. Massive oak sleepers are laid longitudinally on a concrete bed at the bottom of the circular iron tube forming each tunnel. On these heavy baulks of oak a 100-lb. rail is laid, and the whole bed of the line then filled in with concrete. The trains ought to run as smooth as though they were on solid rock. The stations are lined with beautiful white tiles, and are, of course, to be lighted with electricity. They will be reached from above both by spiral staircases and by electric lifts, travelling up and down at the rate of 200 feet a minute. The fall and rise of these lifts will average 67 feet for all stations. They have had one under test for over two months, and the thing has been demonstrated to be absolutely reliable and safe. The mere fact of the electric current failing from any cause stops the lift automatically. Under no possible circumstances can the cars escape control and drop without arrest. At the Bank and Post Office stations there will be no less than five lifts, each capable of carrying 100 people. At some stations the shafts in which they travel up and down are 30 feet in diameter, and in these there are three lifts. At some of the other stations there are two lifts in a shaft of 23 feet, each lift holding about sixty people. These ingenious flying rooms are being set up by the Sprague Elevator Company, of New York.

The stations most advanced are those at Holland Park, Notting Hill Gate and Tottenham Court Road, but most of the others are now beginning, or will soon begin, to set up their buildings above ground. The most backward part of the undertaking is the Bank Station, where the contractors have been terribly hampered by the necessity of so conducting the work as not to interrupt the street traffic overhead during the day. They have to open the roadway, work at high pressure through the night, and cover it all in again ready for the surging tide of vehicles in the morning. This is one of the most difficult and complicated engineering feats of the kind ever yet attempted; indeed, nothing quite like it has ever been done, for the simple reason that nowhere on the face of the earth is there just such a centre of traffic as that between the Bank and the Mansion House.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

Applications for Patents.

5539. Haydon Parker, for "Mechanism for controlling and aiding the closing of doors, flaps and windows."

5560. Wesley John Butler, for "Improvements in windows and their casements."

5566. Alexander Heinterberger, for "Improved method and apparatus for ventilating rooms and other enclosed spaces."

5673. Frederic Nussbaumer, for "Improvements in automatic catch devices for retaining swinging of French windows in their open position."

5694. Johannes Stumpf, for "Improvements in windows."

To Inventors.—Patents for Inventions, Trade-marks and Designs secured; every assistance given to inventors. Specialists in Building matters. Information free.—Messrs. Rayner & Co., Patent Agents, 37 Chancery Lane, London, W.C.

The church of St. Matthias, Tulse Hill, which was consecrated on Saturday last, is of brick, is built in the Early English style, and will seat 800 people. It has cost about 12,000*l.*



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CATHEDRAL SERIES, No. 218.—DURHAM: GALILEE FRESCO, ALTAR OF OUR LADY OF PITY

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tects.

The Architect.

THE WEEK.

ST week we mentioned the competition for a Jubilee rch in Vienna, and said, "This is the first time, we eve, an English architect has officiated as a judge in a tinental competition." It should have been noted that he end of 1884 there was another instance of an inter- ional jury with an English representative. The com- tion for the new Exchange in Amsterdam was opened all architects. The jury consisted of Herr CUYPERS, esenting Holland; Professor RASCHDORF, Germany; on SCHMIDT, Austria; M. PAUL SEDILLE, France; R. PHENÈ SPIERS, England; and M. VAN YSENDYCK, gium. There were about sixty competitors. Five gns were selected for a second competition, and nately the first prize of 10,000 gulden was awarded to a nch architect, M. CORDONNIER, of Lille. The second e of 6,000 gulden was gained by M. GROLL, of London Vienna; the third prize of 5,000 gulden by Herr LKMAAR, of Berlin, and the fourth prize of 4,000 gulden MM. SANDERS & BERLAGE, of Amsterdam; the winner he fifth prize of 3,000 gulden was not announced at the . Holland was not as victorious as was anticipated, although there were five or six English designs, not was premiated.

THE jury appointed in the competition between houses ted during 1898 in Paris have selected out of the ber of buildings brought under their notice six houses. tors to Paris in the present season may be glad to know designations. They are No. 18 Rue Croix des Petits mps, No. 24 Rue du Roi de Sicile, No. 204 Rue de nelle, No. 38 Avenue d'Antin, No. 87 Boulevard de la tte and No. 16 Rue la Fontaine. The respective itects are MM. BREFFENDILLE, GEORGES DEBRIE, QUET, BUNEL & DUPUIS, ROBIER & GUIMARD. owners and contractors will receive rewards. There be gold medals for the architects, bronze medals for contractors, and a reduction of rates for the owners. jury consisted of M. BOUVARD, the municipal engineer Paris, five members of the Municipal Council, the rintending architect of the city, with MM. GUADET BONMER, architects, who were nominated by the com- ors. The competition is an incentive to design, and be continued every year.

THE revelations of the pictures which are to appear in orthcoming exhibition of the Royal Academy do not promise of an exhilarating spectacle. Many of the s who usually endeavour to please seem to be ving themselves for 1900 and possibly for the Paris bition. About the over abundance of portraits there doubt, so the visitors as usual will be able to test their nce. Not one work of marked originality has come e the studio hunters. Those who have had experience cademy exhibitions could easily prepare a description at will be seen in the galleries. The commonplace is ned to prevail. If Mr. ALMA-TADEMA'S scene in the s of Caracalla can be completed to the satisfaction of stidious artist it will offer compensation for some dis- ntments, for the combination of architecture, marble ation and figures which such a work presents is ly suited to his powers. The Thermæ could accom- te about 1,600 bathers, and were supposed to be able. But bathing was not the only object of the . They were the fashionable lounging places of Rome, in them "pleasure was raised to the rank of an tion and organised on the plan of an architect."

IE danger of interfering with economic laws has been lified in a remarkable way in the granite trade of ca. It was the custom to operate on the material in at the quarries, and in that way economy and con- ice were secured. The labour organisations cared about the public advantage, and they were able to a law passed by which all granite and other stone ed for municipal or public works must be sent from the quarries undressed. As a consequence the cost of granite has been increased, architects are afraid to specify its employment, and its use in buildings is only occasional. As an instance of the waste of money which is a consequence of what is known as the TOBIN Law, the Albany Capitol may be cited. That notorious building was from the first an experiment in misspending the public funds, but in employing granite experience was surpassed. The cost of the granite recently introduced was 20,000,000 dollars, but if the stone had been dressed at the quarries the amount would be no more than 6,000,000 dollars, or about a third of the outlay. The granite dealers of New York are becoming alarmed at the decline of their business, and are endeavouring to obtain a repeal of the TOBIN Law, but with the labour organisations against them it is doubtful whether they can succeed.

THE jury of the Salon have rattled through the pictures submitted at the rate of about 800 per day. It is evident, therefore, that this year will present as abundant a supply of pictures as any of its predecessors. A new era is supposed to commence with next year; but that makes no difference in expenses. To provide money works must be exhibited and sold. One picture would at the present time have interest for one class of Englishmen, for M. GUILLAUMET has devoted a canvas 40 feet long to the glorification of football. No less than 5,334 paintings and drawings were sent in, a number which is beyond the average.

BARUCH SPINOZA was at one time expected to be a light in Israel, but the new philosophy that was current in the seventeenth century overcame the faith he had inherited. He was excommunicated, and feared his life would be sacrificed. SPINOZA, after a time spent in concealment in the suburbs of Amsterdam, fled to the remote village of Rijnsburg. The small house in which he found shelter still exists, and a few years ago it was purchased by M. ROSENTHAL, a banker of Amsterdam. He had it restored, and then presented it to a society of students of mental philosophy. In the house can be seen SPINOZA'S book-case, with his small collection of Hebrew books, his writing-desk, and the tools employed by him in polishing lenses and spectacles. According to COLERIDGE, "Strong feeling and an active intellect conjoined lead almost necessarily, in the first stage of philosophising, to Spinozism;" but some of those who on March 20 made a pilgrimage to Rijnsburg in order to commemorate SPINOZA would be amused if they were declared to be only in the elementary stage of philosophy.

THE Spaniards were not very enthusiastic about DIEGO VELASQUEZ until they discovered that in other lands he was accepted as the precursor of the modern style of painting. He was born in Seville on June 6, 1599. His father's name was DE SILVA and his mother's VELASQUEZ, so his correct name was RODRIGUEZ DE SILVA Y VELASQUEZ, but he adopted the name of his mother for some unexplained reason and has made it immortal. It is proposed to celebrate his birthday this year with honours that are unusual in Spain. In the National Gallery of Madrid a special room will be assigned for the exhibition of the works of VELASQUEZ. There are between sixty and seventy masterpieces by him in the collection, and probably some more may be lent for the occasion. Another interesting feature in connection with the celebration will be the unveiling of a statue of the painter, for which it is said a site has been arranged in front of the entrance to the gallery.

A MEETING of the Surveyors' Institution will be held in the Council House, Bristol, on Wednesday, the 26th inst. The following papers will be read and discussed:—(1) "Bristol," by Mr. WILLIAM STURGE; (2) "The Railways and the Farmers," by Mr. W. M. ACWORTH; (3) "The Proposed Provision of Workmen's Houses by Loans from Local Authorities," by Mr. HOWARD MARTIN. The members will dine together at the Grand Hotel, Broad Street, Bristol, in the evening of April 26, at 6.30 P.M. precisely. Dinner tickets one guinea each, including wine. On the following day there will be excursions to places of interest in Bristol and its vicinity, Tintern Abbey and Chepstow Castle, Wells and Glastonbury.

VICTIMISED ARCHITECTURE.

A VISIT to St. Paul's recalls the line of the old song about "the woodpecker tapping on the hollow beech tree." The clank of hammers in the operations on the masonry sound strangely in a building where silence usually reigns. If, however, good people assume they would become more devout if their eyes rested on mosaics, stencilling and gilding, who would have the heart to prevent them soaring above the level of a mercenary city? If we may judge by appearances, St. Paul's has become more of a show than formerly, and in the choir itself country cousins are no longer overawed by the associations of the place; but the authorities of the cathedral are, of course, better able to judge of the phenomena attending devotion than are mere laymen, and from the increase of their eagerness to have the building bedizened they must be confident about the spiritual progress of the visitors. Human nature is sometimes moved by causes that are incomprehensible. The Salvationists appeal to wicked and wordly consciences by inharmonious sounds; the Dean and Chapter of London by colours and figures no less odd, and which an ordinary congregation would be supposed to be unable to understand. The two classes of missionaries are equally confident about the certainty of their processes, and both have attracted large sums of money to prevent any decrease in conversions.

In St. Paul's the transformation which is in progress is aided by modern notions of decoration. Once upon a time a decorator was not ashamed to be subservient to the will of the architect and builder. He was glad to undertake certain work, and he performed it to the best of his ability, or rather the quality was determined by the amount of money he was to receive. The old ways have changed. The decorator of our time, especially if he is new to that class of work, has no notion of subserviency. As he comes last he considers all the work hitherto done as only preliminary to his own, instead of being supreme to it. In the Paris Panthéon, although all the painters professed to be guided by the laws of decorative art, PUVIS DE CHAVANNES alone resolved that his work should emphasise the architectural work near it. The remainder have acted with so much independence that walls of match-boarding would serve as well as masonry for the display of their paintings. St. Paul's will present a more incongruous appearance. All the care taken by WREN in the selection of stone was misspent, for it has to be concealed. A plaster surface would make the decoration, which in the minds of the authorities is the supreme idea, far more easy to accomplish, and the elevation of souls would sooner begin. Unfortunately the painters did not originate the innovation at St. Paul's. When WILLIAM BURGES proposed a veneering of coloured marbles for the cathedral as a necessity, he was demonstrating that WREN's work was a failure. Other men who looked on marble as one of nature's vain efforts to become decorative naturally suggested more artificial materials, and nobody can foretell by how many varieties of manufactures STRONG's masonry will be concealed until it disappears.

There is, however, a higher authority than Mr. BURGES for the indifference to architecture which is exhibited at St. Paul's. It is now the fashion to praise MICHEL ANGELO to an extent which REYNOLDS dared not attempt, for he is made out an infallible guide for all artists, for architects no less than for painters and sculptors. But it cannot be denied that the great Florentine possessed a still higher opinion of his own greatness. All things were to be subdued in order that his own work should be exalted. The spirit of co-operation was unknown to him. If occasionally he helped a painter like SEBASTIAN DEL PIOMBO, it was in the endeavour to belittle another man's work, and not for the sake of art. In the Sistine Chapel he made painting serve not only for sculpture, but for architecture. There are piers and cornices supported at intervals by boys as caryatids, which were intended to represent construction in white marble. The Prophets and Sibyls were pretentious in sham bronze, and, to add to the deception, boys in natural colours were placed beneath as supporters of name-labels. The wonderful power of the paintings cannot be doubted, but they have annihilated the architecture, which has disappeared as effectually as the two windows which originally existed at each end of the chapel. How many visitors can now realise that the Sistine was designed by an architect, or that his name was BACCIO PINTELLI? He was so much appreciated by SIXTUS IV. that, according to VASARI, the Pope would not undertake a building without having his advice. He rebuilt the Ponte Sisto, and erected several churches and other buildings in Rome. But PINTELLI is now as ignored as WREN will be if his buildings are subjected to decoration like that of the Sistine Chapel. It is true painters with as much power as MICHEL ANGELO do not appear in all centuries nor in all cities, but the hardihood to meddle with architectural detail is never wanting.

Mr. FERGUSSON, as all our readers know, contrasted the Sistine Chapel with King's College Chapel as typical of two principles of art. He was not a Gothicist, and he had a leaning towards Italian, so that he was not likely to overpraise the Cambridge or underrate the Roman building. He asks:—"Is it better that a building should be ornamented from floor to ceiling with paintings appropriate to its destination, or that it should depend on constructive and architectural details only for its ornamentation? Is it expedient to apply the resources of the highest of the æsthetic phonetic arts to this purpose, or to depend only on an æsthetic form of the technic art of architecture to accomplish this object?" From his possession of a theory of beauty which he devised, Mr. FERGUSSON had to express an opinion favourable to a veiling of walls with pictures, as was the custom in Italy, and which was imitated elsewhere. But he is compelled to admit that "the flat part of the ceiling is certainly a mistake." It depends on the position of the spectator whether the figures appear upside down or not, and "it is impossible to get rid of the feeling that they may or should tumble out of their places." He has also to add that an offence against construction was committed, for there is no telling how the roof is made safe. This condemnation by a judge who is partial to painted walls and ceilings should be enough to make people who have charge of public buildings hesitate before they abandon them to be Italianised by would-be rivals of MICHEL ANGELO. If construction is to be ignored or supplanted by sham cornices, string-courses with painted caryatids, then let us adopt the terrible manner of the Florentine; but so long as there is acceptance of the English tradition respecting construction and demonstrating its existence as if there was no need to be ashamed of it, then a different system of decoration becomes necessary. As FERGUSSON says:—"In our buildings painting was always kept in strict subordination to structural necessities; with the Italians the structure was considered as less important, and never thought to be complete or perfect till the painter had covered every available space with the productions of his art. Even in essentially Tedesco a building as the church of San Francesco at Assisi, the paintings are thought, not only by the Italians, but by most modern critics, as more admirable than the very beautiful Pointed architecture of the church itself." We may be coming to such a manner of judging the arts in England. If so, the "Italian mission" is not to be feared only in its theology. The relative value of painting and other wall-decoration in comparison with architecture is not easily determined, but English common sense can never approve of a building in which it is impossible to distinguish between a substance and a superficial adornment. One effect of the operations we hope will be to impress the clergy and others that a painter is not necessarily so infallible an artist as he is supposed to be by many people. As a rule painters and sculptors concentrate attention on their own work, and will have it predominant, although repose is sacrificed. Examples of what they can do are seen in many Mediæval and Renaissance buildings. An architect on the contrary endeavours to be impartial, and, while he is glad to foster subsidiary arts, he endeavours to avoid the excesses which do not lead to the advantageous display of the arts. He knows what are the advantages of economy, and it is only under his rule that such indiscretions as are apparent in WREN's Cathedral can be avoided. But as Lord WINDSOR says, "What strikes one most forcibly is that the artist (painter) of to-day is wholly out of sympathy with the architect of the seventeenth century; his idea, it seems, is not to beautify but to transform. WREN's noble pile depends entirely upon the simplicity of its lines and the proportion of its detail, and any decoration out of scale must destroy the sense of simplicity and proportion."

ECHOES OF THE YEAR 1829.

THERE are some subjects which appear to be always recurring in London. Among them are improvements of Government buildings. In 1829 as in 1899 the est way of dealing with some of the offices was accepted as difficult problem. JOHN SOANE, the architect (he was ot knighted until 1831), issued for private circulation in 329 a volume which bore the following lengthy title :— Designs for completing some of the Public Buildings in Vestminster, and for correcting Defects in others : humbly ubmitted to the consideration of His Majesty, the Iembers of both Houses of Parliament, the Lords Commissioners of His Majesty's Treasury, the Judges of the veral Courts, the learned Counsel practising in those ourts, and to the Surveyor-General of His Majesty's Vorks." SOANE said that in 1820 he was honoured with a mmission to prepare designs "for new Law Courts, to be ected on the space between the south-west turret of the one building at St. Margaret's Street, leading to the trance into the House of Commons, and north-west wer of Westminster Hall, projecting in New Palace Yard far as the buildings erected in the reign of Queen LIZABETH, and which abutted on the west front of the rth-west tower of the Hall." The site proposed was erwards materially circumscribed, but votes were granted d the buildings were far advanced when, in March 24, "one of the great luminaries of the law" Id that a part at least of the new structure was a miserable excrescence of the Bœotian or sixth order architecture," and ought to be razed to the ound. It was stated on the same occasion that SOANE s bent on the destruction of whatever part had survived the ancient Palace of Westminster. The architect mainned that his critic lived in Old Palace Yard, that he had amined the works while in progress and seemed pleased th what was being done. Finally, SOANE, as proof of his nservative treatment, pointed to the Painted Chamber, hich, instead of being demolished as alleged, remained altered in all its essential parts. SOANE had created many emies against himself, and his efforts "to combine together e classical simplicity of the Grecian architecture, the gnificence of the Roman and the richly varied effects so ongly marked in our ancient ecclesiastical structures," wever ingenious and anticipatory of experiments in our ne, were not approved by critics. SOANE could afford to indifferent to the numerous attacks against his skill, for was wealthy. A few months afterwards he was able to bscribe 1,000*l.* towards the erection of the column which a memorial of the Duke of YORK. Another architect who s put under the microscope in 1829 by the House of mmons was JOHN NASH, and a more easy subject for erse criticism than Buckingham Palace could hardly be nd in any part of the metropolitan area.

London and all England would be poorer if a fire ich broke out on April 27, 1829, had not been supssed. On that morning Westminster Abbey was in nger, but fortunately the flames were extinguished before ch damage was caused. The decoration of St. Paul's thedral was another subject which claimed some attenn in 1829. The building had been cleaned, which was expensive operation. But the authorities and their rkmen were unable to approach THORNHILL'S paintings he dome, and the contrast between the upper and lower ts of the building was therefore most disagreeable. The ntings could not be touched owing to the expense of ffolding. At the time E. T. PARRIS, an artist who, with ne reason, believed he was destined to paint the nest class of subjects, could not find patrons his scripture and historical pieces on a large e, and he was compelled to accept an engagement to nt a panorama of London for the Colosseum in Regent's k. The dome was 30 feet larger in diameter than Paul's, and as the painting must be executed at a cheap , necessity made Mr. PARRIS an inventor, and he sed a series of flying and swinging scaffolds for himself his workmen. He showed the invention to Professor KERELL, who at once brought it under the notice of the n and Chapter. Mr. PARRIS was commissioned to h up THORNHILL'S paintings, but the work took a long to complete. We suppose THORNHILL'S paintings will be removed sooner or later, but where is the artist to be found who will treat the dome with as much reverence?

The Colosseum, which was accepted as a marvel, was opened on January 14, 1829. The building was designed by DECIMUS BURTON. It had two objects : one was a tower with galleries, which anticipated M. EIFFEL'S structure. From the highest stages the great panorama around the dome was to be seen. On the top was the old ball which had been removed from St. Paul's Cathedral. About the same level were concert and dancing-rooms, and then a flight of stairs led to an outer gallery, from which a view of London could be seen. The tower was formed of timber, with a curb of brick and iron bracing. On the ground floor were galleries for the exhibition of works of art, saloons, conservatories and refreshment-rooms. The great panorama was painted from sketches which Mr. HORNOR made from a temporary observatory which was erected for the purpose above the cross of St. Paul's. The sketches were enlarged by Mr. PARRIS sixteen times the original scale, and then painted in oils on prepared canvas. It was difficult to obtain the desirable co-operation, for when artists were employed they endeavoured to express their own individuality, and as a consequence the panorama was without any uniformity, and was a failure. Mr. PARRIS was therefore obliged to paint out the greater part of what had been done, and with the aid of a band of house-painters who were trained by him, to recommence the work. Enlarging and painting occupied about four years. The building would not now be tolerated, but it afforded much enjoyment to the simple people who lived seventy years ago. A visit to London was considered incomplete unless it included acquaintance with the glories of the Colosseum, for which the admission fee was no less than five shillings.

Another building of a more important character, although affording less pleasure, was the new Post Office erected by SMIRKE on the site of the ancient ecclesiastical buildings of St. Martin's-le-Grand. The old building was not without interest. It was formerly the residence of Sir ROBERT VYNER, but had been occupied as a post-office from the days of Queen ANNE. From time to time alterations were made to cope with the increase of correspondence. The most important were those carried out from the designs of JOHN THOMAS GROVES, who was appointed architect in 1807.

The present Postmaster-General as Earl Marshal is head of the Heralds' College. He would have been interested in a proposal which was made in 1829 to publish the proceedings in the cause between Sir RICHARD LE SCROPE and Sir ROBERT GROSVENOR, in the reign of RICHARD II. This cause, relative to the coat armour of the parties above named, so remarkable in the annals of heraldry, lasted four years, and was tried before the Lord High Constable. The record abounds in valuable illustrations of history, and throws a strong light on the general state of society in the fourteenth century. Upwards of 300 persons were examined on the question, who were either peers, bannerets, knights or esquires, or abbots, priors or other clergy ; and as each of the peers, knights and esquires deposed to his age, the battle or siege at which he commenced his military career, the number of years and the occasions on which he had borne arms, and to circumstances connected with his services or the services of his ancestors ; and as the clergy alluded to manuscripts and monuments in their respective abbeys and churches, this trial is rich beyond example in historical, biographical and topographical facts. The existence of such a document suggests the difference between Mediæval and modern times in regard to heraldry.

Another subject which excited the interest of archæologists was the discovery of a maniple and stole in the tomb of St. CUTHBERT at Durham. They were in a remarkable state of preservation. The gold lace, which appeared to be constructed solely of fine gold wire partially flattened and without any admixture of silk thread, retained its metallic colour and brilliancy almost as freshly as when it was first put on, nearly 1,000 years ago. By an inscription in embroidery, perfectly legible, the vestments appeared to have been the gift of ÆLFLED to FRITHSTAN—a circumstance which at once fixes their date beyond all dispute to the earlier part of the tenth century. However, in the whole catalogue of English bishops there is but one FRITHSTAN, or FRITHESTAN, who, according to the most trustworthy

authorities, succeeded Denewulph in the see of Winchester, A.D. 909, being one of the seven prelates simultaneously consecrated by Plegmund, Archbishop of Canterbury, in pursuance of the mandate issued by King Edward the elder (son and successor of the illustrious Alfred), as the condition of removing the papal interdict under which the kingdom had been placed, in consequence of a previous neglect in filling up bishoprics. According to one tradition, Denewulph was the neat-herd who owned the cottage in which Alfred took refuge, and where the king neglected to turn the cakes and suffered merited abuse. But the legend will not sustain scrutiny. There was a Bishop Denewulph, and Frithstan succeeded him and ruled at Winchester until 931. Drawings of the stole and maniple were made at the cost of the Society of Antiquaries.

Sir Thomas Lawrence was the President of the Royal Academy in 1829, and therefore presided at the distribution of the medals on December 10. It was the last occasion he was to officiate, for he died after a few days' illness before a month had elapsed. The prizemen were the following:—In painting, the gold medal was awarded to George Smith; the gold medal for sculpture to James Legrew; the gold medal in architecture to William Grellier for a design for a British Senate House; for the best copy from Vandyke (*Holy Family*), Richard Augustus Clack, the silver medal; the same prize was also awarded to H. L Smith, but as he had already obtained a medal the prize was withheld, according to the Academy's rules; for the best drawing from life, the silver medal to J. H. Millington; for the same to F. Goblet, also withheld on the same ground as Mr. Smith's; for the best model from life, the silver medal to R. C. Lucas; for the best elevation of a banqueting-house (class of architecture), the silver medal to J. W. Pusey King and William Barnes; drawings from the antique, the silver medal to D. Maclise and John Bell; models from the antique, the silver medal to Richard Warren and E. G. Papworth. As has happened very often in the history of the Academy schools, the majority of the prizemen did not attain distinguished positions as artists. Maclise was the most successful, but he had already gained some reputation. In 1829 an engraving after his portrait of Ude the French cook was published, and his *Malvolio affecting the Count* appeared in that year's exhibition. John Bell, the sculptor, attained some popularity in connection with the exhibition of 1851, and his *Una and the Lion* in porcelain is still to be seen in the windows of dealers in pottery. Grellier ten years afterwards gained first premium for the Royal Exchange, but he could not withstand Tite's influence and diplomacy, so he failed to obtain the commission. His most important work was the Royal Exchange Insurance Offices, Liverpool.

In 1829 the steel plates of the "Annuals" were in favour, and although some of them were marked by a prettiness that afterwards brought all the plates into ridicule, it must be owned that the foremost painters and engravers of England aided in their production. The "Annuals" were an indispensable accompaniment of Christmas, and continued to be so until they were supplanted by the red-covered stories of Charles Dickens. In our days it would be difficult to produce plates of equal merit, for engraving like that of the Findens and the Heaths has succumbed to etching and photographic processes. Plates on a large scale were also in favour. George IV. was considered to be as suitable a subject as could be discovered. The Princess Victoria was lithographed by Lane, and the print was said to be "a charming little head." Then there was the perennial Duke of Wellington. Portraits of fashionable ladies were in request, as well as actors and actresses. The most important engraving of the year was Vendramini's *Raising of Lazarus*, for which a gold medal was awarded by the Society of Arts.

There were several costly illustrated books issued by the publishers, such as Brockedon's "Passes of the Alps," Turner's "England and Wales," John Coney's "Ancient Cathedrals," and Britton's "Picturesque Antiquities." There were some works published on architectural subjects, of which the most interesting was T. F. Hunt's "Exemplars of Tudor Architecture." In it were many extracts from old manuscripts and books which cast sidelights on the period described. Some of the nobles who erected mansions in London were proved to be unscrupulous about the sources from whence the materials were derived. Somerset House owed much to a chapel of Old St. Paul's and the palaces of the Bishops of Worcester, Lichfield and Llandaff. The aristocratic builders believed they could be provided with labour on the same terms. The plain-speaking Bishop Latimer was compelled to adjure them to be honest. In one sermon he said:—"For the love of God, let poor workmen be paid. They make great moan that they can get no money; the poor labourers, smiths, carpenters and other crafts cry for their wages. They be unpaid some of them three or four months, some of them half a year." The wages were not very high. The average price of labour was sixpence a day. A best joiner had eightpence and a labourer fourpence, with sixteenpence a week per head for board. Carvers, masons and sawyers seem to have been of equal value. Those who exult in the picturesqueness of the Strand in Tudor days are silent about the economical terms on which the buildings were raised.

Although the independence of Greece was not formally recognised by the Sultan until April 1830, yet the Turkish viceroy was compelled to leave the isles in 1828, and in 1829 peace was made between the Allied Powers on behalf of Greece and Turkey. But Jussuf, the pasha who ruled in Athens, was left without any information about the change. A correspondent, writing in October, gave the following account of the state of the city:—"There is not a house in Athens; everything is turned topsy-turvy, and there is not a street that can be recognised. The inhabitants have all fled. The temples of Theseus and of Jupiter Olympius, a portico of Hadrian, some immense columns of the Parthenon, the Lantern of Diogenes and the Tower of the Winds rise amidst the most confused piles of ruins. The falling of the walls in which several masterpieces were fixed has disclosed some remains of antiquity hitherto unknown, so that Colonel Borg de Saint Vincent was able to observe some gigantic caryatids, the legs of which end in serpents, which had never yet been seen by any traveller or antiquary."

The work of reconstruction in Greece was onerous, but when the obstacles to prosperity are remembered it must be allowed that the seventy years which have elapsed since independence was secured have brought fewer disappointments than were anticipated in 1829. Let us hope that in 1969 as much can be said about the experiment England has commenced in Africa. One prophet at least whose utterances were heard in 1829 could only see in his visions a Nile valley that was doomed to inevitable ruin. General Sir Rufane Dunkin, who for a long period devoted himself to a profound study of the Nile and the Niger, concluded that the surrounding desert was the enemy of all man's work, and was bound to conquer in the end. In one passage of his dissertation he says:—

If we turn to the valley of the Nile of Egypt, we shall see at this moment the very process going on by which the lower part of the Niger, or Nile of Bornou, has been choked up and obliterated by the invasion of the Great Sahara, under the names of the Deserts of Bilmah and Libya. Thus has been rubbed out from the face of the earth a river which had once its cities, its sages, its warriors, its works of art and its inundation like the classic Nile, but which so existed in days of which we have scarcely a record. In the same way shall perish the Nile of Egypt and its valley, its pyramids, its temples and its cities. The Delta shall become a plashy quicksand, a second Syrtis, and the Nile shall cease to exist from the Lower Cataracts downwards; for this is about the measure or height of the gigantic principle of destruction already trading on the Egyptian valley, and who is advancing from the Libyan Desert, backed by other deserts whose names and numbers we do not even know, but which we have endeavoured to class under the ill-defined denomination of Sahara—advancing, I repeat, to the annihilation of Egypt and all her glories, with the silence, but with the certainty, too, of all-devouring time. There is something quite appalling in the bare contemplation of this inexorable onward march of wholesale death to kingdoms, to mighty rivers and to nations; the more so when we reflect that the destruction must, from its nature, be not only complete but *eternal*.

The general could not have anticipated that seventy years afterwards the work of English engineers and English contractors would be able to stem the advancing desert and subject nature to English control.

ANTONIO ALLEGRI OF CORREGGIO.

[HOSE who believe that wall-paintings should be architectonic in treatment will not find a model be followed in any of the works of ALLEGRI, who is tter known as CORREGGIO. He did not, possibly could t, submit to any restraint. The traditions of masters re not accepted by him as binding, and he might be nsidered as a creator of a school rather than as the eritor of principles. ALLEGRI's way of discovering ojects for mural decoration is suggested by his work for Abbess of the Convent of St. Paul, at Parma. JEANNE PLAISANCE was an aristocrat by birth, and from her sition she was a spiritual princess who claimed equality h all ecclesiastics below the Pope. When the young nter was invited to adorn the living room of the tur- ent nun he did not think of scenes from Scripture or n the legends of the saints, or incidents in the life of NNE, which were dramatic enough, as suitable sub- s. He proposed instead to paint scenes which ld recall the goddess DIANA. He had no desire pay a tribute to the revived paganism which was be witnessed in some parts of Italy, nor did he h to suggest there was any resemblance between celestial huntress and the ruler of the convent. saw on her family shield three crescents, and they gested the "goddess excellently bright" of whom ALLEGRI, many other painters, must have had glimpses in his ing dreams. To this fancy or caprice all the necessities lecorum or fitness were sacrificed. Nor was ALLEGRI e respectful to the mythological tradition. DIANA was lover of children, as the little boys knew who were arged at her altars. But ALLEGRI idolised them, and ordingly he painted parts of the room to suggest a yard, and introduced several amorini as if they were inhabitants. In his eyes childhood and discipline were ngruous. The infants were, therefore, not shown in nced groups, but appear with symbols, arms, fruit, in joyous disorder which is natural to their years. The p is a defiance of law, order and the myths, but it naracteristic of the spirit in which ALLEGRI interpreted subjects. It is an Olympian revel with PUCK as master he ceremonies, a "Midsummer Night's Dream" which mes more fanastic from its connection with a convent CORREGGIO, like SHAKESPEARE, dared to be original, ugh his erudition might be doubted when he treated ue subjects.

n a like spirit he adorned church domes with paintings. ther he was aware of the importance and the difficulty ne construction we cannot tell. Probably the painter indifferent about the skill which was necessary to secure nry in safety without any visible means of support. saw only a suggestion of the aerial region above the , in which birds moved at ease. The ample space ented an opportunity to display his skill in representing , women and children bestriding the lazy-pacing clouds iling upon the bosom of the air. To depict row above of saintly beings in heavy robes and with serious itenances in the manner of earlier masters would e his painter's instinct revolt, for that was a con- ionality which took no account of the conditions he upper world in which the events were supposed ake place. It was a vision of cloudland which painter dared to depict, and, unlike his critics, new it would be a failure if he adhered to the laws h impose a limit on all earthly existences. Gravitation nipotent here below, and in consequence some of us tately in our bearings; but were we emancipated from ower and able to move as we please in a different um, we might display the marvels of foreshortening n are to be seen in St. John's Church and in the dral of Parma. The President of the Academy, in of his lectures, rebukes the artists who made their and prophets write on scrolls of paper without any to support them. But if we can imagine bodies ut weight, like CORREGGIO's creations, it is allowable they should use clouds as thrones or as book-rests required. The whole difficulty is with the late. Let it be once granted that beings in human can exist in the atmosphere, and the appearances present will be a case of inference. They may be huddled into lumpish figures, or be extended like swimmers, or even appear like "a dish of frogs," which was the judgment of one of the spectators who stood beside CORREGGIO; but strange as is the aspect, we are not to test its accuracy by using ordinary life as a standard. "Truth to nature" does not apply to the figures on CORREGGIO's domes, for he has soared beyond the natural, and we should make as many concessions in his favour as we do for writers who endeavour to describe life in regions which are beyond the experience of travellers.

ALEXANDRE DUMAS once said, with reason, that we can never understand "Hamlet" because we have no certain knowledge of its creator. ALLEGRI's works would be less difficult to understand if we possessed a faithful biography of the artist. As it is, he becomes a legendary being as uncontrolled by the conditions of common life as any of his cloud dwellers. According to VASARI, his life was a martyrdom. Melancholy marked him for her own, his family was an oppressive burthen, his virtue was upheld at the cost of irrational afflictions, he was ignorant as well as poor, unacquainted with the productions of antiquity or with the masterpieces of his own age; he was so insignificant in his own eyes that he never made a sketch of himself, nor did any of his contemporaries attempt his portrait; finally, he was so little valued that payment in coppers was made to him for his works, and his death in his fortieth year was caused by the fatigue he underwent in carrying a sack of that kind of money on a hot day. VASARI pitied the painter, and although he could introduce an occasional malicious trait in his biographies, in this case we believe he recorded only what he believed was true. Since VASARI wrote many efforts have been made to investigate the mystery which surrounds ALLEGRI's life, but in spite of so much labour there is darkness which cannot be entirely dispersed.

Enough appears to be now known to make us doubt the theory of CORREGGIO's miserable life and constant depression. He was occasionally obliged to paint subjects of a tragic kind, but the general character of his works reveals a tendency towards those which were pleasing. The charming *Education of Cupid* in the National Gallery is a type of one class of his works, which owe their interest to the domestic affection which inspires them. CUPID might be one of the artist's children, and his mode of study derived from a scene which was not imagined. There is so little of the posed model about the amorini painted by CORREGGIO, we must conclude that he often gave records of nursery scenes of which he was the delighted witness. Even when they are introduced as angels his children retain confidence in their supremacy as favourites, and they are none the worse for looking as if they were ready to become mischievous if the opportunity arrived. It has been often remarked that his Madonnas are rarely sorrow-stricken; the painter had not the heart to depict a martyred maternity. With so many facts about women and children recorded on canvas, we cannot believe that ALLEGRI considered his family to be an oppressive burthen. Judging by his pictures, it is safe to conclude that his home life was exceptionally happy. Some of his pictures are indeed signed "LIETO," or the happy man.

As to poverty it is also doubtful. His father, PELLEGRINO ALLEGRI, was a cloth merchant, and was in a position to have his son trained to become a scholar, which in the beginning of the sixteenth century gave a position that could become a passport to official employment. But he felt he was not made for statesmanship. He possessed powers which enabled him to dispense with the training required in those days by all students of art. All Rome, and the works of MICHEL ANGELO in particular, according to REYNOLDS, served as an academy for RAPHAEL, but ALLEGRI had no advantage of that kind. Correggio, like other towns in Lombardy, was more suited to make a condottiere of a young fellow than a painter. The only artists in the place were humble men who were able to aid in the fêtes which followed success in the little wars in which the lord and his retainers took part. Yet their instruction sufficed for the young ALLEGRI.

From the position of his father and his precocious ability the young artist was early noticed by his sovereign lord, MANFREDI. When the count was obliged to visit Mantua in order to escape a visitation of the plague, he

brought Allegri with him. The artist was then seventeen. There, in addition to many works of art, he saw the frescoes of Mantegna, which drew from him the famous exclamation, "Anch' io son pittore." According to some writers it was the sight of the Sistine Madonna which inspired the words. It would perhaps have been better if Allegri then saw paintings in which there was less display of foreshortening and perspective; but a comparison with Andrea Mantegna's works demonstrates how much was derived from his own sense of beauty. Raphael himself did not possess more facility for the expression of grace. Judging by certain qualities in Allegri's works, such as his skill in light and shade, and the mysterious beauty of the faces which surpasses that of Italian women, it is concluded that he must have come under the influence of Da Vinci. But no research has yet succeeded in discovering how it could be accomplished. It could hardly be direct, for Allegri was no traveller, and there was nothing in Correggio to attract so great a man as Leonardo, who made his journeys like a prince, and was therefore costly to entertain. The master, it is said, painted a picture or two for the Duchess of Mantua; but, however great was Allegri's insight, he could not acquire Da Vinci's manner from so limited an exemplification. It is more reasonable to suppose that the two artists were endowed with similar qualities, which enabled them to see nature under novel aspects.

Assuming that Allegri was born in 1494 he would then be twenty when he was recognised as a master. He painted an altar-piece in his native town, for which he received about 200*l*. When so much value was set on his works he could hardly be considered as a poor man. His reputation was not likely to be confined to Correggio, and in his twenty-fourth year he sought a wider field in Parma, and, as we have related, found a patroness in the Abbess of St. Paul. His stay in the city was not long, for in a year or two he was again to be found in Correggio, where he married. He was then tempted to return to Parma, and his changes between the two places resembled Dr. Primrose's migrations from the blue bed to the brown. Why he was not induced by some of the greater princes or ecclesiastics to seek a more important residence is now incomprehensible, for inferior artists were able to enjoy support to which Allegri was always a stranger. Rome was a centre of attraction which was irresistible, but Allegri was beyond its power.

In 1520 he obtained the commission for the decoration of the cupola of St. John, over 2,000*l*. being promised for the work. It was painted for a guild. In the cathedral the employers of Allegri were the monks, who were, it is related, dissatisfied with the composition, or rather with the price (1,200 golden ducats) which had to be paid to Allegri. It is related that ten years after the completion of the paintings the opinion of Titian was asked whether value was given for so large a sum of money. His reply was that if the dome were reversed and filled with ducats it would be an insufficient reward for so great a work. The praise was generous and worthy of Titian. It was unfortunately expressed too late to afford pleasure to Allegri. The painter who brought credit to Correggio and made Parma famous had died suddenly in 1534 in his fortieth year. According to Vasari, Correggio was the place of his death as of his birth, but as there is neither record nor tombstone there can be no certainty on the subject.

Some painters who have died as early as Allegri covered as much canvas and wall space. It would, however, be difficult to find another who executed so many renowned works after so restricted a training. Allegri is an example of what inborn genius can accomplish with aid that for ordinary students would be insufficient. The humblest youth that attends a school of art in London, Manchester or Birmingham has means of learning which were beyond Allegri's resources. Yet in spite of all the difficulties which were around him, Allegri became, as Mr. Ruskin says of him, "the captain of the painter's art," for as he continues, "other men have nobler or more numerous gifts, but as a painter, master of the art of laying colour so as to be lovely, Correggio is alone." But while admitting the loveliness of his work it is to be regretted that he was never able to rise in thought to the level of artists who were inferior to him in technique.

THE FITZWILLIAM MUSEUM.

THE syndicate of the Fitzwilliam Museum, in their fiftieth annual report for the year 1898, state that the number of visitors during the year was 39,960, and to the Museum of Classical Archæology 5,045. Permission to copy during the same period was given to forty-two persons at the Fitzwilliam Museum and to eight at the Museum of Classical Archæology. Among the gifts specially mentioned are the following:—Two pictures by Mr. T. B. Bumpstead of Trumpington. One is a painting on panel, of the school of Holbein, dated 1549, representing a man and his wife; the other is a portrait of an old man by the sculptor Bernini. Professor W. M. Flinders Petrie has presented a number of specimens of pottery, mace-heads and smaller objects, found during his excavations on behalf of the Egyptian Research Account in 1898. An engraving of the interior of the Leyden University library by Woudanus and a collection of forty-eight engraved portraits of Cambridge celebrities have been presented by Mr. J. W. Clark, M.A., Registrary. Mr. Pendlebury has presented during the year fourteen volumes and sixteen unbound pieces of music. The principal purchases have been:—A MS. of Aristotle's "Analytics" of the fourteenth century, written in Italy, with illuminated initials. A copy of the German version of Sir John Mandeville's Travels, printed at Basel, *circ.* 1480, with numerous hand-coloured wood cuts. (Brunet, Supplement I. 931.) A series of photographic reproductions of pictures in the Prado Gallery at Madrid and of pictures by Rembrandt in the galleries of Berlin, Cassel and Dresden. A facsimile reproduction of a thirteenth-century MS. of the "Lapidario del Rey Alfonso." A set of E. aus'm Weerth's publications of monuments of early Rhenish art. Two water-colour drawings by T. M. Rooke, namely, a view of Troyes (Aube) and one of Beaugency (Loir-et-Cher). A volume of miscellaneous engravings by (and after) Martin van Heemskerck, the elder Brueghel and other artists of the sixteenth and early seventeenth centuries. A gold ring (probably episcopal of the thirteenth century), set with a sapphire, found near Fordham, in Cambridgeshire.

TESSERÆ.

Effect of Foreshortening.

PAINTERS are not only careful to foreshorten correctly all the objects which they portray, but they often avail themselves of the principle to produce most striking effects. For instance, Martin in many of his vigorous designs, by judicious foreshortening, has exhibited miles in extent of gorgeous architecture and of armed men, on a space of canvas that would seem scarcely more than sufficient to receive a few figures; he has made a single magnificent pillar or accoutred warrior placed in the foreground, become the type which first fills the mind with admiration, and then sends it along the retiring line of beautiful perspective, where every tip or edge renews the first impression. A man lying on a table or a bed nearly as high as the eye, with his feet towards the spectator, is foreshortened into a roundish heap, of which the soles of the feet hide the greater part. This is the description of the painting which has been called the miraculous Entombment of Christ, and it is because an unreflecting spectator moving sideways with the expectation of seeing more of the body, still sees only the soles of the feet, and may suppose the body turned round so as to front him, that the painting has received its appellation. For nearly the same reason the eyes of a common portrait may seem to follow a spectator to whatever part of a room he goes. A rifleman represented as taking aim directly in front of the picture will seem to have in his power every spectator standing in the room; for, as in the case of the miraculous Entombment, every spectator present will feel as if he alone could see the picture as all see it.

Ancient Roman and Italian Renaissance.

It seems, notwithstanding the vast destruction which the Goths occasioned in Italy, from sufficient remains that could not but have existed, reasonable to conclude that the earliest palaces in Italy, after the revival of the arts, must have partaken in some measure of the arrangement and design of the palaces of ancient Rome, which beyond question were as different from the houses of the Greeks as were the customs of the two countries. Pompeii furnishes no clue either to the plan or elevation of a Roman house. "Scalis habito tribus altis" gives a notion as to height, which under Augustus was limited to 70 feet. The great courtyard was then a feature as it still is, in the palaces of Italy, and there can be little doubt that the modern palaces are not very dissimilar to the edifices of ancient Rome, making sufficient allowance for change of habits. In how many things, agricultural for instance, may the similarity between the ancient and modern practices in Italy be traced! Is it not then allowable to assume that the modern is very much founded on the model of the ancient buildings? If it be not so, the greater is the respect due

ose illustrious architects who designed and executed the alian palaces of the fifteenth and sixteenth centuries, which ıve been the foundation, in point of arrangement, of all odern edifices, into which comforts have been gradually troduced suitable to higher civilisation and dependent on e customs of the people. To the Greeks, at all events, we e not indebted for these; our debt to them is limited to the plication of Grecian Doric columns to modern buildings, to ıich, however beautiful in their original application, they are ɔm circumstances now totally inapplicable, nay, even in their plication altogether obviously absurd. The mere mention the obstruction of light and heat in this climate, and that of ance and Northern Germany, is sufficient to show how applicable is the style.

The Revival of Architecture in Italy.

The extraordinary volume published by Aldus, in 1499, der the title of "Hypnerotomachia Poliphili" (Poliphilus's eam of the Battle of Love), seems to have been one of the ncipal incentives to, or rather incidents that quickened, the ival of architecture in Italy. The author of it describes and ɔups, with great beauty and effect, the most splendid emblages of objects of art. Decorated with wood engrav-gs of singular beauty, in which the details and accessories are ictly classical, written with great spirit and elegance, its ect at the period must have been magical, and doubtless, th the aid of the celebrated treatise on architecture by Leo. t. Alberti, whose appearance was nearly contemporaneous h it, little more than those two works could have been nting to enlist all Italy, the hot-bed of art, in its restoration. ɔm Vasari may be gathered the distaste for Gothic archi-ture, which had fully ripened when he wrote. The Italian ıool, which finally settled itself in the adaptation of the ient Roman orders and their details to comparatively dern habits, was engrafted at first on Gothic designs. stances of this may be produced in the splendid loggia of gagna, in Sta. M. dei Fiori, and many other buildings in ɔrence, in Pisa, Siena and other cities. Brunelleschi seems have emancipated himself from the mixture of two such cordant styles. Still there continued, as we see in the ardi, Strozzi and other palaces in Florence, a lingering love the mixture, of which the architects could scarcely divest mselves. Yet when they came to the cornices, the massive, ɔroken cornices of their palaces, the littleness of the other ts is so completely lost that it is evident they were actuated the same feelings of unity and breadth that lent so much ıe to the best works of the ancients. From the time of ınelleschi to the time of Borromini—with whom the Italian ool closes, indeed from the spirit of innovation and wretched e of this last artist architecture seems to have previously n its best days—included a period of about 270 years, during ch so much was done that Italy may be fairly said to have rbuilt herself.

The Tower of London.

If the Tower of London had a tongue, it could tell more ıghts of great men and great women, of festal days and nts of sorrow, of triumphant bigotry and hallowed martyrdom, n perhaps any castle in the wildest regions of romance. It been everything in turn. Originally the palace of the narch, it became a fortress, and the fortress became a on. This was the fruit of the desperate times which men in the habit of calling the good old days of their ancestors. ce was the grand instrument and defence the grand object. ry man's hand was against every man; and from the king the peasant, every man's safety was in the sword by his t. It will, however, be admitted that society in England more secure than on the Continent; four centuries ago ry road in Germany was covered with licensed robbers, ɔse head-robber, calling himself a baron, lived in a fortified se in the next forest, which he called his castle. Three turies ago no man ever stirred a league before his town-s without the chance of being slaughtered by a party calling nselves cavaliers, soldiers of the faith, or free lances. In land, fifteen hundred of those fortresses had been built in reign of Stephen alone; and as if to show that, with all our rness, we could be as mad as the rest of the world, and than the rude clans of Germany or the volatile villany of ıce, our civil wars in the middle of the seventeenth century in three years cost the lives of nearly 100,000 English nen, nobles and gentlemen. But a strong distinction must ıade. Fortresses within a country have uniformly been a of barbarism; fortresses on the frontier of a country have merely been a sign of national strength, but a source ll the "appliances and means" of national improvement. ıtier fortresses saved the trouble of being always on the h. The trader was allowed to go to his counter, the work-to his shop, the peasant to his plough. They had all once armed, or not at all. But with a few stout fortresses een them and their enemy, they now felt that they could not be surprised, that some breathing-time must be given before they were required for the field; and this breathing-time suffered them to throw aside their pikes and arquebusses and follow their natural employment. Thus the Continent has to thank bastions and battalions for its crops, its comforts and its civilisation. England had a fortification in its great ditch—the Channel—worth all the battlements since the building of Babylon; and its security from all foreign assault, unless by a maritime force, which no foreigner possessed since the time of the Danes, must have made it a prosperous people, except for those unlucky feuds to which the factions of York and Lancaster gave occasion, and yet which probably were the discipline essential to preparing the country for the dominion of law by sweeping away the baronial race, who acknowledged no dominion but that of the sword. The Tower of London was originally built to defend the river and to constitute a citadel; while the present district called the City constituted London, and the City itself was a fortress. Standing on a rising ground at the south-east, overlooking a portion of London, which once contained the houses of the chief nobility and the property of the principal traders; by its guns commanding the course of the Thames, and protecting the anchorage of the merchant ships, which in those days moored in the current, it formed an important place of strength; and being large, capable of every kind of royal decoration, and being secure alike from the tumults of the citizens and the assaults of a foreign enemy, it offered a suitable position for the residence of the sovereign in early and troubled times.

Claude Perrault.

Louis XIV. sent for Bernini to design the additions and alterations contemplated at the Louvre, and it was a happy thing for France that this high and haughty architect was disgusted with the workmen of Paris, and returned to Italy without executing his designs, for, grand as they were in respect of dimensions, they were exceedingly corrupt in composition. But there is a still weightier reason why France had cause to rejoice in their rejection, which is, that it gave Perrault an opportunity of ornamenting the capital with one of the most splendid monuments of art that Europe can boast; one which changed the heavy style then in vogue, and gave the French artists that impulse whose power is still in action upon them. The beauties of the façade of the Louvre so completely overpower its defects that one overlooks its coupled columns and the arch of the central door rising into the storey of the colonnade. It seems to be the fate of architects to fall under the lash of poets. Ben Jonson lampooned Inigo Jones in his "Bartholomew Fair," under the title of Lantern Leatherhead. Pope and Vanbrugh did not very well agree. So Perrault, whose first profession was that of medicine, which, however, he only practised for his friends and the poor, having spoken ill of one of Boileau's satires, was told by the poet that "de méchant médecin devient bon architecte." Perrault competed in this work with Le Vau, the king's principal architect, against whom and others he was successful; he was, however, assisted in the execution, as it is said, by that artist, though, from Perrault's intimate acquaintance with the several branches of science, one can scarcely believe the assistance was necessary. Contemporary with Perrault was Le Mercier, the architect of the church of St. Roch, in the Rue St. Honoré, at Paris, who followed, but with much originality, the precepts and principles of the Venetian school, and died in 1660, twenty-eight years before the decease of Perrault.

Wren's Style.

There is no work of Wren's which betrays an exaggerated or a false taste. There is a harmony of parts, a justness of proportion, a judgment in the general design and a propriety in the decoration that disarm criticism, and that please even the uneducated. This arises no doubt chiefly from that quality we call genius, and which the ancients call *mens divinior*, that which animates the poet as well as the painter and architect; but in Wren's case this was strengthened and corrected by a profound mathematical as well as practical knowledge of construction, and a minute acquaintance with detail. His great principles may be summed up in three words—utility, propriety, beauty: principles which have been the guide of every true architect in every age and in every style. In Gothic architecture he was less successful. The spirit was extinct, and all its traditions departed, and forgotten both among architects and workmen. His detail therefore, as might be expected, offends us now; but if we look at the general arrangement of the masses of St. Michael's tower and St. Dunstan's-in-the-East, the general idea of the gateway at Christchurch, and, in fact, many other attempts in the Mediæval manner, even prejudice must concede that, had he lived in the present day, when styles are so well classified and defined, and when workmen abound who can execute groining, tracery and carving, when all appliances and means are ready to the hand, he probably would have excelled as much in Gothic as in Classic art.

NOTES AND COMMENTS.

THE lining of the walls of private and public picture galleries is an important operation. There are differences of opinion among experts about the most suitable colour, and what satisfies one guardian may be a failure in the eyes of his successor. Hence it is that so many are in favour of the use of a material which can be easily changed. In the National Gallery a "flock" paper was used by Sir F. W. BURTON, and it presented an agreeable appearance and as a background was effective. But Sir E. J. POYNTER says that the "flock" was found to collect dirt and also to fade rapidly. An experiment was accordingly made in 1897 in the Umbrian Room with a varnished embossed paper, the decorations of the room being at the same time renewed. The result at the end of the year was found to be very satisfactory as regards cleanliness and durability, and when the time came in the course of 1898 to redecorate and renew the papering of the principal staircase and vestibules and of four rooms, papers of a similar character were employed. Sir E. J. POYNTER says there is a great improvement in appearance of the walls and an undoubted gain to the pictures. It is hoped that a similar course will be pursued with the remaining rooms, as, from time to time, it becomes necessary to replace the flock papers with which they are now hung. At the same time, the experiment having been tried of removing the railing in front of the pictures in one of the rooms, it was found to be so greatly to the advantage of the pictures, that the railings were taken away throughout all the rooms containing the foreign schools. It has thus been possible to place some of the larger pictures in a better position by lowering them to the dado, and the ugly reflection of the rail in the glasses is avoided; the effect is also to give the Galleries a more spacious appearance. As all the pictures are now glazed, there is no longer risk of injury; in view, however, of the crowded state of the British School on students' days, and the large number of easels in use, the railings have been retained in that part of the National Gallery for the present as an additional protection.

A FEW attempts were made in London to hold exhibitions of architectural designs, but they always failed from lack of visitors. In New York a similar experiment is now being tried. It is to be hoped the promoters will not be called on to pay all the expenses. Some of the architectural journals have been discussing the subject. The *American Architect* maintains that nothing like the New York League Exhibition is known abroad, for in Europe architects trust to newspaper enterprise to make their works known. This, it says, is "particularly the case in England, where architectural periodicals like *The Builder* and *The Architect* have a very large circulation, and it is hardly too much to say that some of the greatest names in the profession in England have owed the most of their reputation to these two journals." And it is added that "the advantage to a practising architect in search of public reputation and employment, of being represented in the professional periodicals, whether he is represented in the exhibitions or not, is quite as great here (in America) as in England or France." *Architecture and Building*, as representing the art in New York, says:—"The League has become one of the things for the fashionable public to visit, and the afternoon or evening spent in the exhibition rooms makes a favourable impression and creates in a general way a taste for architectural art. But with the periodical, its weekly appearance at library or club affords opportunity for more careful study, criticism and discussion of works of public interest, than in the brief time of an exposition view is possible. While we say nothing against exhibitions, yet many of the drawings that have caught the public eye on their walls would be much better appreciated and more fully studied if afterwards they appeared in a periodical devoted to their interest. It is only short-sightedness that can fail to appreciate this." We are glad to hear that fashion does not object to an occasional saunter by the drawings in the League exhibition, and we hope the American example will be imitated this year in Burlington House. The architectural room is known only to fashion as a safe refuge from the crowd and young people to continue to enjoy the emotion which the French express by "Enfin! Seul!" on the cushioned seats that by this time must be full of delightful confidings. But the academicians should defray the cost of the drawings which keep the world at bay; it is rather hard on struggling architects that they must pay for a solitude which they cannot enjoy. In Paris, as in London, the architectural rooms are shunned by the public, and we imagine there is not one recorded case of a commission coming to an exhibitor from any drawings found on the walls.

IF the article in the *Fortnightly Review*, by Mr. SAMUEL HOWE, on "The Spoiling of St. Paul's," can be accepted as expressing American opinion, there is some amazement at what may be called the official silence in England about the perpetrations in progress within the cathedral. "Whatever," says the writer, "may be the final action of those in charge of St. Paul's Cathedral, the one opinion of English people here and in America is that the new decorations are a mistake; they conceal, and are fast eating up, the beauties of the church we all love. Yet the architects of England remain silent till now, and only whisper their opinions because of the important position the present decorator holds as member of a Royal Society, because of his value in the field of lecturing, and because of the rules of professional etiquette, requiring them to be loyal to him. What of their obligations to WREN, to the father of English Renaissance? Is his work to suffer because of the sentimental attitude of these gentlemen?" There is one excuse for the silence, and that is the immobility of the authorities. It cannot be expected that professional or public opinion will affect them, and the more audible is the remonstrance the greater appears the indifference. Mr. HOWE, we suppose, is an artist, and therefore may be justified in saying:—"The knowledge of those who devote a lifetime to the study of large decorative schemes involved in situations like the present qualifies them to note the practical value and experience of that life's work, and prompts them to shout out 'Stop!' before it is too late, before St. Paul's becomes a confusing medley of badly-devised painting and mosaics, the outcome of one of the gravest errors of the present time. This cry (adds the earnest critic) is more than a thought taken from the chaos of experience: it is a conclusion shared by thoughtful men throughout the intellectual world."

THE French proverb says, "Tout vient à point à qui sait attendre," and of its wisdom Mr. ASTON WEBB is an illustration. A short time ago all his most important prizes seemed doomed to vanish as if they were Dead Sea apples. The battle of the sites for the new Christ's Hospital was expected to close in putting an end to all the arrangements for the buildings. The completion of the South Kensington Museum was considered to mean a waste of public money in order to uphold a system that was handicapping English industries for the benefit of German competitors. When everything appeared to be hopeless for the architect there was a change. The schools near Horsham have sprung up as if by magic, and as seen from a railway carriage look as if they could shelter the bluecoat boys after the Easter holidays are over. The arrangements for the South Kensington buildings are advancing toward completion with less than the usual dilatoriness which is characteristic of Government enterprises. Then, as a further reward of patience, Mr. ASTON WEBB has carried off the coveted Associateship of the Academy, for which there were so many aspirants. So much success coming together is unusual with architects. That Mr. WEBB has been fortunate may be granted, but he has earned his reward. He has already produced excellent buildings, and as he loves his art there is no likelihood that he will grow indifferent through prosperity.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: NAVE, LOOKING WEST. LOOKING NORTH-EAST ACROSS NAVE.

WEST HAM TECHNICAL INSTITUTE.

THE SMALL (PRIVATE) BALL-ROOM, THE HAGUE.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

By the Author of "Ecclesiologia Germanica," &c.

(*Continued from page 212.*)

XVI.

Chaumont.—Langres.

I LINGERED so long in Notre-Dame that there was no time to revisit the other churches with which the city of Châlons is richly stored. St. Jean, with its long, square-ended English-looking choir, I was especially sorry not to have had another peep at, but I knew that if I was to sleep at Langres the same evening, breaking the long journey at Chaumont for an hour, I must quit such a combination of attractions without further delay, for time and trains, French ones especially, are proverbially unaccommodating. So after a déjeuner à la fourchette in the buffet, the railway porters now and again putting their heads into it (the buffet, not the déjeuner), announcing the departure of trains for all sorts of delightful places, I was once more rushing through Champagne, with its apparently interminable plains, streaked here and there with chalky roads stretching away to bournes unknown. I caught glimpses of the Marne every now and then athwart the trees, and when the train ran into Joinville, whose beautiful First Pointed spire has been scraped and patched into smugness and smartness more tragic than utter ruin, I recalled the passage in one of Diderot's letters to Mdlle. Volland:—"Joinville, dont la Marne arrose le pied, fait un fort bel effet. C'est une bonne compagnie que cette rivière; vous la perdez; vous la retrouverez, pour la perdre encore; et toujours elle vous plaît; vous marchez entre elle et les plus beaux coteaux."

Chaumont has a delightful church, forming, as in hundreds of other French towns, the almost only object of interest. On leaving the railway station you walk through the regulation "place," with its cafés, &c, and along an "Avenue de la Gare" to a species of public garden formed on the edge of a plateau. Below, on a gentle slope, the town, with its straggling streets dominated by the parish church, its small twin slate-covered spires flanking an Early Pointed west front, lay basking in the afternoon sun. A somewhat abrupt descent to the right from this public garden leads into the hilly streets of the little town, and for a few minutes you lose sight of the spires; but they are close by, for presently, after some tortuous windings, you come upon the church's southern portal, at the delicacy of whose appearance, strongly recalling parts of St. Urbain at Troyes, it is quite impossible to refrain from rapturously exclaiming. Indeed, at first sight I took it for a most delicate piece of Middle Pointed wood carving. Its entrance is in three divisions. The central arch, which is widest, has eight cusps, and the fact of each cusp being, so to speak, subcusped, imparts more than ordinary richness to the composition. The side arches are narrower, but all are surmounted by triangles in lieu of the ordinary-shaped arches. The inner door, too, is exceedingly beautiful. Its arch, springing from four shafts, encloses in its tympanum a carving of the Baptism, with scenes from the life of "the Great Forerunner of the Morn" in a frieze below. Some graceful ringed shafts support the arch of the western door, whose tympanum is enriched with a conventional carving in wood of the Majesty within a vesica, and surrounded by the Evangelistic symbols. The large four-light window of this front is bricked up.

Internally, Chaumont Church presents an Early Pointed nave, extremely rich in detail, transepts and a Flamboyant choir of far inferior interest. The piers, slender round ones, coupled, but divided by the vaulting shafts, present very delicately chiselled capitals. There is no triforium, a blank space intervening between the tops of the arches and the single lancet-lighted clerestory. The great width of the aisles, from which Flamboyant chapels open out, is a remarkable feature.

In the otherwise uninteresting choir, of the poorest and thinnest Flamboyant, you see one of those attempts to excite attention by novelty which so often led to the corruption of taste, for when the last point of beauty had been attained, the next resource was the wonderful. I refer to the disproportioned corbels employed here in lieu of bosses, uncomfortable-looking things, hanging down and investing you with an idea that they ought to drop—an idea not a little difficult to escape. Instances of these pendant corbels occur in many Late Flamboyant churches of Normandy and Brittany. The eastern chapels of St. Pierre at Caen, interesting specimens of the early Renaissance, present examples of these ornaments. There is a considerable quantity of painted glass in the chapels opening out of the procession path in this church at Chaumont, but it is jejune, and has the general effect of the work which Mr. Wailes used to place in Middle and Third Pointed churches—work which did not call for or secure peculiar exertions on his part.

The pulpit, by Bouchardon père, displays such exquisitely carved foliage as to *faire venir l'eau à la bouche* (no joke is intended) of many an admirer of instrumenta ecclesiastica. By the same hand is the confronting banc d'œuvre, its canopy supported by four pillars of the Composite order. A Holy Sepulchre in one of the northern aisle chapels, with eleven coloured figures, is of Italian workmanship, and belongs to the middle of the fifteenth century, while the north transept presents a charming spiral staircase, one of those embellishments which architects of the earlier and better Flamboyant epoch frequently affected. I should mention that the church of Chaumont is dedicated to St. John the Baptist, ever, like St. Etienne, a very favourite appellation in France. Indeed, whenever a church bears the name of St. Jean it may be taken but rarely to be that of the Apostle.

Besides St. Jean, Chaumont possesses another church—one of those buildings in the Rococo style which Jesuitical influence sowed broadcast all over France during the seventeenth century. Rich in detail and picturesque in their ensembles, an inspection of two or three such structures is quite sufficient. I did not therefore regret the want of time which prevented my seeking the key of this one at Chaumont, which, as it belongs now to a Lycée, is not accessible to the general public.

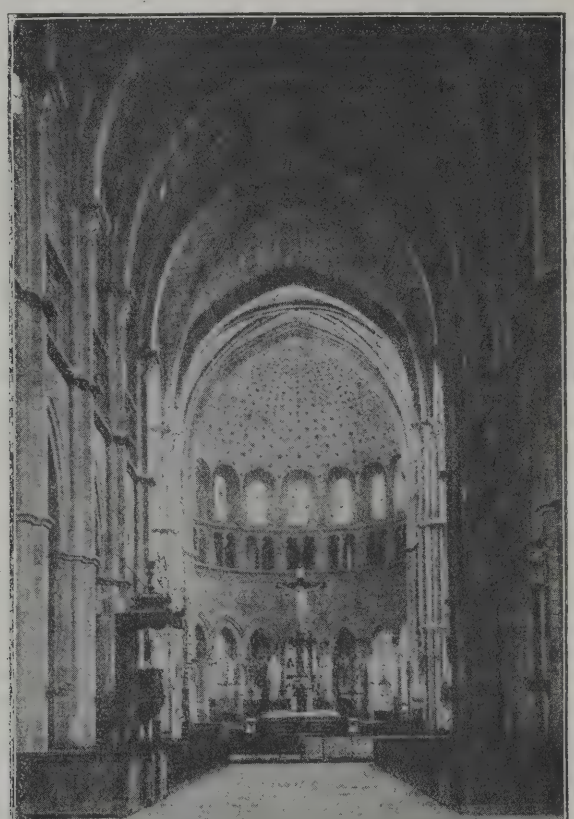
Once again I was in the train and speeding on towards Langres, not sorry to come in sight of that airily-situated cathedral city about five o'clock. Another short railway journey, this time by the Chemin de Fer de Crémaillère (the only one in France, I believe), remained to be tried, so in company with the inevitable priest, a soldier and an old lady, I took a seat in one of the cars, open at the sides but covered on top like the Rheims tramways, and was soon whisked up the steep hill upon which Langres stands. A poodle, shaved in the most approved fashion, was of the party, comporting himself in a gentlemanly fashion. Putting his forepaws on to the ledge where in the ordinary course of things the window would be, he took a survey of the prospect, including a small circular erection surmounted by a statue of the Virgin, and raised to commemorate the non-occupation of the city by the Prussians during the war of 1870. Standing almost at the summit of the hill it forms a conspicuous object for miles round. A few minutes sufficed to land us at the top of the hill, where is perched a miniature railway station. Here a little omnibus was waiting.

The priest, unfurling his lettuce-like umbrella, puts it up, and trudges off; the old lady and the poodle get into the omnibus; the door is banged to; the poodle jumps on the seat and looks out at the window; I mount the box, and the vehicle is off, tearing round the cathedral and rattling along the "Grand Rue" of the quiet little city. The driver cracks his whip; Madame la Propriétaire emerges from the portal of the Hôtel de l'Europe; I descend; the customary *politesses* are exchanged; the omnibus drives off to deposit the old lady and the poodle at their destination, wherever it may be, and I am glad to wash off the dust and cinders of a long day's railway travel in a delightfully large and airy room, half salon, half *chambre à coucher*, whence, after a rest of half an hour or so, I emerge on a visit of inspection to the curiosities of Langres, whose situation next to that of Laon is, perhaps, one of the most delightful in France. For a long time I remain leaning over the parapet of the ramparts, surveying a magnificent expanse of sun-flooded champagne country until the Angelus from the cathedral tower breaks upon the ear, warning me that it is six o'clock and the hour of prayer.

Entering the cathedral I find its Southern-looking interior wearing a most picturesque look, with the now declining sun throwing its remaining strength through a large unstained window behind the organ upon the great silver Calvary behind the high altar, and upon the neat white caps of some thirty old

bourgeoises, scattered here and there in the quaint straight-backed and, in some cases, closed pews which line the broad, Classic-looking nave on either side. They are awaiting the commencement of the simple evening prayers, which here, as elsewhere—being recited in the vernacular—are largely attended by the humble classes. I remember attending one of these *prières du soïr* in the little old fishermen's church at the seaport town of St. Valery-en-Caux on the Normandy coast. Dimly lighted here and there with a few candles, which flickered on the rough weather-beaten faces of the old fisher folk as their lips moved in response to the priest, the scene in the rude old building was one for a painter.

The bell has ceased to toll along the roof, a couple of cantors instal themselves in the choir behind the high altar, a priest ascends the richly-carved nave pulpit, and anon a low murmuring arises from the old bourgeoises. They are reciting the Office of the Rosary. Prayers and responses follow; then comes Benediction. Incense rises in a column before the great silver Christ behind the altar; "Tantum Ergo" is sung by the cantors and heartily joined in by the old people; the Host is borne out through the gate at the east end of the choir to the lady-altar, and I pace the solemn procession path with the hymn just sung ringing in my ears and haunting me as



Interior of the Cathedral, Langres.

only unaccompanied plain-song music can; the old white-capped, neatly-shawled dames leave the building one by one for *ménages* where doubtless savoury messes of *potage* have been meanwhile simmering for the evening meal.

A stroll along the western ramparts of the city and a dive up a few quaint streets bring me to a cavernous-looking but picturesque church—St. Martin. Here a raucous-voiced priest is going through the "Stations of the Cross," attended by three little choristers in girded albs, one of them acting as crucifer. They make their responses in a somewhat vague and uncertain fashion, by no means coming up to time with the verses of the "Stabat Mater." Evidently my presence tends somewhat *pour les distraire*, for the priest, doubtless regarding me as the originator of this nonchalance, turns about and for a short space looks rather irate; so I deem it prudent to beat a hasty retreat, and leave ecclesiological gleanings from this happy hunting-ground to be gathered up at a more favourable opportunity.

The cathedral of Langres, dedicated to St. Mammès, although deficient in the vastness and height characteristic of the great Northern French churches, is extremely pleasing from its simple, solemn grandeur. It is, for the most part, a copy of Autun Cathedral, and, like that structure, is an example of the long-perpetuated influence of Roman architecture, which throughout the province of Lyons is more or less observable in buildings of the twelfth and thirteenth centuries. But of this peculiarity I hope to speak more fully anon.

It was in this cathedral of Langres that I made acquaintance with the Southern type of French Gothic work. Its chief difference, arising doubtless from influence of climate, is observable in the simple barrel-vaulted roof, the smallness of the windows, and the generally speluncar aspect of the building, which to my mind presents an effect of far greater solemnity than the immense lantern-like structures of the North, where, unless the windows are filled with Mediæval glass, as at Chartres and Bourges, it is difficult to produce the same result.

The nave, of great width, is separated from its aisles by pointed arches which rise from fluted pilasters of the Corinthian order. A similar pilaster runs up the centre of each pier on the nave side supporting the main ribs of the simply barrel-vaulted roof. Above each bay is a low triforium of three round-headed arcades, with a Corinthian pilaster between each, while the clerestory is lighted by single round-headed windows of the customary Romanesque form. The aisles are similarly fenestrated. Westward the nave terminates in an organ gallery supported on two tall Corinthian pillars. A work of the Renaissance (1555), it harmonises admirably with the style of the cathedral, and in its outline recalls the division between the nave and chancel in Hawksmoor's massive Christ Church, Spitalfields. Beneath this screen is formed a spacious vestibule or narthex, which, together with the whole of the western façade —flanked by small towers, recalling St. Sulpice—is in the miserably Italianised Grecian style of 1761-68. The north nave aisle has several points of interest. At its west end a very beautiful door of latest and richest Romanesque, but with again the introduction of Classic detail as evinced by Corinthian pilasters, opens into the above-mentioned vestibule. From this doorway the view down the aisle is one of great beauty and impressiveness; equally fine are the views across the nave. In the north wall of the same aisle a grilled archway opens into a large chapel of very ornate Palladian character, having a richly-camerated roof, and a most elaborate coeval tesselated pavement. Except for the font, this chapel is devoid of furniture, the footpace for the altar, however, is to be seen on the east side. Next to this baptistery door is the shrine of St. Regne, whose image stands niched between two Corinthian pillars. On either side is an elongated panel with sculpture from the life of Christ. This is quite a little gem of the Renaissance. Passing from the aisle into the north transept the noble simplicity of this cathedral at Langres makes itself felt more and more. Here the detail is richer, a very highly elaborated string of moulding being carried round the arches opening into both nave and choir aisles, as well as beneath the triforium stage, which, similar in character to that of the nave, is repeated on the north and south walls of each transept beneath a large round window with six plate-traceried foliations. The effigy of Monseigneur Guerrin, Bishop of Langres (1852-77), kneeling upon a black marble sarcophagus, bears a considerable share in imparting solemnity to this transept. The basilican arrangement prevails here, the sanctuary being formed beneath the great crux, devoid, however, as in most Southern French examples, of a central tower. The high altar—very simple and Classical—stands under the arch opening into the eastern limb, where are placed the accompaniment organ and choir-stalls. Behind the high altar is a lofty crucifix in wood and silver, a copy of the celebrated one attributed to the sixteenth-century artist Gentil in the neighbouring church of St. Martin. Its attendant figures are in silver, and the whole work, from its size, has a very imposing appearance from the west end of the cathedral. Tall iron grilles and gates screen off the transept and choir aisles from the sanctuary; against those on the north the episcopal throne is reared.

The eastern limb is short, consisting only of one bay beside the apse. This bay, of similar character to those in the nave (only, like those in the transepts, more richly detailed), dates, as does the greater part of the cathedral, from the first half of the thirteenth century. It is, in fact, a copy, as I mentioned above

n a somewhat broader scale, of the cathedral at Autun, which as commenced towards the close of the eleventh century and onsecrated in 1132, nearly a century before the erection of the ave and transepts at Langres, whose oldest part is its apse. his, dating from the second half of the twelfth century, opens nto the procession path by nine massive arches on monolithic olumns of pink marble with Corinthian capitals. A very rich noulding is carried round each arch, where in the later Northern othic a dripstone would be looked for. A blank wall space ipervenes; then we have a triforium of small arcades in pairs, ith a Corinthian pilaster between each pair, and a clerestory simple round-headed windows filled with modern stained-ass, the subjects being single figures very archaically treated. he apse roof, a very simple one, unribbed, exclaims for a inting of the Majesty on a dignified scale. At present its nch is merely powdered with stars.

I had almost forgotten the very beautiful window which Early iddle Pointed art, for the purpose of admitting more light is inserted above the first bay of the eastern limb on either le. Of the three lights composing these windows the central ne runs up into the head of the arch, somewhat after the fashion the noble west window of All Saints, Margaret Street; the le lights are lower, and are surmounted by inverted trefoils. xcellent modern stained-glass, representing full-length figures saints and bishops, with blue backgrounds balanced by silvery-ey work in the canopies, fills these windows. Except the baptis-ry and the very poor Middle Pointed chapels radiating from the ocession path, these windows appeared to be the only complete othic work visible in the cathedral, which is much more fortunate this respect than its parent Autun, whose aisles have been uch disturbed by the projection of Flamboyant chapels, cellent, however, of their kind, and whose original choir has sappeared. Two beautiful doors in the south choir aisle of angres, one in Late Pointed and square-headed, the other ch Romanesque, challenged my attention from their curious xtaposition; but perhaps the feature that struck me most ere—leaving out of the question the employment of Corinthian lasters and details in a thirteenth-century building—was the nple sexfoiled and plate-traceried round window lighting the incipal face of either transept. Admirable examples of imita-on, these roses quite fascinated me.

I spent the whole of Saturday (July 28) in this quiet old thedral city. Out by six I have, while the day is young, mpletely lionised it. I have concluded my notes on St. ammés and St. Martin; I have made the circuit of its ram-rts, getting views of an immense tract of sunlit country own below from every point; I have mingled in the busy rong of the market; I have strolled, book in hand, and down its ideal Promenade de la Blanche Fontaine, a ly fine avenue of trees recalling the Broad Walk at Oxford; have "assisted" at the morning chapter offices, and now, wards eleven o'clock, it being too hot for any outdoor exercise, seek the hotel and the shade of its salon. The few sounds at penetrate here to break the summer stillness are pleasant unds—horticultural ones from the garden, where bees are mming; culinary ones from the kitchen, where Monsieur le oq and his subordinates are actively engaged in the prepara-on of déjeuner. I look about me for writing materials, discern resently a skewer-like pen and a frivolous-looking little inkpot aped like an apple; paper I luckily have with me; so with ese implements—*pour passer le temps*—I scratch away until e hour of déjeuner at "A Short Account of Church Architecture France," inspired, I suppose, by the locale.

(*To be continued.*)

THE APPRENTICESHIP QUESTION.

THE following evidence was given by Mr. Holloway and Mr. Colls before the special sub-committee on the Build-g Trades of the London County Council:—

Mr. Henry Holloway, of the firm of Messrs. Holloway rothers, said that with regard to the apprenticeship in the ilding trades there had been a great decline in recent years. his applied to all branches, but perhaps less in the case of iners than others. The reason for this decline was the difference on the part of employers, who were of opinion that prentices did not pay, and who could not tolerate the trouble id inconvenience caused by unruly apprentices. The result this decline had been the lowering of the standard of skilled mechanics and a difficulty in securing good foremen. At his firm there were apprentices in all the branches of the trade except painters, and it was noticed that these apprentices turned out to be the best workmen. In all cases except that of plastering the applicants for apprenticeships were plentiful. The premiums charged varied from 5*l*, but, generally speaking, were between 20*l*. and 25*l*. where the apprentices were able to get assistance from charitable funds. In order to surmount the difficulty regarding the unruly apprentices, the firm had a clause in most of the indentures to the effect that if the apprentices gave satisfaction and made good progress at the end of the term of apprenticeship the sum of 5*l*. would be paid to them as a gift. This was the only check upon them. The wages paid to apprentices varied from 5*s*. or 6*s*. a week, rising to 18*s*. or 20*s*. a week. The present term of apprentice-ship was from five to six years, but in some trades this might very well be reduced to four years, more particularly in the bricklaying and plastering trades. There was a clause in the indentures to the effect that apprentices should attend technical classes under the Science and Art Department, South Kensington; and in some cases where the apprentices attended day classes, the time they spent at the classes was treated as part of their time in the workshop. These technical classes could not in any way be considered to supersede apprenticeship; they could greatly assist the apprentices, but could not take the place of apprenticeship. The reason for this was that in the classes the work was looked upon to a great extent by the pupils as so much recreation, and had not the practical bearing upon the ordinary work of the apprentice. In addition, they did not get the practical instruction in these classes that they would get by working with workmen in the workshop. The kind of instruction necessary was the practical plane and solid geometry, drawing and building construction, the use and nature of various kinds of materials, illustrations with models on a reduced scale of the construction of roofs and trusses, and also the testing and carrying powers of arches and trusses both in steel and iron, as well as in stone or brickwork. This instruction was necessary in order to train boys to become foremen eventually, and apparently from inquiries made it appeared that this instruction was given in technical classes. In his opinion, there was not sufficient care taken in the selection of teachers; the best instruction possible should be given. Instead of simply taking ordinary mechanics as teachers, it would be well, as far as possible, to secure the services of good foremen. If these men could not be obtained to give their whole time, their services should be secured as occasional or consulting teachers or visitors, and as assistants less qualified men could be secured. As an instance of the type of men at present engaged as instructors, the following example was given. One young man, employed at the firm in the capacity of joiner's improver, proved to be of very little use, and, being apparently incapable of learning the trade, the foreman told him to look out for employment elsewhere. This man subsequently got a position as instructor at one of the technical classes. It is very important that the staff should be very carefully selected. More regard might be paid to the appointment of the governors of the schools. Take, for instance, Battersea Polytechnic; with the exception of Mr. Davies, there was scarcely a practical man upon the governing body. Each industry should, as far as possible, be represented upon the governing body by a practical man and bring the institutions directly into touch with the trades. Joiners' apprentices should be taught to set out their work and work from the rod and from drawings; at present they were taught to make doors and other simple pieces of joinery of that character. Of the men now engaged in the building trades probably not more than one in ten had served an apprenticeship. A large proportion of the men had learned their trade in the country. The unemployed mechanics at the present time were generally speaking inferior workmen, and this was the cause of so many mechanics having irregular employment. The London boys did not take up the building trades so much as those in the country. With regard to meeting the difficulty of apprenticeship it would be a good idea if a central authority efficiently equipped with funds could be instituted to deal with both apprentices and their education. This, he believed, had been started in America and worked satisfactorily. This central body should be a composite body consisting of representatives of architects, builders and em-ployées, and this might lead to the creation of district trade schools. In Philadelphia the mechanics were trained at what is called a building exchange. At this exchange there were large workshops where youths were taught the trade under the supervision of skilled instructors. The apprentices entered at seventeen or eighteen years of age and remained about three years. In that time it was calculated that this exchange could turn out skilled men. The exchange was maintained by the building trades. The apprentices there did actual work which was supplied to the trades. The central authority suggested would make arrangements for employers to take a number of apprentices and would be responsible for the payment of the premiums. The difficulty with apprentices at present was that

they did not pay the employers; the apprentices were not satisfied unless they started at a high wage. At present the amount was 5*s.* or 6*s.* a week, but in the near future the amount would have to be increased to 7*s.* or 8*s.* a week.

In replying to a question as to whether it was not a fact that the securing of apprentices in the plastering trade was hampered by the trades union, Mr. Holloway thought it probable that the action of the trades union might have some effect on the boys taking up plastering work. The apprentices were greatly restricted as regards their age at commencing, and great pressure was brought upon apprentices to enter the union immediately on entering their term of apprenticeship, which was a disadvantage. There used to be a greater number of apprentices to the plastering trade, but Mr. Holloway could not say that the diminution was caused by the action of the trades union. To a certain extent the instruction in the technical classes would be the same for apprentices as that given to clerks in drawing offices. With regard to the fees to be charged, a reasonable fee should be charged to ordinary students and a reduced fee to apprentices. It was impossible to make apprentices in receipt of 6*s.* or 7*s.* a week pay the employer because machinery now did much of the work formerly performed by apprentices. Under the old system a joiner's apprentice would for two years act as a "handy boy" about the shop and do odd jobs. At the present time the apprentice was taught much more, but it was necessary first to teach him the use of tools. Mr. Holloway had personally visited the trade classes for apprentices and admitted that he did not attach much importance to the practical instruction therein given. It was more important that scientific and theoretical instruction should be given. The practical instruction could only be satisfactorily obtained in the workshop. The only kind of practical instruction necessary in an institution was that which would be imparted by the use of models to illustrate the theoretical instruction. This remark applied to all branches of the building trade. With regard to the small number of apprentices at Cubitt's, Mr. Holloway pointed out that in all probability it was due to the cost of training them, and the only remedy was to be found in offering the employer special inducements. The central authority would, to a great extent, overcome the difficulty, and would see that apprentices were thoroughly taught the trade. Whatever action the Technical Education Board might take with regard to granting funds, it was important to provide that the apprentices should learn the whole trade and not part of it, as in some cases at present. Notwithstanding the premiums the apprentices did not pay. In some cases it was possible to get as much as £50, but some scheme might be arranged by which apprentices should refund a portion of the premium advanced by the central authority during the last year of apprenticeship, and afterwards undertake to repay a certain proportion in instalments. There were more applications for apprenticeships than the firm could entertain, except in plastering, but there were not many who could pay the premiums. The firm had, however, been fortunate in getting some apprentices whose premiums had been paid by means of charitable funds. The only way to induce the apprentices to attend classes was to approach all the charities and trustees of funds used for apprenticeship, and get them to make a condition that all apprentices must attend evening classes. If the employers were asked, it would in all probability be possible to get some time off for the apprentices, possibly at four o'clock, on condition that they attended evening classes. Some of the apprentices at the firm attended classes twice a week. They left work at two, and the classes commenced at three o'clock. As regards asking the employers to grant some facility to the apprentices attending classes, it would be received favourably by some, if not all. With regard to the sons of builders and of young men who desired to become masters, it would be of little use providing day schools for them; they preferred being at work on buildings. Young men with capital, for instance, desirous of becoming master-builders, would first get instruction in the office, and then go as assistant foremen. At the same time they attended evening classes as artisans. The building trade was somewhat different from the engineering trade, because the scientific and theoretical part was done by the architect. What was necessary on the part of the builders was a practical knowledge.

Mr. Holloway thought, as a commencing age, the apprentice should be between sixteen and seventeen. The sons of mechanics did not stay at school until apprenticed, but got employment in offices or in tradesmen's shops. In no case should the term of apprenticeship terminate under twenty years of age. A large proportion of the sons of London mechanics went into City offices, which pointed to the fact that the mechanic tried to improve the status of his family. There were not sufficient posts to enable builders to employ all mechanics' sons as apprentices. It had been noticed that the majority of apprentices were the sons of warehousemen, clerks and tradespeople. Few bricklayers had served an apprenticeship; consequently only a small percentage of the bricklayers could do good face work, and properly understand sanitary work. Apprentices in nearly all cases turned out to be the best men, probably through the discipline in training. One reason why the time of apprentices could be reduced to four years was because machinery now did much of the work performed by apprentices in the first year or two of their apprenticeship. The plasterers, for instance, used to cast their own moulding, whereas now it was done by specialists and supplied to the builders. The work now to be done by apprentices was too heavy for youths under sixteen years of age, and in the bricklaying trade especially, it was undesirable to start earlier. In training men to become foremen, drawing should form one of the subjects. Everyone should have the opportunity of becoming a foreman. There would be no need for any preliminary examinations, as the employers could readily accept the men who were the most suitable. The sons of London mechanics did not as a rule descend in the world. The reason why apprentices were taken by the firm, although they did not pay, was because of the desire on the part of the firm to get good mechanics. The men usually remained in the firm's employment, and they afterwards compensated for the trouble bestowed upon them during apprenticeship. In cases where apprentices had not the opportunity of getting aid from charitable funds the premium charged was 5*l.*, otherwise 20*l.* or 25*l.*, the premiums being paid in two instalments. With respect to the central authority which had previously been mentioned to deal with funds for apprenticeship, the funds for this purpose would probably come from the guilds of London and other charities, and would be distributed by the central authority, which would act as an intermediary between the employers and apprentices. The trustees of these charitable funds did not take personal interest in the apprentices so far as had been noticed by the firm. The institution of a central authority would mean simply the consolidation of the existing funds so as to be distributed by one authority which should include members of the trustees, employers and associations. The apprentices should be induced as far as possible to take full benefit of the opportunities afforded by classes. As to whether in the teaching of the geometry of staircase work, &c., the illustrations should be made on a blackboard only, there were occasions when it might be an advantage to give practical instruction. As a rule the apprentices did not derive much benefit from the practical instruction given in the polytechnics. With regard to a painter it would be almost a waste of time to teach him anything, as the higher class of painting came under the designation of "decoration," and was, strictly speaking, an art. The mixing of colours was generally done by a man who had a special aptitude for the work. A builder's foreman should be capable of testing the construction of roofs and arches. It would be an advantage to establish a day continuation school without attempting to teach the practical work. The teaching should be directed to suit their future employment. It would be also a great advantage to teach such subjects as workshop arithmetic, drawing, experimental mechanics, experimental physics and the manual instruction in the use of tools, although it would then be found that instead of the pupils becoming apprentices as desired they would like to get into architects' offices. Some men, unfortunately, did not learn thoroughly the trade, but only one branch of it, and Mr. Holloway could not definitely say that by attending classes to enable them to learn other branches they would be much benefited by the instruction. In all probability they would not reach the standard of efficiency acquired by apprenticeship in all the branches. It would be better for them if they could learn the theoretical part of the work at the institution and then go to learn the practical work at the workshops. In the case of apprentices to the upholstery trade some of them only learnt one branch, and as it did not apply to the building trades Mr. Holloway could not express any definite opinion on the question. When men in the building trade had not been apprenticed and had only learned one branch of the trade it might be an advantage for them to get instruction in evening classes, which would improve them. It was better to have all men trained practically; they then took an interest in their work. This also applied to the sons of builders. It was necessary for them to have a practical knowledge of the trade; the theoretical knowledge was left to the architect. The foremen in many cases pointed out practical difficulties to the architects. Plasterers should be allowed to commence their apprenticeship after 16 to 18 years of age. The Plasterers' Association insisted on apprentices commencing not later than seventeen years of age. The object of the plasterers in so doing was to limit the number of plasterers. No other trade union imposed such a restriction as far as he knew. Where men in the building trade had not been apprenticed and had only learned one branch of the trade, it might be an advantage for them to get instruction in evening classes, which should improve them. It was better to have all men trained practically at works. This also applied to the sons of builders. It was necessary for them to have a practical knowledge of the trade; the theoretical knowledge was left to the architect. The limitations upon apprentices were confined to the Plasterers'

sociation, and through the apprentices being apprenticed at ut fourteen years of age they came out of their time at nteen to nineteen years of age; they should be allowed to mence their apprenticeship later in life. In many branches he building trades the work was too hard for apprentices of teen years of age, and this being the case some of the boys ferred clerkships or tradesmen's assistants.

Mr. Howard Colls.

Mr. Howard Colls, of the firm of Messrs. Colls & Sons, l that the training given in the polytechnics was very good, it must be understood that they could not turn out men as led tradesmen. The training of boys at polytechnics uld not take up their whole time; they should have prac- l work during the daytime. Years ago fathers used to e their boys on buildings or in shops and teach them trades. e regulations now employed by unions did not allow boys to k on scaffolds. These restrictions tended to diminish the ply. The restrictions were more severe with regard to the sterers than any other trades. At present these were in his two apprentices to bricklaying, and a good many boys to carpentry and joinery. Every inducement by means of bills notices was given to the boys and improvers to attend ses. Mr. Colls said he had visited some of the polytechnics, had been an examiner for the Carpenters' Company. The k at the Great Titchfield Street Trades School was very d. The kind of work young men who were engaged all day uired was a theoretical knowledge of the setting out. It was necessary to aim at making every workman able to set out. best men who could take the lead should be taught wing and building construction at evening classes. There e several levels of skill in the different branches, more cially among carpenters. The technical workshop was means of attracting men to classes, but when used as a ducing shop was valueless. Generally speaking carpenters e better able to read drawings than bricklayers, and they made better foremen of works, which pointed to the fact t drawing was a good subject to teach bricklayers. Brick- ers might, however, be good men without being able to d drawings. Carpentry was a more highly skilled trade n bricklaying, except in some of the higher developments, h as groining, &c. Carpenters had more opportunity of oming foremen as they invariably remained from the begin- g to the end of a large piece of work, whereas brick- ers were constantly changed. A carpenter was able set out a bricklayer's work, but nine out of ten brick- ers never looked at a drawing. The carpenter was a erior kind of workman and had a better chance of becoming aster. The paucity of bricklayers was partly due to the les union having much objection to boys working on ffolds. Several apprentices were kept in the shop. This on of the union was to limit the number of workmen. hough there were different grades of workmen, it was com- ory on the masters to pay all the men the same standard e and not differentiate according to skill, but a good man seldom out of employment. The master plasterers used to men more than ordinary trades union wages, but they were almost extinct. The builders did their own plastering, except fibrous work, which was sublet. The reason of this extra e was because the men did a good day's work. The stering now done by the builders was as good as that done the master plasterers, but cost a great deal more. In times t there were apprentices in the plastering trade, but sterers could easily be recruited from the plasterers' ourers. A boy of seventeen or eighteen could start with ings; it was not too heavy work. The Plasterers' Union uld not allow young plasterers to assist the men, but uired labourers who were not able to become plasterers. rs ago the work was done by the piece, and it was then an antage for a man to have his son to assist him. The inten- of the boys was to become plasterers. The building trade not so intricate as engineering; many of the difficult blems were solved by the architect, whereas the engineer to carry the work through alone. The builder should be to tell by experience if everything was going right. Under contract the builder would in all probability be legally onsible for the efficiency of the work carried out. With ard to an apprenticeship school, it might be a good experi- t to try one, but it would be very costly. A very large ool would be required where work could be built up and ed down. There was no difficulty in getting good nbers. The men attended classes with the idea of g in for certain examinations which act as a great icement. With regard to the other branches of the ding trades there was a paucity of men, and the standard not so good as formerly. This was the result of the rease of the apprenticeship system. Boys of seventeen uld be taught in the evening and work at the trade during day. There was no reason why an intelligent labourer uld not make a good bricklayer. Much woodwork that l to be done entirely by hand was now done by machinery, and the workman only joins it together. The work done in this way was as good as formerly, in some cases, perhaps, better. The price of brickwork had increased, but in many cases the work was better done. There was a large extra cost, chiefly owing to the fact that men did much less work, but the wages at the same time had also increased. The brickwork done now was better than ever it had been, the best of materials being used. There was danger of the men falling off unless we aim at teaching the young men. The average bricklayer only worked about forty-eight weeks in the year. They were not allowed to make up this lost time unless they were paid overtime rate. For instance, if a man left at three o'clock instead of five in consequence of rain, the trades union would not allow him to work till seven another night unless he was paid overtime. There was not so much overtime worked now as formerly. The overtime was now confined to special work which must be finished in a short time. In the country the men frequently at their own request worked overtime. Mr. Colls said he was a member of the Carpenters' Company, but not in any way connected with a polytechnic. The best way to teach the workmen the trade was to let them work in the daytime on the scaffold, and in the evening attend classes where only theoretical instruction fully illustrated was given. It should not be the intention of the authorities of the polytechnic to try to turn out finished workmen; it was their duty to supplement the training on the scaffolds by theoretical teaching. Perhaps twenty of the men engaged at his works were improvers under twenty-one years of age. A great many bricklayers' labourers ultimately, especially in the country, became bricklayers. These labourers should certainly be admitted to classes, and there should be no objection raised. If it were made a rule to admit everyone, whether builders' clerks or labourers, it should also be in the power of the authorities to turn away those men who did not show any promise. The regulations in force at the polytechnics were such that only apprentices or improvers were allowed to attend the classes. This accounted for the paucity of students in the various trades classes. It was noted that there were many students attending building construction classes. While it was necessary for men to have theoretical training to be able to make them more efficient, there were plenty of very good carpenters and other men who had had no theoretical training. There were only one or two apprentices or improvers to the bricklaying trade at the works, and therefore, as only bricklayers or apprentices could attend classes, the number at the classes was very small. The bricklayers attended classes with the intention of learning brickcutting. The object in limiting the number of workmen at classes was to decrease the number in their trade so as to make work last longer. Thirteen years of age was too young for boys to go as apprentices. This was also a drawback to apprenticeship. It might be an advantage if a boy of thirteen after leaving school were to join a polytechnic for two years and learn to manipulate the tools, especially carpentry tools. In all the branches of the building trades the use of woodworking tools would be the best. The two years' teaching should include a certain amount of geometry and building construction. A great many sons of bricklayers and artisans get into small shops where they learn the trades. They frequently follow the trade of their father. At the works it was principally the sons of workmen engaged on the premises who were allowed to be apprenticed. There was not much difficulty with the Carpenters' Union in allowing apprentices. There were about seventy or eighty joiners employed at the works, which largely exceeded the number of carpenters. The terms on which apprentices being sons of workmen were sometimes taken at the works were as follows:—A boy was taken about fourteen or fifteen years of age for about five years, no premium being required, and his wages were for the first year 2*s.* 6*d.*, second year 5*s*, third year 7*s.* 6*d*, fourth year 10*s.*, and if satisfactory during the last year 1*l.* per week. Mr. Colls considered that the Board was doing good work in getting men to attend evening classes, but institutions should not aim at turning out men from the classes without doing practical work at works.

THE SCOTTISH ARCHÆOLOGICAL PUZZLE.

IN his second communication to the *Glasgow Herald* on the discoveries at Dumbuck and Dumbowie, Dr. David Murray writes:—About thirty ancient canoes have at various times been found in and near the Clyde. The first was got when the foundation of St. Enoch Church was being dug in 1780. It lay at a depth of 25 feet from the surface, and inside it was an almond-shaped polished celt of a dark green colour. When the widening of the Clyde below the Broomielaw commenced about 1846, five canoes were found on the lands of Springfield, on the south side of the river, five at Clydehaugh, immediately to the west of Springfield; an eleventh on the adjoining lands of Bankton, and a twelfth at Pointhouse, on the north bank.

The average depth at which they lay was 19 feet from the surface, and mostly at a considerable distance from the margin of the river. All of them were embedded in stratified sand. With one exception, they had been hollowed out of oak trees, some more, some less, skilfully. The Bankton canoe, on the other hand, was clinker built; the boards had been fastened to the ribs partly by oaken pins and partly by metal nails, although none of the latter remained. One of the Springfield group had a plug of cork, and one of the Clydehaugh group rested on a thin piece of lead, perforated with nail holes. In 1855 a canoe, 33 feet long, 4 feet broad and 3½ feet deep was found at Erskine Ferry; and in 1863 two were found near the ferry at Renfrew, at a depth of 14 feet, in sandy gravel. In June 1863 two more were discovered in the soil in the bend of the river eastward from Dunglass Castle. Two men who had seen in the newspapers the account of the discovery of these canoes recollected that they had observed a piece of timber projecting from the soil on the shore near Milton Isle, and resolved to dig it out in case it might turn out to be another canoe. In August they unearthed a canoe 22 feet long and 2 feet 10 inches broad. In the bottom were several holes fully 2 inches in diameter, and at about equal distances from bow to stern. Lying on the floor were two stone celts, a larger and a smaller one, a considerable piece of deer's horn, a wooden club and a large irregularly-shaped stone "not unlike a petrified tortoise." About 1878 a portion of a canoe, the horns of red deer and the vertebræ and caudal bones of a whale were got on the Finlayston bank below Bowling. In the spring of 1855 a part of the dorsal vertebræ of a whale was dredged up on the south side of the river a little above Erskine Ferry. In 1879 the remains of a canoe were found in the bed of the river, just below Rutherglen Bridge, and next year another was found in the bed of the river a little further down, on the site of what used to be known as the Point Isle, nearly opposite Nelson's Monument.

The Dumbuck canoe was found in a situation very similar to the one found at Milton Isle, about 1,000 yards to the east. It is, however, much longer, and is indeed one of the longest, if not the longest, found in Scotland. The Erskine Ferry one was 33 feet in length, and one found in 1726 near the mouth of the Carron was 36 feet long, 4½ feet broad and 4 feet deep. The Dumbuck specimen is still 33 feet long; about 2 feet were broken off after it was unearthed, but even then it was imperfect and was probably fully 37 feet long when complete.

Other Clyde Finds.

Various other objects have from time to time been found in the Clyde and in the Clyde drift which throw light upon those found at Dumbuck. At a meeting of the Archæological Society of Glasgow in 1895 I described a number of perforated stones found in the bed of the river near Rutherglen Bridge. These, I have no doubt, were net or line sinkers, but I incline to think that they were comparatively modern. Similar stones of undoubtedly ancient date have, however, likewise been found.

When the excavation of Windmillcroft was being carried on for the construction of Kingston Dock, Mr. James Bennie found in the river drift, at a depth of about 15 feet from the surface, (1) a circlet of splint coal, weighing 6½ oz., 3½ inches in diameter, with perforation of 1½ inches; (2) a circlet of bituminous shale, weighing 16½ oz., 5½ inches in diameter, with perforation 1½ inches; (3) an oblong square of bituminous shale, weighing 14 oz., with perforation 2 inches; (4) an oblong perforated pebble, weighing 14½ oz.; (5) a circlet of iron, neatly made by an adept in handling metals, weighing 8 oz., 1¾ inches in diameter, with perforation of ¼ inch; (6) a pebble, weighing 8 oz., with groove all round it; (7) an oblong block of sandstone, weighing 58 lbs., ground all round, apparently an anchor stone; (8) several pieces of wood not unlike a boy's hat, similar to the short paddles found with some of the Irish canoes, and a piece of bent wood like the letter S; (9) a perforated stone sinker, weighing 22 oz. A stone celt was also found during the excavations. Two sinkers identical to No. 9 were found by Mr. Fraser Christie in the bed of the Clyde at Westhorn, which Mr. Bennie thinks were washed out of some old gravel bed of the river. A circular stone, 4⅛ inches in diameter, with a groove round the edge, was found in a deposit of sand near the Clyde at Belvidere. When the foundations of the great cone of the old bottle works at the foot of Jamaica Street were being dug in 1730 two querns were found. When the water filters at Cuningar were put in in 1839 a vase was found 16 feet beneath the surface, 150 feet from the margin of the Clyde. A stone celt was found in the bed of the river at Rutherglen Bridge in 1854, another and a flint arrow-head in 1875 in the excavation for the Queen's Dock. A bronze socketed celt was found at York Street Ferry in 1864. A denarius of the Emperor Constantine II. and other coins and medals, a stone cross and various other objects were dug from the channel of the Clyde near Govan before 1856. A Roman coin was found in Clyde Street, Bridgeton, in 1892, about 25 feet below the surface. A Roman bowl of red-glazed Samian ware was found in 1876 in the Provost's Haugh, about 4½ feet under the present surface of the Green and about 200 feet from the Clyde. A small urn of baked clay was found in a deposit of sand when digging the foundation of a building at Springfield Quay. A font-like vessel of stone was got in the workings during the formation of the Harbour Tunnel in 1891. A cranium of the "Bos primigenius" and a horn of the reindeer were found in 1833, when operations were in progress in the alluvium of the Clyde, on the Kelvin. When the sewer was being formed in Greendyke Street, near the north-west corner of Glasgow Green, there were found a horn of the "Bos primigenius" and a rib apparently of the reindeer, but at what depth has not been recorded.

Results of this Evidence.

The finds in St. Enoch Square, at the foot of Jamaica Street, at Springfield, Clydehaugh, Bankton and Pointhouse may be taken to be all on the same horizon. They prove, I think, that the men of that period had canoes of various degrees of finish, from the dug-out to the clinker-built boat, that they were fishers and had nets and lines, that they used stone celts, that they were likewise acquainted with the use of iron and lead, and were skilful smiths, and that they were accustomed to shape and use cannel coal. This would indicate that their epoch was about the Roman period; but, if we take into account the bowl of Samian ware, which must, I think, be held to be a contemporaneous deposit, this brings the date down somewhat later, and the evidence of the clinker-built boat points in the same direction. A dug-out canoe is not necessarily old; a clinker-built implies the use of metal, and most probably of iron tools. The canoes on the lower reaches of the Clyde, it would be safe to conclude, are not older than the Glasgow group above mentioned, and may be later. The presence of the horns of the reindeer and of "Bos primigenius" does not militate against this conjecture, as the latter seems to have been living in Scotland as late, at least, as the Roman period, and the reindeer outlived it. If any of the antlers found at Dumbuck are those of the fallow-deer, as the explorers state they are, this proves that the bone heap cannot be earlier than the Roman period, and may be much later. M. Lartet believes that the fallow-deer was introduced into France by the Romans, and as regards Great Britain, Professor Boyd-Dawkins says:—"It may be assumed, with a very high degree of probability, that we are indebted to the Romans for the introduction of the southern form, the fallow-deer (Cervus dama) of our parks" ("International Congress of Prehistoric Archæology, 1868," p. 286; see also "Congress of 1867, Paris," p. 315). Flat perforated stones and shale discs belong to all periods, but being found at Dumbuck associated with a bone heap are, no doubt, of the same date as the bones.

The canoe being found along with the other objects suggests that they were contemporaneous deposits, but this does not necessarily follow. One of the questions to be determined by a careful examination of the site is whether the canoe was in its original position when dug up. For instance, it may have been washed out of the silt higher up the river and drifted to the present spot and re-embedded. In that case it would be no guide to the age of the other objects. If, on the other hand, the canoe is in its original position, as the explorers think is the case, there is a strong presumption that the submarine structure belongs to the same period as the canoe, and that the ornamented objects are contemporaneous.

There is no reliable information at present available for forming a final or reliable conclusion, but the antiquity of the objects, taken as a whole, might in any case, I think, be greater than the early centuries of the Christian era.

Allusion has more than once been made to the report of some remarks I made at the meeting of the Glasgow Archæological Society upon January 19, as meaning that in my opinion the objects in question might be neolithic. This is not so. I said that, so far as I could judge, they belonged to somewhere about the Roman period. I then discussed the claim that had been put forward that the objects were palæolithic, and explained why I thought it inadmissible. I added that the most that could be claimed was that the split bones might be neolithic, but I did not think that they were.

The Disputed Objects.

These are the spear-head shaped objects, the rayed discs of shale and the representations of the human figure on shale. Several others have, I understand, been discovered since I went over the collection, but the above are sufficient for the present purpose.

The spear or lance-heads are made of slate, apparently the common slate found on Garelochside and Lochlomondside and elsewhere in the district. It is objected that such objects were never made of slate and would have been useless if they were. This objection, however, is not well founded. Slate tools and weapons, although not so plentiful as those of flint and other hard stones, are not uncommon, and probably have not been so well preserved just because they were less

uable and more liable to breakage. The so-called Picts knives" and the flensing knives of the modern quimaux are of slate. Curved knives of slate have been nd in Norway and Ireland. There are knives, axes and ier implements of slate and sandstone in the National iseum, Edinburgh, and in the museum of the Royal Irish ademy there are numerous articles of slate of the stone-apon or weapon-tool species, and resembling swords, daggers, ives, cleavers and celts. The Dumbuck and Dumbowie ects are somewhat clumsily fashioned, and want the per-tion of form and finish that the best flint tools and weapons nibit; but this was the rule when inferior material was em-yed. Speaking of the Royal Irish Academy's Museum, Sir illiam Wilde remarks:—"So far as I have observed in umining and arranging this collection, all the celts remark-le for their beauty, size, or polish were made out of the best terials, such as flint, porphyry, greenstone, syenite or fel-ne; whereas those of ill shape and rude manufacture have en formed of portions of slate or shale, simply ground down a cutting or hacking edge, and many of which exhibit on ir surface the natural or accidental formation." The one s a costly, the other was a cheap and common article.

Taking the two objects figured by Mr. Millar in the "Pro-dings of the Society of Antiquarians of Scotland," p. 294; l numbered 2 and 3, as typical of the whole, No. 2 corre-nds with the ordinary tanged lance-head of flint, and No. 3 h the dagger or knife exhibited in most museums. They not so well or so carefully made as those in flint, but the m is there.

The real difficulty that these objects present is not, how-r, their shape or their material, but the ornament with which y are covered. Stone tools and weapons of the Stone Age not, as a rule, decorated. There is only one ornamented t in the Dublin Museum, and the decoration consists of allel lines cut on the side. Other stone objects are occa-nally decorated, such as spindle whorls, urns, vases, rings, mps and querns. But it is a question whether a number of se, although made of stone, are of the Stone Age. The called "Druidical pateræ," for example, are comparatively ent; and many of these are decorated with a band of zigzag ament. If, as I suggest, the Dumbuck finds are subsequent the Christian era, the stone objects do not belong to the ne Age. Bronze celts were often decorated on the face h a chevron, and on the side with a herring-bone pattern. e pottery of the crannogs, as Dr. Anderson points out, "was en ornamented with zigzag lines and rude impressed or ised patterns, or covered with parallel lines and triangular rkings." A man of the Iron Age who chipped out a lance-d or a dagger of slate might very naturally add a decoration accordance with the taste of the day.

The same observation applies to the ornamented pieces of e. They do not, in my opinion, belong to the Stone Age, to a comparatively late period, when new ideas and other uences were at work.

While no objects precisely similar to those in question have n found in Scotland, some of the finds in the broch of poch were not unlike those in the fort of Dumbowie. ongst the Tappoch finds were:—(1) Three blocks of sand-ne; on the upper side of one were incised two concentric les surrounding a projecting boss in the centre; on the ond was a circle and portions of two concentric circles rounding a cup-shaped indentation; portions of two similar les are on the third stone. (2) Two oval stones with cup-ped depressions on the upper surface. (3) An oval-shaped ne with a similar depression on each side. (4) A flat pear-ped piece of shale, having a hole at the narrow end; atest length 2½ inches and breadth 2 inches. One side s covered with scratches of a Vandyked pattern. The chs, as Dr. Anderson has shown, belong to the post-Roman iod of Celtic Scotland.

It is unnecessary, and would be unprofitable at present, to ke suggestions as to the precise use of the objects found at mbuck and Dumbowie, or to account for their presence or absence of other objects that might have been expected to e been found along with them. I may, however, remark t no spot in Scotland was more open to foreign influence n this portion of the lower Clyde. In A.D. 81 Julius ricola established a line of forts, at intervals of two or three es, from Bo'ness, on the Forth, to Old Kilpatrick, on the de. Next year he crossed the Frith of Clyde, and marched ough Cowal and Kintyre till he reached the western sea. 139 Lollius Urbicus constructed the earthen rampart that stretches from Forth to Clyde; seventy years later it was ed to by the Emperor Severus, and in 369 it was repaired Theodosius. The Roman legionaries were drawn from many ts of Europe and Asia, from Belgium, Gaul, Spain Germany, from Syria and the banks of the Orontes. e army at the end of the Wall and all along its line required plies of many kinds, which must have been brought by s to the Clyde, and along with them came the busy ental trader, as the sculptured stones in the Hunterian Museum still testify. It seems to me improbable that these vessels would cross the Dumbuck shoal, which was impassable in 1758 for barges and lighters except in times of flood and at spring tides, and if they did not, Dumbuck was the nearest point to the wall where they could unload in deep water. It was likewise the most convenient starting-place for travellers or traders to the lower portions of the frith. But be this as it may, and I doubt whether the structure in question was a quay or jetty, the fact remains that a large foreign population was resident in the locality for three centuries, while during the later times of the Roman supremacy and for long after its close the country was harassed by sea expeditions of Scots and Saxons, Danes and Norwegians, many of whom stole up the Clyde and plundered the inhabitants. It would not be surprising, therefore, if remains of a character somewhat different from those of the native Britons were found. I do not press this argument, but merely mention it as indicating that even if the objects in question could be shown to be of a foreign type their presence could be accounted for.

A large number of the stone and other relics in the museum of the Royal Irish Academy were found in the river-beds, particularly beside fords. Many were got during the operations for deepening the bed of the Shannon. These operations were carried on by digging, a large area of the bed being kept dry for the purpose by means of a cofferdam, and in this way nearly every object that turned up had a chance of being found. Dredging sweeps away everything except when it is so large as to encumber the bucket. The ford of Dumbuck was no doubt a highway in the days of Agricola, as it had been long before and was for centuries afterwards, and would probably have yielded a rich harvest of objects to the antiquary—if it had been dug away and not dredged.

ANCIENT PARISH REGISTERS.

YORKSHIRE, which is rich in historical records, has just established a Parish Register Society for the county. The Archbishop of York and the Bishops of Beverley, Hull and Richmond are co-operating in the movement, which was promoted at a meeting held in Leeds last week under the presidency of Sir George Armytage. Already a membership of nearly 200 has been secured, various societies being represented, and many of the clergy in the county have promised their support. The new society has been formed upon the lines of that already in operation in Lancashire, and the registers of the parishes of Bolton Percy and St. Mary's, Scarborough, will probably be among the first that are published. The registers of Burton Fleming, Arncliffe, Ingleton, Otley, Settrington, Thornhill and Methley are also in view of publication. Mr. Fry, secretary of the National Parish Register Society, has lent his assistance to the work of forming the new society, which is in connection with the Yorkshire Archæological Society, whose transactions are regularly published. Three volumes of the register are to be issued every year to the members and clergy only. The valuable registers in the Torre manuscripts at York have already in part been printed, and these will probably be incorporated with the registers published by the newly formed society.

ROYAL SOCIETY OF ANTIQUARIES OF IRELAND.

AT the meeting of this Society, which was held at 6 St. Stephen's Green, Dublin, on the 28th ult., Mr. F. Elrington Ball read a paper on "Tallaght, co. Dublin, and some places in its neighbourhood," which are to be visited by the Society on April 13 next. He gave a short sketch of Dolphin's Barn and Crumlin, whose church tower, he said, was of some antiquity. The Castle of Drimnagh, an oblong castle of the Anglo-Norman period, containing three storeys, was next described, and its history given. For upwards of four centuries it was occupied by the great family of Barnewall. Clondalkin, which was also to be visited, was remarkable as the site of one of the three round towers still to be seen in the county Dublin. It differed from most other round towers in a singular projecting base, considered by Dr. Petrie to be part of the original design, but generally supposed to be of modern construction. It was 84 feet in height. No traces of the original church remained. In the sixteenth century Clondalkin was accounted one of the walled and good towns of the county. On the road from Clondalkin to Tallaght, Newlands was passed, and adjoining it was the Castle of Belgard, once a strongly fortified dwelling. It was deemed one of the most important castles of the Pale, which was not far off, and often served to protect the surrounding country from the incursions of the O'Byrnes and O'Tooles. Not far off was the Castle of Ballymount or Baile Mota, the town of the moat, which was locally supposed to have been connected with Belgard by an underground passage. Tallaght itself bore few

traces of its antiquity and former greatness as the site of a religious house from very early times, and as the chief seat of the Archbishops of Dublin for five centuries.

It was said to derive its name, which signified "plague-monument," from being the burial-ground of 9,000 of the earliest colonists of the country who were carried off by plague in one week. The ancient church of Tallaght was replaced in Anglo-Norman times by a church of which the belfry still remained, and which had probably some pretensions to architectural beauty. In the churchyard there were the remains of an ancient stone cross, known locally as "St. Mollrooney's loaf and griddle," and a very large stone fort, which was known as "St. Mollrooney's losset." Mr. Eugene O'Curry thought it was intended for the baptism of adults, and Mr. Handcock said it was traditionally stated that it was used for washing the feet of pilgrims who frequented the sacred shrines of Tallaght. In the petition presented by the churchwardens in 1662 with regard to the destruction of their church by Captain Alland, they complained that he fed his horses in the fort, and Mr. Handcock suggested that this must have been the losset. There were several old tombstones. Proceeding now to Oldbawn, the lecturer said that this was an interesting old house of the seventeenth century, fast falling into ruin. It was built in the style then common, with wings extending from the house on each side of the hall-door, and encircling a small courtyard. It had high-pointed gables and great fluted chimneys, and in the centre of the roof there was a small cupola, surmounted by a weathercock, with a clock bearing the date 1727. The hall-door was in a porch with pillars formed of round and square blocks of stone, placed alternately. The ceiling of the hall was low, with large carved beams dividing it into squares; the walls were wainscotted, and there was a curious chimneypiece with the arms of the Bulkeleys, who built the house, on it, and with heads on either side of the slab. The dining-room had a similar ceiling to the hall, and was also wainscotted. The chimneypiece in it, which reached to the ceiling, was a very remarkable one, representing, as Mr. Handcock supposed, the building of the walls of Jerusalem by Nehemiah. Passing by Allerton, they came to Mount Venus, Cromlech, one of the largest of the rock monuments of the county Dublin. Gabriel Beringer attributed the fall of the big stone from its supporting stones to the shock of an earthquake, and suggested that the formation of the Scalp, and a fissure in the foot of the Tybradin Mountain was due to the same cause. Lastly, the lecturer dealt with Rathfarnham Castle, which, he said, was one of the great residences of the county Dublin. It was built towards the close of Queen Elizabeth's reign by her Irish Chancellor, Archbishop Loftus.

Dr. Perceval Wright moved that the paper be referred to the Council for publication.

Mr. George Coffey seconded the motion, which was adopted.

The following papers were also referred to the Council for publication:—"Notes on Crannog and other Finds in Co. Wexford," by Sir Thomas Grattan Esmonde, Bart., M.P.; "The Monuments at Clonmacnoise," by R. A. S. Macalister, M.A.; "The Cryptic Element alleged to exist in Ogham Inscriptions," by R. A. S. Macalister, M.A.; "Kilmakilloge, Co. Kerry," by Miss Hickson, hon. local secretary, Kerry, North.

Correspondence

The Next President of the Institute.

Sir,—There is a rumour afloat that the Council of the R.I.B.A. have nominated Mr. William Emerson, the present honorary secretary, for election as president for the ensuing year.

I venture to think that this nomination will be received with complete astonishment by the great body of members of the Institute, not because Mr. Emerson is not well able to occupy the presidential chair, but because it is not yet his turn to do so.

I am quite aware that there is no obligation, so far as the written rules and regulations of the Institute go, to elect as president one who has filled the office of vice-president, and there may be instances quoted as precedents upon this particular point; but it is none the less certain that the *expectations* of the members are that, given a qualified and willing-to-serve vice-president, he is the man who should pass on to the proud position of president as a matter of justice and of right—far stronger credentials than printed rules and regulations.

It is, I think, a fact open to little question that of the four gentlemen who are now vice-presidents there is one who, from the work in the chair which he has performed during the reign of the present president, from the fair and able manner in which he has ruled the debates under his chairmanship, from the position he holds as an architect in extensive practice, with all the knowledge and value to the Institute which such position entails, and from his consistent courtesy to all brought into contact with him, is fairly and fully entitled and is unquestionably expected to fill the presidential chair for the ensuing year, and that gentleman, I need hardly add, is Mr. Henry L. Florence.

It has been said by some to whom I have spoken upon this subject that it would be unfortunate if a contest were invoked on this election; but of the result of that contest, if it comes about, there cannot be a shadow of a doubt. Every member of the Institute is of one voice, and that voice is that the next president of the Institute should be Mr. Henry L. Florence.

I have not communicated in any way with Mr. Florence upon this subject, and I am, therefore, not aware whether or not he would submit himself for election if a substantial body of his professional brethren requested him to do so; but there is another course open, and one which I sincerely trust will be adopted by Mr. Emerson, and that is that he should withdraw this year from the nomination as president, submit to be nominated as vice-president, and come on in his due turn to fill the presidential chair, which he would then do with the acclamation of the general body of the Institute, and succeed to an honour which, unless it is accompanied by the good wishes of his professional brethren as a body, becomes a mere empty bauble.

I should be glad to hear that Mr. Emerson will adopt the suggestion I have made; it will do credit to his sense of fairness. It may save a contested election, and it will enable the right man to take the right place at the right moment. In the meantime the views of the members of the R.I.B.A., either communicated to me direct or through the columns of this Journal, would be very useful as a guide to future action in the matter.—I am, sir, your obedient servant,

13 Southampton Street, Strand: Wm. Woodward.
April 5, 1899.

GENERAL.

The Exhibition of Works by J. M. W. Turner, R.A., and some of his contemporaries in the Guildhall Art Gallery will be opened by the Lord Mayor on Monday next.

The Municipality of Aix-la-Chapelle, in order to encourage the erection of an English church, have offered a site in the new boulevard, close to the ancient Kurhaus, in the centre of the city.

The Cockburn Association have resolved to express disapproval of the site proposed for the Usher Hall, Edinburgh, as the extent of the powers sought in the Corporation Bill appear to involve great risk to the amenity of the district.

An Important Work on Versailles is about to be brought out in Paris. The subjects of the plates will be selected by M. Marcel Lambert, the architect who has charge of the palace.

Sir Richard Temple will on to-morrow deliver an address at the Gallery of the Royal Society of British Artists on "India as a Field for Landscape Art." The lecture will be illustrated with sketches by Sir Richard Temple. Visitors to the galleries in Suffolk Street will be invited to remain to the lecture, which will be delivered at four o'clock.

The Building Trades in some of the colonies where for a long time there was much depression are improving. In Sydney the wages of carpenters and joiners have been increased 1s. a day. Carpenters, joiners, and bricklayers have all received an advance of 1s. a day in Melbourne, but the demand for them is not brisk, as, owing to the large number of vacant shops and houses, few new buildings are being erected.

Mr. Joseph Randall (of Messrs. Kirk & Randall, Warren Lane Works, Woolwich) has been elected President of the Institute of Builders for the ensuing year.

At the next meeting of the Institution of Civil Engineers on Tuesday next, the 11th inst., the paper on "Alloys of Iron and Nickel," by Robert Abbott Hadfield, M.Inst.C.E., will be further discussed, and, time permitting, a paper will be read with a view to discussion on "Buenos Ayres Harbour Works," by James Murray Dobson, a brother of Mr. Austin Dobson.

At the ordinary general meeting of the Surveyors' Institution held on Monday, March 20, a paper was read by Col. G. W. Raikes (Fellow) entitled "Valuations and Rating in respect of Tithe Rent-Charge." A discussion followed and was concluded, and a vote of thanks was unanimously passed to Col. Raikes for his paper. The next ordinary general meeting in London will be held on Monday, May 1, when a discussion will take place on the "Agricultural Holdings Bill," prepared and brought in by Mr. Channing and others. The chair will be taken at 8 o'clock.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to rise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

* *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s. by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

BRADFORD.—April 14.—Designs will be invited for the erection of the Bradford Corporation Cartwright Memorial Hall, at a cost of 38,000*l.* Three prizes will be offered, value 50*l.*, 100*l.* and 50*l.* respectively. Particulars will be found in another column.

CONTRACTS OPEN.

ABERDEEN.—April 11.—For erection of a dwelling-house at Newbraes, cottar-house at Shielfield, steading at Bogside and steading at Middlemuir. Messrs. Alex. Stronach, jun. & Sons, advocates, 20 Belmont Street, Aberdeen.

ABERGAVENNY.—April 20.—For erection of a cottage hospital and dispensary, Hereford Road. Mr. E. A. Johnson, Abergavenny.

ABERYSTWYTH.—April 15.—For alterations and additions to the St. George's Hotel, Portland Street. Messrs. Hipkiss & Bassett, architects, Terrace Road, Aberystwyth.

BARNSLEY.—April 12.—For erection of twelve houses and shop in Agnes Road. Messrs. Wade & Turner, architects, 10 Pitt Street, Barnsley.

BELFAST.—April 11.—For erection of greenhouses in Alexandra and Woodvale Parks, addition to fernery in Botanic Gardens Park, heating each of the above-named structures and repairs to the lodge and entrance gates at Botanic Gardens Park. Sir Samuel Black, town clerk.

BEXHILL.—April 22.—For erection of three police constables' cottages adjoining the county police-station. Mr. Fred. J. Wood, county surveyor, County Hall, Lewes.

BIRMINGHAM.—April 12.—For erection of biscuit works at Stechford. Mr. T. W. Willard, architect, Rugby.

BLACKBURN.—April 18.—For alterations of and additions to the conveniences at the No. 1 market house. Mr. W. Stubbs, borough and water engineer, Municipal Offices, Blackburn.

BRADFORD.—For alterations to premises at the junction of Leeds Road and Bridge Street. Messrs. Empsall & Clarkson, architects, 7 Exchange, Bradford.

BRADFORD.—April 11.—For erection of chapel and schools, &c., in Carlisle Road and Drummond Road, Manningham. Mr. J. Ledingham, District Bank Chambers, Bradford.

BRADFORD.—April 13.—For erection of showyard, including the grand stand and steeplechase fencing, &c., at the Bradford Agricultural Society's twelfth annual show, May 13, 1899. Mr. Wm. Fraser, secretary, Commercial Hotel, Bingley Street, Bradford.

BRAMPTON.—April 10.—For erection of two houses and sinking of a well, near the railway station at Brampton. Mr. Arthur Pells, architect, Beccles.

BREAMORE.—May 1.—For construction of brick, concrete, and stone pier abutments, approach walls, &c., for the substructure of a bridge over the River Avon. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

BRIDGWATER.—April 11.—For pulling down and setting back boundary walls and gates in Washington Terrace. Mr. W. T. Baker, town clerk, King's Square, Bridgwater.

CAMBRIDGE.—April 18.—For erection of a police-station and other buildings in St. Andrew's Street. Mr. John Morley, architect, 22 St. Andrew's Street, Cambridge.

CARDIFF.—April 18.—For erection of a stable, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

CARLISLE.—For erection of dye-house, French cleaning-rooms, &c. Messrs. Johnstone Bros., architects, 39 Lowther Street, Carlisle.

CARLISLE.—For erection of sixteen dwelling-houses at Ravennook. Messrs. P. & J. W. Hayton, surveyors, &c., Bank Street.

CARLISLE.—April 10.—For erection of six dwelling-houses, Botcherby Old Road. Mr. J. Slack, architect, 18 Bank Street.

CARLISLE.—April 14.—For completion of a school, out-offices, boundary walls, teacher's house, &c., at Botcherby. Mr. A. W. Johnston, architect, 81 Castle Street, Carlisle.



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Carlisle.—For erection of ten brick-built and slated workmen's cottages near Greenhead Station, N.E.R. Messrs. Thompson & Sons, Kirkhouse, Brampton Junction, Cumberland.

Chapel-en-le-Frith.—April 22.—For erection of isolation hospital buildings, &c., at Chinley, near Chapel-en-le-Frith. Mr. W. R. Bryden, architect, 1 George Street, Buxton.

Chelsea.—April 18.—For reconstruction of the two bath turrets at the infirmary in Cale Street. Mr W. M ller, clerk, 250 King's Road, Chelsea, S.W

Cheshire.—April 11.—For erection of six cottages near Helsby station, for the joint committee of the London and North-Western and Great Western Railway Companies. Mr. A. E. Bolter, secretary to joint committee, Paddington.

Coventry.—April 15.—For fitting and furnishing the police-court. Mr. H. Quick, architect, Hertford Street, Coventry.

Derby.—April 10.—For extensions to the electric-lighting station. Mr. Arthur Eaton, architect, 6 St. James's Street, Derby.

Durham.—April 11.—For erection of the Johnston Electric School. Messrs. Oliver & Leeson, architects, Bank Chambers, Mosley Street, Newcastle-on-Tyne.

Eston.—For erection of twenty cottages. Mr. W. Sixton, Hewley House, Eston, R.S.O.

Exmouth.—For alterations, additional bedrooms and building an annexe to the Imperial Hotel. Mr. Philip Kerley, architect, Exmouth.

Frome.—April 12.—For erecting an additional 100-quarter malting at the Station Maltings. Mr. Wm. George Brown, architect, Park Road, Frome.

Gateshead.—April 13.—For rebuilding the Foresters' Arms, Askew Road. Mr. A. G. Kyle, architect, 145 Pilgrim Street, Newcastle.

Golcar.—April 20.—For erection of a chancel, clergy and choir vestries, organ chamber and other work at St. John's Church. Messrs. John Kirk & Sons, architects, Huddersfield.

Halifax.—April 12.—For erection of sixteen houses on the Newstead Estate, Gibbet Lane. Mr. W. Clement Williams, architect, 29 Southgate, Halifax.

Halifax.—April 15.—For erection of dwelling-house and shoeing forge in Westgate. Messrs. Chas. F. L. Horsfall & Son, architects, Lord Street Chambers.

Halifax.—April 29.—For erection of Board schools, formation of playgrounds, boundary walls and appurtenances at Sunny Side, Haley Hill. Mr. W. Clement Williams, architect, 29 Southgate, Halifax.

Hereford.—For erection of business premises. Mr. W. W. Robinson, architect, 10 King Street, Hereford.

Huddersfield.—April 11.—For erection of five houses. Mr. J. Berry, architect, 9 Queen Street, Huddersfield.

Huddersfield.—For erection of a circular brick chimney, 50 yards high, at Brigg Mills. Mr. W. Carter, architect, Meltham, near Huddersfield.

Hunslet.—April 17.—For alterations and additions to the union offices, Glasshouse Street. Mr. W. E. Richardson, architect, Bond Street, Leeds.

Ilkley.—For erection of a block of cottages. Messrs. Isitt, Adkin & Hill, architects, Prudential Buildings, Bradford.

Ipswich.—April 13.—For erection of an addition to one of the wings of the new workhouse. Messrs. Salter & Adams and W. L. Newcombe, architects, Board Offices, Tower Street, Ipswich.

Ireland.—For erection of a teacher's residence at Ballymaglave N. S, Ballynahinch. Mr. Henry Hobart, architect, Dromore.

Ireland.—April 10.—For erection of an auxiliary creamery at Brookeborough. Mr. John M'Connell, hon. secretary, Brookeborough.

Ireland.—April 20.—For erection of cottages at Diaper Hill, Wyringstown, co. Down. Mr. Henry Hobart, architect, Dromore.

Keighley.—April 10.—For erection of foundry and other buildings in Bradford Road. Messrs. W. H. & A. Sugden, architects, Keighley.

Keighley.—April 20.—For erecting bridge at Aireworth and for constructing approach road to same. Mr. W. H. Hopkinson, borough engineer.

Kelling.—April 27.—For enlarging part of the school premises at Kelling, near Holt. Mr. F. Andrews, clerk, Holt, Norfolk.

Kendal.—April 10.—For converting Old Zion chapel into Sunday schools. Mr. Stephen Shaw, architect, 45 Highgate, Kendal.

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KIRKBY-IN-FURNESS.—April 11.—For alterations and additions to dwelling-house. Mr. Richard Tyson, Soutergate, Kirkby-in-Furness.

LANCHESTER and BISHOP AUCKLAND.—April 15.—For alterations to Lanchester police-station, for the Durham county Landing joint committee, and widening Newton Cap Bridge over the Wear at Bishop Auckland, for the Durham County Council. Mr. William Crozier, county surveyor.

LEEDS.—For erection of eight houses at Harehills. Mr. W. Watson, Estate Offices, 21 New Station Street, Leeds.

LINDALE-IN-CARTMEL.—April 13.—For erection of a schoolmaster's house. Mr. John Stalker, architect, 57 Highgate, Kendal.

LIVERPOOL.—May 5.—For erection of Royal Naval Reserve buildings at Altcar, near Liverpool, consisting of a drill battery, magazine, messroom and latrines. Director of Works Department, Admiralty, 21 Northumberland Avenue, London, W.C.

LONDON.—April 10.—For construction of two underground conveniences near Camden Town station. Mr. W. N. Blair, surveyor, Vestry Hall, Pancras Road, N.W.

LONDONDERRY.—April 26.—For erection of station houses and works connected therewith, for the Donegal Railway Company. Mr. James Barton, Exchange Buildings, Dundalk.

LOWESTOFT.—April 10.—For erection of a laundry at Gilton Workhouse. Mr. Alfred Clarke, architect, 126 London Road, Lowestoft.

MANNINGHAM.—For converting house into shop in Whetley Lane. Mr. H. Hardaker, architect, Ivegate Chambers, New Ivegate, Bradford.

MANSFIELD.—April 17.—For additions to the Forest Hospital, Southwell Road. Mr. R. Frank Vallance, borough surveyor.

MILFORD HAVEN.—April 12.—For erection of a minister's house at St. Ishmaels. Rev. Thos. Thomas, Baptist minister, St. Ishmaels.

MORPETH.—April 10.—For erection of a house of twelve rooms and coachhouse, stables, conservatory, &c., at Loansdean. Messrs. Boolds & Hardy, architects, Morpeth.

NEWARK.—April 10.—For alterations, &c., at the infirmary and vagrant wards, Bowbridge Road. Messrs. Sheppard & Harrison, architects, 17 Kirkgate, Newark.

NEWCASTLE-UPON-TYNE.—For construction and erection of an iron arched roof over the wide alley of the Grainger Market, 319 feet long and 56 feet span, with lattice girder ribs and purlins, to replace the present timber roof. City Engineer, Town Hall, Newcastle.

NEW CROSS.—April 26.—For alterations to boiler and engine-house and the erection of chimney shaft at the South-Eastern Hospital, Hatfield Street. Mr. C. Stanley Peach, architect, 28 Victoria Street, Westminster, S.W.

NOTTINGHAM.—April 10.—For construction of underground lavatories in Burton Street and North Street. Mr. Arthur Brown, city engineer, Guildhall, Nottingham.

OKEHAMPTON.—April 14.—For restoring stonework, &c., at Oaklands. Mr. J. Archibald Lucas, architect, Town Hall, Okehampton.

OLDHAM.—April 19.—For alterations to Clegg Street station, Oldham, for the Oldham, Ashton-under-Lyne and Guide Bridge Junction Railway Company. Mr. O. S. Holt, secretary, London Road station, Manchester.

OLDHAM.—April 25.—For erection of a retort-house, coal-shed and chimney, &c., at the Higginshaw gas station. Mr. Arthur Andrews, Gas Offices, Graves Street.

PENZANCE.—April 17.—For erection of a new buoy store and other works at Trinity Store. The Secretary, Trinity House, London, E.C.

PONTYPRIDD.—For erection of a chimney 150 feet high. Tirpentwys Black Vein Steam Coal Company, Limited, Pontypool.

ROWLEY REGIS.—April 12.—For erection of a public mortuary at Tividale. Mr. Daniel Wright, Council Offices, Lawrence Lane, Old Hill, Staffordshire.

RUABON.—April 19.—For erection of a Board school and master's residence at Johnstown, Ruabon. Messrs. J. Morison & Son, architects, King Street, Wrexham.

SALISBURY.—April 12.—For erection of a house and shop in Winchester Street. Messrs. John Harding & Son, architects, 58 High Street, Salisbury.

SCOTLAND.—April 10.—For erection of an infectious diseases hospital for the Bathgate district between Armadale and Whitburn, Linlithgowshire. Messrs. John Melvin & Son, architects, Alloa.

SCOTLAND.—April 11.—For alterations on the property of the Annan Conservative Association. Mr. F. J. C. Carruthers, architect, Dumfries.

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Sedgefield.—April 10.—For erection of a bakery at the Durham County Lunatic Asylum, Sedgefield. Mr. William Crozier, county surveyor, Shire Hall, Durham.

Skegness.—April 13.—For erection of a house. Mr. G. Bell, 38 Lumley Road, Skegness.

Stroud Green.—April 10.—For erection of buildings for a branch public library. Mr. E. J. Lovegrove, surveyor, Southwood Lane, Highgate, N.

Treharris.—April 15.—For erection of Baptist chapel. Particulars at 39 Perrott Street, Treharris.

Wales.—April 10.—For alterations and improvements to tabernacle, C.M. chapel, Blaenau Festiniog. Rev. R. R. Morris, Bronygraig.

Wales.—April 10.—For erection of a villa residence at Cornelly, near Pyle. Mr. P. J. Thomas, architect, Bridgend.

Wales.—April 12.—For erection of thirty-eight houses, the construction of two accommodation roads, the laying of main drains, &c., at Cwmfrwdoer, near Pontypool. Mr. G. J. Jee, engineer, Pontypool.

Wales.—April 15.—For erection of forty houses at Aber, Bargoed. Mr. Joseph Kenshole, architect, Duffryn House, Ystrad Mynach.

Wales.—April 19.—For erection of a Board school and master's residence at Johnstown, Ruabon. Messrs. J. Morison & Son, architects, King Street, Wrexham.

Wales.—April 20.—For erection of buildings at the Llanfyllin County Intermediate School. Mr. H. Teather, architect, 83 Wyle Cop, Shrewsbury.

Wigton.—April 11.—For alterations and additions to the Girls' Grammar school. Mr. Joseph Graham, architect, Bank Street, Carlisle.

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Young & Dickson (*accepted*)	68 14 0

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For erection of lock-up and police-station in Church Street. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-upon-Tyne.

Accepted tenders.

H. Elliot & Son, Berwick-on-Tweed, excavator, mason, &c.	£2,694 10 3
J. Burn, Spittal, carpenter and joiner	965 19 8
G. McAdam, Berwick, plumber, &c.	469 6 9
P. Rule & Sons, Tweedmouth, slater and plasterer	460 13 4
J. Turner & Son, Berwick, cement work	269 0 0

BRADFORD.

For erection of new porch, seating, &c., at Park chapel, New Cross Street. Mr. Saml. W. Pitchers, architect, 14 Grantham Place, Bradford.

W. Ives & Co.	£263 17 7
J. Stow, Bradford (*accepted*)	232 13 0
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For alterations and additions to Havelock House. Mr. J. Earnshaw, architect, Bridlington Quay.

E. E. Yeomans	£166 10 0
E. Corner, Bridlington (*accepted*)	115 0 0

For erection of a stable, coach-house, &c., at Cambron Villas. Mr. Samuel Dyer, architect, Bridlington Quay.

E. Corner	£265 0 0
W. Barnes	245 0 0
R. Musk (*accepted*)	243 0 0

For erection of three houses in Cambridge Street. Messrs. Brodrick, Lowther & Walker, architects, Central Chambers, Bridlington Quay.

J. Sawden	£1,260 0 0
E. Wilson	1,188 0 0
W. Barnes, Travis Street (*accepted*)	1,118 0 0

BURNHAM-ON-CROUCH.

For construction of three manholes in main drain at Burnham.

A. M. Cook	£43 15 0
G. Bulford	36 15 0
W. Manders, Malta Road, Leyton (*accepted*)	24 0 0

CARNARVON.

For widening of the main road at Holborn, Nevin.

T. Wynne	£240 16 6
W. Owen	202 0 0
W. Hughes, Vronola, Pwllhelli (*accepted*)	176 10 0

CHESTER.

For construction of two roads, about 440 yards in all. Messrs. Beloe & Priest, engineers, 13 Harrington Street, Liverpool.

Bootle Granite Co.	£1,735 12 0
Marr & Son	1,554 0 0
C. Burt	1,446 0 0
Winnard & Weston	1,403 0 0
Raffle & Campbell	1,331 0 0
J. Taylor	1,150 0 0
J. Price, West Kirby (*accepted*)	1,028 10 0

CLAPHAM.

For erection of new premises, High Street. Mr. Allan Stuart, architect, 61 West Smithfield, E.C.

Killby & Gayford	£9,143 0 0
Woodward & Co.	8,957 0 0
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Fry Bros.	1,070 0 0
W. Woodham & Bros.	981 0 0
C. Pearce	945 0 0

For making and forming two new roads and sewers. Mr. A. Sykes, architect, Perry Hill, Catford.

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W. Woodham & Bros., Lower Sydenham (*accepted*)	1,652 0 0

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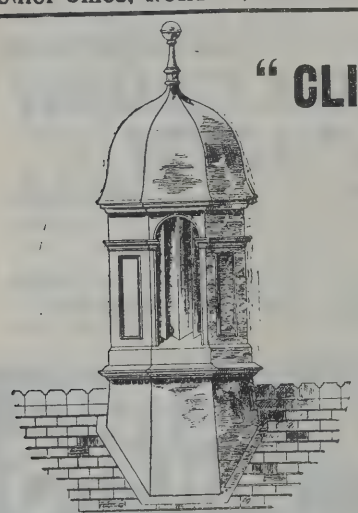
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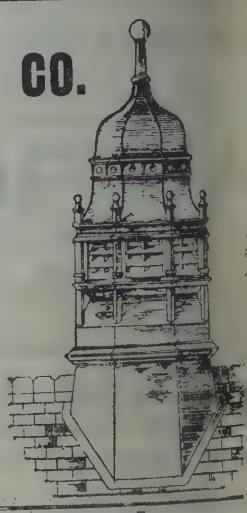
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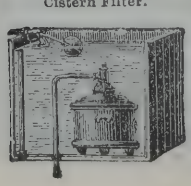
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LONDON SCHOOL BOARD—*continued.*

Wood's Road.

T. Freeman & Son	£660 10 0
Martin, Wells & Co.	302 10 0
J. F. Ford	283 10 0
H. Line	225 0 0
J. Garrett & Son	224 0 0
W. Akers & Co.	217 19 0
G. Kemp	215 0 0
Rice & Son (*accepted*)	193 0 0

Basnett Road.

H. Brown	193 0 0
C. Gurling	166 0 0
Holloway Bros.	154 0 0
W. Johnson & Co, Limited	150 0 0
J. Garrett & Son	149 0 0
E. B. Tucker	137 17 6
E. P. Bulled & Co.	120 0 0
E. Triggs (*accepted*)	103 0 0

James Street.

B. E. Nightingale	105 0 0
Lathey Bros	96 0 0
G. Foxley	95 0 0
Bristow & Eatwell	77 15 0
T. Cruwys	73 15 0
W. Chappell (*accepted*)	65 0 0

For painting, between May 6 and June 3, 1899, the exteriors of the following schools :—

Yerbury Road.

F. Britton	£332 0 0
H. Wall & Co	321 0 0
McCormick & Sons	296 0 0
J. Grover & Son	259 0 0
Stevens Bros.	242 0 0
C. & W. Hunnings	221 15 0
Gardner & Hazell	187 0 0
R. S. Buckeridge (*accepted*)	182 10 0

Mawbey Road.

W. V. Goad	288 0 0
W. Banks	237 10 6
E. Proctor	230 0 0
Johnson & Co.	222 0 0
G. Kemp	219 0 0
H. J. Williams (*accepted*)	193 0 0

LONDON SCHOOL BOARD—*continued.*

Waterloo Street.

G. H. Sealey	£290 10 0
Martin, Wells & Co.	205 0 0
S. Polden	127 6 0
C. Gurling	113 0 0
Bristow & Eatwell	109 17 0
W. Brown	99 10 0
R. S. Buckeridge	99 0 0
F. F. Chinchen	96 13 0
W. R. & A. Hide	95 15 0
F. Chidley (*accepted*)	94 0 0

Maidstone Street.

Collis Willmott	183 0 0
J. Haydon	182 0 0
Snewin Bros. & Co.	175 0 0
W. Shurmur	168 0 0
J. Kybett	157 0 0
G. Barker	141 0 0
G. Wales	112 0 0
A. W. Derby (*accepted*)	107 0 0

Scawfell Street.

W. Shurmur	148 0 0
J. Haydon	143 0 0
J. Kybett	139 0 0
S. H. Corfield	130 0 0
Marchant & Hirst	124 0 0
G. Barker	122 0 0
G. Wales (*accepted*)	117 0 0

Dulwich Hamlet.

J. & C. Bowyer	128 0 0
C. S. Jones	120 0 0
Jones & Groves	112 0 0
W. J. Mitchell & Sons	97 10 0
J. F. Ford	94 0 0
H. Line (*accepted*)	91 0 0

Belleville Road.

E. P. Bulled & Co.	161 0 0
R. E. Williams & Sons	149 10 0
W. Johnson & Co., Limited	144 10 0
R. S. Ronald	138 0 0
E. B. Tucker	133 6 0
H. Brown	126 10 0
E. Flood (*accepted*)	124 0 0

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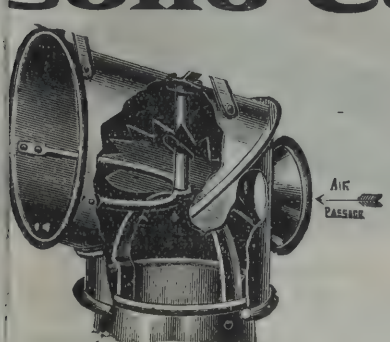
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This COWL has been used as a Ventilator, both on Workshops and Offices, with most satisfactory results, and has proved a conspicuous success as a House Cowl, possessing as it does great suctional power, perfectly noiseless action, and great durability, being made of steel.

The COWL has proved a perfect cure in the case of most troublesome chimneys.

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"Forward the 10-inch cowls on order at once; we have fixed the others and find they give every satisfaction."

"Your cowl has proved a complete success, no matter which way the wind blows. Please forward me another one at once.

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LONDON SCHOOL BOARD—*continued.*

Jessop Road.

T. Hooper & Son	£167	2	6
Heinemann & Brown	160	1	6
F. R. Blaxton	142	0	0
Holloway Bros.	129	0	0
W. Akers & Co.	126	13	0
H. Somerford & Son	113	0	0
J. Garrett & Son	105	0	0
Rice & Son	95	0	0
Holliday & Greenwood (*accepted*)	89	15	0

Amberley Road.

T. Cruwys	213	0	0
Marchant & Hirst	198	0	0
H. C. Clifton	163	0	0
Bristow & Eatwell	121	15	0
F. T. Chinchen	114	10	0
W. Chappell (*accepted*)	105	0	0

Holland Street.

Lathey Bros.	107	0	0
Spencer, Santo & Co., Limited	103	15	0
W. Hornett	90	0	0
B. E. Nightingale	74	0	0
Holliday & Greenwood	69	0	0
E. Flood (*accepted*)	66	16	6

Webb Street.

W. Hayter & Son	250	0	0
Spencer, Santo & Co., Limited	245	10	0
A. White & Co.	240	0	0
W. Hornett	220	0	0
E. P. Bulled & Co.	205	0	0
E. Triggs	190	0	0
H. J. Williams	185	0	0
Johnson & Co. (*accepted*)	184	0	0

St. Paul's Road.

T. H. Jackson	191	0	0
Johnson & Co.	189	0	0
J. Kybett	163	0	0
J. F. Holliday	148	10	0
A. W. Derby (*accepted*)	121	0	0

LONDON SCHOOL BOARD—*continued.*

For painting interior (during the Midsummer holidays) of Vittoria Place.

Gardner & Hazell	£647	0	0
T. Cruwys	556	0	0
A. W. Derby	536	0	0
Stevens Bros.	514	0	0
F. Britton	503	10	0
Marchant & Hirst	495	0	0
G. Barker	395	0	0
W. Bunce (*accepted*)	359	0	0

LONDON.

For alterations, additions, and fittings at the Crooked Billet Public-house, King David Lane, Shadwell, E., for Messrs. Erbach Bros. Mr. Fred A. Ashton, architect, 177 Romford Road, Stratford, E.

W. Harper	£1,939	0	0
H. Wall & Co.	1,853	0	0
J. & H. Cocks	1,799	0	0
R. E. Williams & Sons	1,727	0	0
W. G. Maddison	1,639	0	0
A. E. Symes	1,547	0	0

MANCHESTER.

For erection of a Wesleyan church, Ladybarn, Manchester. Messrs. Greaves & Burbridge, architects, 1 Harrington Street, Liverpool.

G. Macfarlane	£3,437	0	0
Burgess & Galt	3,400	0	0
W. Ives & Co., Shipley (*amended and accepted*)	3,343	0	0
J. Rylance & Sons	3,335	0	0
W. Shaw	3,292	0	0
A. R. Bullivant & Sons	3,240	0	0

For erection of a technical institute and public library, Stretford Road, Old Trafford. Mr. J. Bowden, architect, 14 Ridgefield, Manchester.

Peters & Sons	£6,935	0	0
Southern & Sons	6,650	0	0
S. Warburton	6,585	0	0
Wilson & Toft	6,530	0	0
Brown & Son	6,341	0	0
W. Thorpe, Cornbrook, Manchester (*accepted*)	6,159	0	0
Bullivant & Sons	6,065	0	0

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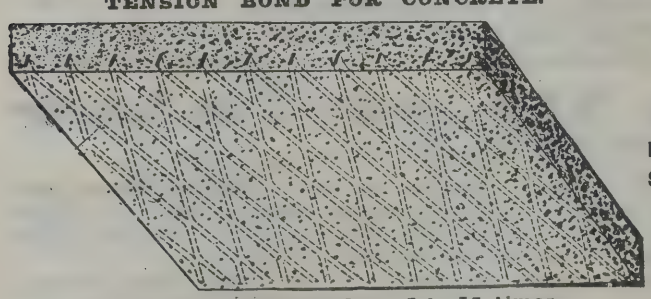
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MARKET HARBOROUGH.

For construction of sewerage works at Great Easton. Messrs. Coales & Johnson, engineers, Corn Exchange, Market Harborough.

Siddons & Freeman	£544 15 7
G. L. Martin	474 4 2
F. Barlow	472 0 0
A. Jewell	424 13 3
J. Smith, Little Bowden, Market Harborough (*accepted*)	372 2 4

MORECAMBE.

For erection of two houses in Clarendon Road, West End. Messrs. Marshall Bros., architects, Back Crescent, Morecambe.

Accepted tenders.

C. & E. Collins, Queen Street, mason	£951 12 0
R. D. Parkinson, Alexandra Road, joiner	351 1 6
Hill & Nelson, Grafton Road, slater and plasterer	198 0 0

For erection of a stable and coachhouse, Kensington Road. Messrs. Marshall Bros., architects, Back Crescent, Morecambe.

Accepted tenders.

W. Pool, Lancaster Road, mason and bricklayer	£118 18 0
R. Bennett, 34 Cross Street, joiner	39 0 0
Hill & Nelson, 2 Grafton Road, slater	13 14 0
H. Webb, Bold Street, plumber	7 14 3

NELSON.

For construction of concrete and masonry walls to abutments of bridge and four stone pillars to bridge, to be erected in the Victoria Park. Mr. B. Ball, borough engineer.
T. Dent & Sons, Hibson Road (*accepted*).

NORWICH.

For additions to the fire brigade station, Pottergate Street.
T. Gill, Rupert Street (*accepted*) . . £744 10 0

NOTTINGHAM.

For erection of a chapel in Derby Road, Stapleford. Mr. H. Harper, architect, Market Place, Nottingham.
C. Moult, Stapleford (*accepted*) . . £1,700 0 0

PETERBOROUGH.

For erection of an isolation hospital and the several buildings connected therewith. Mr. J. W. Walshaw, borough surveyor.

J. Cracknell	£3,913 0 0
Watson & Lucas	3,900 0 0
Furness Bros.	3,769 0 0
Main, Rendall & Main	3,699 0 0
J. W. Rowe	3,674 9 8
R. J. Nichols	3,479 4 7
J. Guttridge (*accepted*)	3,306 15 0

PRUDHOE-ON-TYNE.

For the rebuilding of the Dr. Syntax Hotel. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle.

N. Maughan	£4,206 9 3
R. Smithson & Son	4,170 0 0
J. & W. Lowry	4,082 17 0
T. & R. Lamb	3,791 3 3
M. A. Armstrong	3,511 11 5
S. Sheriff, South Shields (*accepted*)	3,473 0 0

PUTNEY.

For erection of a sorting office, for the Commissioners of H.M. Works and Public Buildings.

A. M. Coles	£3,300 0 0
Stephens, Bastow & Co., Limited	2,898 0 0
E. Triggs	2,799 0 0
General Builders, Limited	2,760 0 0
J. Appleby	2,750 0 0
H. Roffey	2,740 0 0
H. Hockley & Son	2,710 10 6
B. E. Nightingale	2,685 0 0
W. H. Lorden & Son	2,666 0 0
W. Gregory & Co.	2,637 0 0
H. Dakin & Co.	2,557 0 0
Meredew & Wort	2,490 0 0
W. Akers & Co.	2,457 0 0
Speechley & Smith	2,385 0 0

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Office: Imperial Buildings, Ludgate Circus, E.C.

SCOTLAND.

For erection of twenty-four workmen's houses at Lumphinnans, Leven. Mr. JOHN HOUSTON, architect, Dunfermline.

Accepted tenders.

W. B. Street, builder	£1,100	0	0
T. Laing, joiner	792	0	0
J. Paul & Sons, plasterer	350	0	0
J. Paul & Sons, slater	250	0	0
W. Binning & Son, plumber	101	0	0

SHEEPWASH.

For erection of a bridge over the river Wansbeck at Sheepwash, near Choppington, Northumberland.

Harbottle & Co.	£7,303	19	3
J. L. Miller	5,830	16	9
CLEVELAND BRIDGE AND ENGINEERING COMPANY, LIMITED, Bank Top, Darlington (*accepted*)	5,413	2	9

STAINCLIFFE.

For alteration of existing buildings into four cottages at Highfield, Staincliffe.

Accepted tenders.

H. Crosland, Staincliffe, mason.
T. Illingworth, Batley, joiner.
E. Walker & Co., Heckmondwike, plumber.
W. Parker, Heckmondwike, plasterer.
S. Waller, Batley Carr, painter.

WINDERMERE.

For making-up Broad Street and Back Broad Street from the south-east boundary of No. 37 house Broad Street to Woodland Road.

J. TALLON, 19 Victoria Street, Windermere (*accepted*) . . . £394 2 2

WORKINGTON.

For alterations and additions to the Beehive Industrial Co-operative Society's stores, Vulcan Lane. Messrs. W. G. SCOTT & CO., architects, Victoria Buildings, Workington.

Accepted tenders.

G. Mann, mason	£689	0	0
J. Steel, joiner	620	0	0
G. Mann, plasterer	176	0	0
D. M. Walker, plumbing and gasfitting	122	0	0
J. Lythgoe & Sons, slater	77	7	6
W. T. Sherwood, painting and glazing	65	0	0

ILLUSTRATIONS.

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WEST HAM TECHNICAL INSTITUTE.

THE SMALL (PRIVATE) BALL-ROOM, THE HAGUE.

TRADE NOTES.

THE Improved Cork Pavement Company, of 21 St. Mary Axe, has secured the contract for laying their material at the Royal Palaces of Windsor Castle and Buckingham Palace. This is the second order for Windsor Castle, and is evidence that the material is being appreciated by those in authority.

THE Allenton Schools, Derby, are being warmed and ventilated by means of Shorland's patent Manchester grates, by Messrs. E. H. Shorland & Brother, of Manchester.

MESSRS. HUMPHREYS, LIMITED, Knightsbridge, S.W., have secured an important contract from the Royal British Commission, Paris Exhibition, 1900, for the erection of the buildings required by the Colonial and Indian sections.

ELECTRIC NOTES.

THE Pontefract Guardians on Saturday, by twenty-one votes to twelve, passed a resolution that the building committee be instructed to take steps to light the workhouse buildings with electric light.

AT a meeting of the Reigate electric committee the following resolutions were adopted:—"That the plan, with specification, now submitted, be approved;" "that an application be made to the Local Government Board for its sanction to the borrowing at interest of a sum not to exceed 25,000*l.*, and to be repayable within a space not to exceed thirty years;" and "that the designs and specification be printed, and tenders invited."

AT a meeting of the Musselburgh Town Council on April 3, Provost Kier presiding, an agreement was signed with Drake & Gorham Electric Syndicate, London, whereby the company

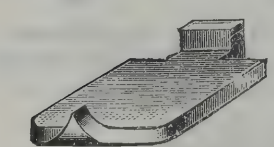
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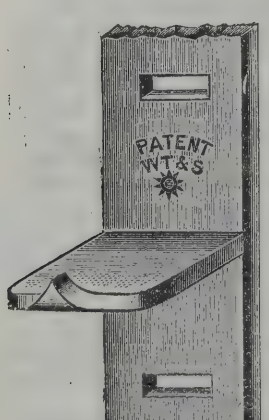
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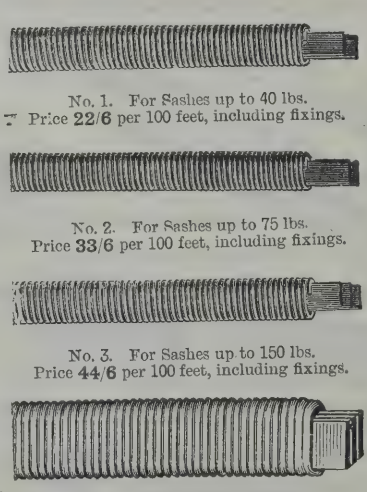


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Supplied in Coils of 20 feet and 100 feet.

DOES NOT STRETCH. PERFECTLY FLEXIBLE. ALMOST FRICTIONLESS.



No. 1. For Sashes up to 40 lbs. Price 22/6 per 100 feet, including fixings.
No. 2. For Sashes up to 75 lbs. Price 33/6 per 100 feet, including fixings.
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No. 4. For Heavier Sashes. Price 76/- per 100 feet, including fixings.

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DURABILITY. FREEDOM IN RUNNING.



FLEXIBILITY. ORNAMENTAL APPEARANCE.

E for Sashes up to ¼ cwt., 6/6
F " " " ½ " 9/6
C for Sashes up to 1 cwt., 12/9
H " " " 1½ " 16/6
K " " " 3 " 35/6

Supplied in Coils of 6 yards and 3 and 6 doz. yards.

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Everlasting Wear.



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MADE IN OVER 30 SIZ

Ordinary Suites, T 1708 per p

3 × 2½	...	2/6	5 × 3½	...	
3½ × 2½	...	3/-	5½ × 3½	...	
4 × 3	...	4/-	6 × 4	...	
4½ × 3½	...	5/3			

edged themselves to supply electric light to the burgh at the te of 6*d.* per unit, irrespective of quantity, and for public ghting under the Police Commissioners at the rate of 4*d.* per nit. The Council reserved the right of purchasing the works a going concern after fourteen years at a neutral valuation, ss depreciation, with addition in the name of goodwill of a m equalling the profits for four years immediately preceding, after twenty-one years on the same terms, with two years' ofits in name of goodwill, or after twenty-eight on same terms, th one year's profits as goodwill.

At the last meeting of the electric light committee of dinburgh Town Council it was agreed that estimates should e got for copper and cable to connect the new station at Donald Road with the rest of the system throughout the ty, at a probable cost of 28,000*l.* Estimates were considered r the erection of four new boilers for Dewar Place Station, nd these were remitted to the engineer to consider and report. was stated that there had been 3,682 lamps applied for nce the previous meeting.

Windsor was lighted last Saturday night for the first time th electricity. Ten 2,000 candle-power lamps have been ected in Thames Street, High Street and Park Street; seven o candle-power lamps in Peascod Street and one at Windsor ridge. The other streets of the town are lit with 16 candle-wer incandescent lights, though some of the roads are lit th oil until the electric lighting company has laid the cable them. With arcs there will be 250 electric lamps in the oyal borough. The company has not had much time to stal the light, as its tender was only accepted about three eeks ago. The reason the Corporation came to such a cision for the whole electric lighting of the town was because e gas company wanted to charge 12*s.* 6*d.* more per lamp if ectricity was introduced into the principal thoroughfares, nich would have made their bill greater than when they were sponsible for the whole town.

BUILDING AND BUILDERS.

At a meeting of the eastern district committee of the addingtonshire County Council, held at Dunbar, plans were bmitted and approved of by the Council for the erection of infectious diseases hospital at Belhaven.

The foundation-stone of a new church, to be named St. Thomas, at St. Anne's-on-the-Sea, has been laid. The cost of the building when completed is estimated at 9,000*l.*, but the cost of the portion to be erected at present is 7,000*l.*, and the accommodation will be for 600 persons.

The memorial-stones have been laid of a new Methodist Free church at Armley, Leeds. The site, which cost 1,000*l.*, is in Hall Road, and the cost of the building, which will seat about 650 worshippers, will be about 2,700*l.*

Contracts have been let to Mr. W. Wright, of Warwick Bridge, Cumberland, for the erection of a handsome new lodge at the main entrance to Beaulands Park, for Sir R. J. Graham. The work will be carried out from plans and under the supervision of Mr. T. Taylor Scott, architect, of Carlisle.

At a meeting of the Wrexham Vestry a discussion was opened on the question of restoring the parish church, including the famous tower. A committee was appointed to obtain an architect's report and estimate. It was stated that the whole work would cost about 10,000*l.*

Cardinal Vaughan has consented to the erection of a chapel in honour of St. Winefride in the new Westminster Cathedral. The estimated cost is 7,000*l.*, and Mdme. Mary Teresa Vavasour, of Ramsgate, a well-known Roman Catholic benefactress, has offered to contribute to and collect subscriptions in aid of the project.

At the Walsall Police Court Joseph Barnes, corn merchant, Wolverhampton Street, was summoned for erecting buildings without having first obtained the sanction of the Corporation. The borough surveyor (Mr. R. H. Middleton) said defendant submitted two lots of plans, the first set not having met with the approval of the streets committee. On the completion of the buildings, however, it was ascertained that they had been erected in accordance with the plans which were rejected, and that a corn store and office had been built for which no plans had been presented. Mr. J. N. Cotterell, for the defence, urged that the offences had arisen through inadvertence, and that it would ruin defendant if he were compelled to pull the premises down. For not following the approved plans defendant was fined 10*s.* and costs, the question of the erection of buildings without presenting plans being allowed to stand over for six months, in order that the requirements of the authorities might be met.

The foundation-stone of a cottage hospital for Colne, Lancashire, has been laid by Mr. W. P. Hartley, of Aintree. Mr. Hartley, who has offered 4,000*l.* towards the costs on con-

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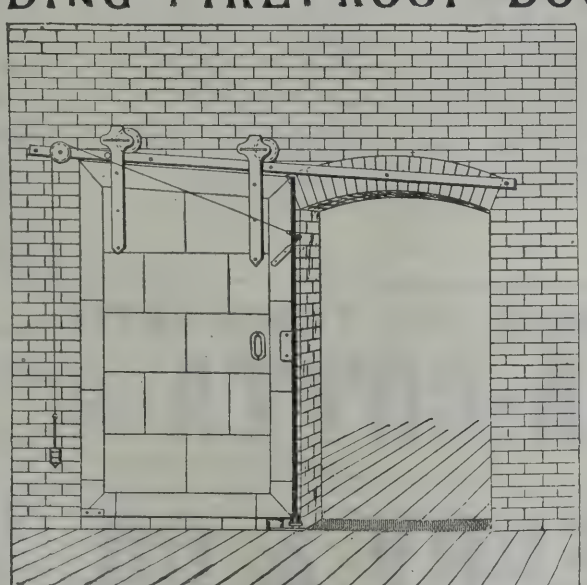
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dition that another 4,000*l.* was subscribed for an endowment fund, offered another 1,000*l.* at the ceremony if the public would raise 5,000*l.* Considerable excitement was caused by the fall of the foundation-stone, weighing about 4 cwt., on to a man's leg, which luckily was not fractured.

AT the last meeting of the Lincoln Corporation it was decided to make application to the Local Government Board for loans amounting to upwards of 10,000*l.* for additions and alterations to the market and for building a model abattoir. Plans are also in hand for a city isolation hospital, the site of which has already been secured ; these are some among many signs of the interest in sanitary science which is spreading in the eastern counties. Many of the leading sanitary engineering firms have already responded to the invitation of the local committee to exhibit at the Health Exhibition to be held in the Drill Hall, Lincoln, from August 3 to 19. This exhibition, the first of its kind ever held in the county of Lincoln, is being arranged in conjunction with the annual provincial meeting of the Sanitary Inspectors' Association.

AT a recent meeting of the house committee of the Glasgow Parish Council it was agreed by a majority to recommend the erection of a hospital to accommodate 1,200 patients. The minority favoured delay, with the object in view of more consideration being given to a matter involving an estimated expenditure of over 200,000*l.* They were also of the opinion that the requirements of the parish for hospital accommodation might be better obtained, alike in the interests of the ratepayers and of the sick poor, through the erection of small district hospitals. The decision of the house committee will come up for disposal at the next Council meeting.

IN terms of a remit made by the Dundee Parish Council an agreement has been entered into between a private party and the Council whereby the former pledges himself to erect new offices for the Parish Council according to plans prepared by the architect of the Council. A site was obtained in the course of the day at the upset price of 60*l.*, this running out to about 5*l.* per pole, the area extending to about 12½ poles. The architect estimates the cost of the buildings at 6,000*l.*, and the Parish Council have agreed to enter on a lease of 99 years, and to pay rent at the rate of 4 per cent. on the cost, and to execute all renewals and repairs.

THE death has occurred of Mr. Daniel Macandrew, a well-known architect and builder in Aberdeen. Mr. Macandrew had been in business for about forty years, and had carried out many important contracts in Aberdeen and throughout th North of Scotland. One of these was the erection of th prison buildings at Peterhead penal establishment, which co 32,000*l.* The firm of which Mr. Macandrew was head a entrusted with all the Government work in Aberdeen for th Office of Works, as well as for the War Departmen Deceased, who was a brother of the Hon. James Macandrew Governor of Otago, retired from business about a dozen year ago. He was seventy-eight years of age, and is survived by widow and one son.

THE foundation-stone of the administrative buildings i connection with the new isolation hospital for Leicester wa laid on the 28th ult. The present hospital was erecte hurriedly during the smallpox epidemic of 1871-72. It is n longer adequate for the needs of the borough, and the ne institution is being constructed on the Gilroes estate, purchase by the Corporation for this purpose, and also for the laying ou of an additional cemetery. When completed the buildings wi comprise four separate one-storeyed pavilions for the treatmer of scarlet fever cases, each pavilion containing 26 beds ; on ward for typhoid cases, containing 28 beds ; two isolatio pavilions, containing 28 beds, making accommodation for 16 adults. Arrangements are made for the addition of furthe pavilions when requisite, so that the full accommodation ma be 240 beds. There are the usual administrative and othe buildings, and the present expenditure authorised is 54,000 The architects are Messrs. Blackwell & Thomson, and the co tractors Messrs. J. Johnson, of Leicester.

VARIETIES.

ACCORDING to a contemporary the vicar of Castle Bytha draws the following pathetic picture of his church :—"Wal leaving ; roofs letting in the rain ; bells cannot be rung ; pew falling to pieces ; foundations giving way."

A NEW theatre has just been opened in Station Roa Doncaster. It has been erected from plans by Mr. J. W Chapman, managing director. It is constructed to accom modate 1,500 persons, and is fitted up with the latest in provements.

THE next ordinary meeting of the Society of Engineers wi be held on Monday the 10th inst., at the Royal United Se vice Institution, Whitehall, when a paper entitled "Machin Tools," will be read by Mr. Ewart C. Amos, M.Inst.M.C.E.

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R ROBERT REID, Q.C., M.P., turned on the water for the ear-water tank at the Dumfries and Maxwelltown Water- at Lochfoot on the 3rd inst. The new tank has been l at a cost of between 3,000*l.* and 4,000*l.*, and has a ty of 250,000 gallons, its average depth being 12 feet. ank is lined with white enamelled bricks. It is sur- ed by a well-lighted and ventilated superstructure of ne, the interior being lined with red bricks, and a tiled ay running round the edge of the tank.

:w day-schools connected with the Almondbury parish , Huddersfield, have just been opened. The old schools ondemned for their sparse accommodation in 1893, and infant school, erected at a cost of 1,100*l.*, was opened in nber 1895. The whole of the reconstruction scheme is mpleted at a cost of 4,500*l.* The new schools consist of block (a large central hall, infant school and cloakrooms, east block of classrooms, &c.

SCOVERIES have from time to time been made at rspool, near Warrington, leading to the belief he neighbourhood is the site of the Roman camp is known to have been stationed in the district. igations have been carried on by the Lancashire Cheshire Historic Society and the Warrington m Society, together with several gentlemen interested :arch, and these point to the fact that the site of an old n camp has been struck. Mr. Thomas May, in a paper the Warrington Field Club, stated that the most ne anticipations had been surpassed. The foundations rampart have been exposed, the thickness of which from 9 to 13 feet.

the last meeting for the session of the Historic Society ncashire and Cheshire, Mr. H. Peet, F.S.A., occupied the The paper of the evening, on "Warrington Church prepared by Mr. T. Stanley Ball (who was absent h illness), was read by Mr. W. E. Gregson. A full and description was given of the various pieces of ancient t and well-preserved church plate now in Warrington church, consisting of silver hanap or covered cup, 1615, chalice cup and paten cover, 1627, silver chalice, 1627, silver salver, 1694, silver flagon, 1699, silver flagon, 1720, silver paten, 1722, small silver paten, 1731, and large silver , 1746, several of these beautiful pieces were presented nors who now lie in the church. At the close a long dis- n took place, in which the chairman (who spoke at some length on the importance of this large but little known subject), Mr. A. M. Robinson, Mr. S. May and Mr. W. E. Gregson took part, the hope being expressed that further researches may be made to bring to light many of these little-known treasures of the silversmith's art. A hearty vote of thanks, proposed by Colonel Pilkington and seconded by Mr. S. May, was heartily accorded to Mr. Ball for his paper.

NEW CATALOGUE.

IN the spring the housewife's fancy mechanically turns to thoughts of spring cleaning, which, in addition to the inevitable rubbing and scrubbing, frequently includes to a greater or lesser extent redecoration, refurnishing and furbishing. Hence the appearance at this particular season of the elaborate and comprehensive catalogue produced by Messrs. Hewetson, Milner, Thexton & Co., the well-known furnishing firm of the Tottenham Court Road, is strictly *à propos*, and a careful perusal of its two or three hundred pages prior to a visit of inspection to the emporium itself will greatly facilitate the task of intending purchasers in making their selections. Antique furniture or high-class modern furniture made to authentic antique design may almost be regarded as a specialty of the firm, which, especially, has a high and long established reputation for its admirable productions in carved oak, &c., and their spacious show-rooms contain many excellent examples of all the various "periods," while they also have an enormous array of modern suites and odd pieces at prices to suit all pockets. Many of these are arranged in completely furnished apartments, by which means an accurate impression of the *ensemble* is, of course, conveyed. In addition to the furnishing "lines," a wide choice is offered in what may be described as constructional decoration, such as fireplaces, overmantels, panellings, ceiling enrichments, paper and other wall hangings, while of carpets, draperies, &c., the choice is unlimited.

BRITISH DECORATORS.

THE recently incorporated Institute of British Decorators held their first annual general meeting at Painters' Hall, Little Trinity Lane, in the City of London, on Thursday, March 23.

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attended this meeting, the primary object of which was to formally elect the general council, in which is vested the management of the business and affairs of the institute.

Mr. J. D. Crace, of Wigmore Street, London, was duly elected president of the institute. Messrs. Thomas Bonnar, of Edinburgh; George G. Laidler, of Newcastle; Alexander G. White, of Liverpool; J. C. M. Vaughan, of Hereford; Robert J. Bennett, of Glasgow; and Henry Gibson, of Dublin, were appointed vice-presidents of the institute; and Messrs. William Allon, of South Shields; William Brown, of Dundee; Charles Carlton, of Glasgow; James Clark, of Edinburgh; M. Cowtan Cowtan, of London; M. E. Dockrell, of Dublin; Isaac H. Donaldson, of London; David Laing, of London; John McIntyre, of Dublin; Thomas Preston, of Burnley; John Ratcliffe, of Bolton; John Scott, of Glasgow; James Sibthorpe, of Dublin; John Smith, of Sheffield; William G. Sutherland, of Manchester; John Taylor, of Birmingham; and John Whyte, of Aberdeen, were appointed members of the general council.

Mr. I. Hunter Donaldson, the present master of the Worshipful Company of Painter-Stainers, in whose hall, in Little Trinity Lane, the institute have their headquarters for the time being, at the opening of the proceedings addressed in the name of the Painters' Company a few words of cordial and sincere welcome to the members of the institute, wishing them a full realisation of the hopes on which they had constituted the institute.

Mr. John Dibblee Crace, the president, then addressed the meeting as to the progress made by the institute since the meeting of the provisional council in February last, and it was stated that 174 decorators had become members of the institute, and that in addition upwards of sixty applications for membership had been received by the secretary and would be brought up for consideration and election at the meeting of the general council to be held at the close of the annual general meeting.

Several matters of interest were brought to the notice of the meeting by the President, including the question of the admission of women, if duly qualified, as members of the institute; and it was the general opinion of the meeting that, if qualified, they ought to be admitted.

A further question of subdividing the institute into a larger number of districts than at present was also considered, but it was thought that further inquiry should be made, and reports were invited from the various local associations.

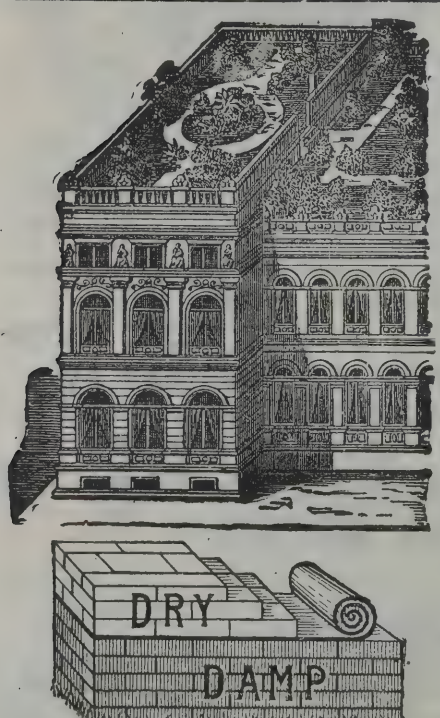
The President then invited the members present to ex their views as to the expediency of compelling applican admission as members of the institute to submit to an e nation before being admitted to membership, and pointe that, in his opinion, to insist upon such a test would be to k institute at the very start; for it was obvious that men wh been in business for many years, and who were of estabi reputation, would not submit themselves to examination as a dition of admittance to an institute only in its infancy. President further stated that all applications for admi to membership of the institute would have to come befor general council for election, and every applicant would to be nominated by two existing fellows of the institute that every care would be taken both by the general c and by the fellows nominating that no unsuitable pe should be elected, and that, at any rate for the present, this s afford the institute a sufficient protection against the a sion of unsuitable members. Several members prese pressed themselves as of this view.

At a meeting of the General Council which was subsequ held new members were elected to the number of fifty-s whom forty-four were elected as Fellows and twelv Associates. Several of the leading decorators in London applied for admission to the Institute since the meetin held.

THE ROTHERHITHE TUNNEL.

THE projected tunnel to connect Rotherhithe and Sha now under consideration by the County Council, say *Standard*, is by no means novel as a proposal or as a d It has long been in demand, arising out of the necessity f means of transit across the Thames below London B As far back as 1877 the Metropolitan Board was press establish a means of crossing the river at Shadwell. De tions urging this improvement included Mr. C. T. Ritchi the local authorities, together with traders and others. In an interesting report on the subject was laid before the by their engineer, Sir Joseph Bazalgette, proposing b bridge across the Thames at the Tower, and two tu or subways lower down, one at Shadwell and the at Blackwall. The cost of the proposed bridge the two tunnels, including the purchase of pro and compensations, was estimated at fully five mi

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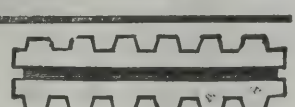
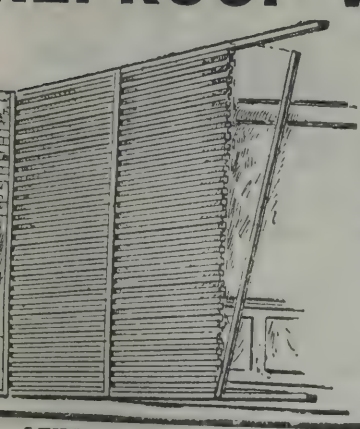
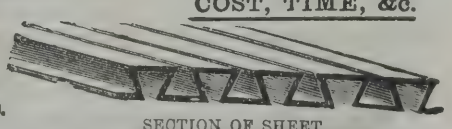
g, and before embarking on such an expenditure the wished to know whether there was a chance of the Coal being continued beyond 1889, when, unless renewed, ould expire. After a long interval the Government gave avourable reply. The Board thereupon resolved to limit rojects to one tunnel, for which the line selected was en Nightingale Lane and Tooley Street. The Bill for roject was laid before Parliament in 1884, but was ly opposed and finally rejected. The select committee House of Commons, to whom the Bill had been referred, ted a special report on the result of the inquiry, in which xpressed a hope that if the City Corporation would under- he work of making a low-level opening bridge at Little Hill, the Metropolitan Board would construct a subway adwell. The Tower Bridge was soon commenced, but oard never undertook the tunnel at Shadwell, giving ence to a tunnel or subway under the river at Blackwall. e report by Sir J. Bazalgette, in August 1882, is remark- s showing how near the Metropolitan Board came to the uction of that which Parliament is to be asked to sanction next session. The estimate for the Shadwell Tunnel was ,040,000*l.*, being 1,500,000*l.* for works and 540,000*l.* for The present estimate is 2,198,250*l*, the works to cost 000*l.* and the property 798,250*l.* The reduction in the te for the works may be attributed to improved modes of ion, while the rise in the other item may be attributed to uses. In the first place the property item includes the f rehousing those persons of the working classes who may placed by the carrying out of the scheme, while in the lace allowance must be made for the natural rise in the of property in the course of seventeen years. But the y Council have endeavoured to reduce the cost of ing property by a deviation from the route proposed in an of the Metropolitan Board on the northern side of ver. Still, comparing the scheme of 1882 with that e present date, the similarity is so great that the ay be pronounced identical in all their essential features, endering the scheme of 1899 a revival of that which was ed at the earlier date. In each case the open approach tunnel commences at a point described as the junction ion Road with the Deptford Lower Road. For some ce the course pursued is about parallel with the river. ng the East London Railway by means of a bridge at rhithe station, the present route will consist of a cut-and- portion extending from the railway to Dodd's Place, where the first shaft will be situated, and where the tunnel will commence, proceeding under the premises of the South Metropolitan Gas Company to the second shaft near the Surrey Lock entrance of the Commercial Docks.

The entire works at Rotherhithe may be described as forming an eastward curve sweeping round to the north, so as to give a general course to the north-east. The tunnel passes under the Thames on a line running due north, in a direction oblique to the course of the river. Were the crossing at right angles, the length of the tunnel would be, to some extent, abbreviated, but this is rendered impracticable by the interposition of the docks on either side. The tunnel having passed westward of the Commercial Docks at Rotherhithe, proceeds under the river so as to pass eastward of the Shadwell entrance to the London Docks, and westward of Shadwell Market. It is proposed to sink the third shaft on premises close at hand, whence the tunnel will proceed partly on a curve and partly on a straight line to the fourth shaft, on the north side of Broad Street, close to Collingwood Street, where the cut-and-cover construction commences, terminating in an open approach. The Commercial Road East is thus reached after traversing a distance of a mile and a quarter from Union Road on the south. It is pointed out that the corresponding length of the Blackwall Tunnel is as much as two miles, this being the interval from one main thoroughfare to the other. The tunnel under the river at Rotherhithe will be level for rather more than a thousand feet, and will have a gradient of 1 in 75 for a length of 640 feet. Elsewhere the gradients will vary from 1 in 34 to 1 in 50. The width of the thoroughfare in the tunnel is to be 17 feet for the carriage way and 4 feet 2 inches for each footway. The headways are intended to be 18 feet 6 inches at the centre of the carriage way, and 15 feet 7 inches at the channels. The bridges committee point out that the accommodation in the Rotherhithe tunnel will be decidedly superior to that provided in the tunnel at Blackwall. In order to secure this result it will be necessary to make the outside of the proposed tunnel 30 feet in diameter, or 3 feet larger than the outside diameter of the Blackwall tunnel.

An important question arises as to the difficulties likely to be encountered in the execution of the tunnel, owing to the nature of the strata that will have to be passed through. It is thought that under the river and on the north side there will probably be less difficulty than in the case of the Blackwall tunnel; but it is admitted that the presence of water may inter-

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fere with the construction of the deep cut-and-cover portion on the southern shore. On inquiry it appears that at first the cut-and-cover portion on the southern side will be in clay. At the first shaft varied strata will be encountered, with a considerable intermixture of water. Proceeding onwards, green sand and pebbles are to be met with. Passing the second shaft there is ballast and green sand. Here the level portion begins, at a depth of 70 feet below high-water mark. From the third shaft the work on the north side will pass through coloured clay and portions of the Woolwich beds. Blue clay will prevail in the vicinity of the fourth shaft, while the cut-and-cover will be carried through clay and ballast. The crown of the tunnel will be from 10 to 15 feet below the bed of the river in the central part. The working being done by means of compressed air, as in the Blackwall tunnel, water will be excluded from above, though it may work up from below.

In their report on the subject of the tunnel and the purposes it will serve, the bridges committee of the County Council give statistics showing the great extent of the population requiring the facilities of transit which will be conferred upon them by this means of crossing the Thames. Taking the north side of the river, it is shown that the population immediately affected would exceed 386,000, while on the south side the number would be 241,000, or a total of 627,000. Including the population indirectly benefited, the total is raised to 1,440,000.

Remarks are offered as to the benefits that will accrue on the northern side of the river in connection with the traffic to and from the docks. The St. Katharine and the London Docks and the Regent's Canal Dock will be in close proximity to the tunnel. A large proportion of the merchandise passing out of the gates of these docks has to be conveyed to the south side. At the present time the streets near the docks are blocked by the traffic, and it is said to be imperative that relief should be afforded to enable the traffic to get to its destination. This aid the tunnel will give by taking many hundreds of vehicles across which have now to find their way by London Bridge or the bridge at the Tower. A matter of considerable moment consists in a proposal now before the Council for so enlarging the design of the tunnel as to provide for the reception of a tramway line, which could be connected at points close to the approaches of the tunnel with the existing tramways in Commercial Road East, which are the property of the Council, and also with those in Union Road, Rotherhithe, which will become purchasable in 1900. Apart from the tramway proposal, it is to be observed that if the Coal Duty had been continued the Rotherhithe tunnel would have been constructed years and would now be affording that relief which is so desired.

BRITISH INDUSTRY AND FOREIGN COMPETITI

In a letter to the editor of the *Times* Mr. P. E. Pil writes :—

The employment of an American firm to carry out a po of the engineering work in connection with the railway b at Atbara in preference to British firms is attracting cons able public attention, but it is far from being an isolated inst of the kind ; indeed, those who have to do with constru operations even in England are so accustomed to the B being beaten out of the field in competition with contin and American manufacturers that the interest excited b Sudan order appears to them to be difficult to understand.

It is now impossible in many branches of work to i that it shall be the product of British workmanship and a r for the employment of British capital.

Let me give your readers a few examples.

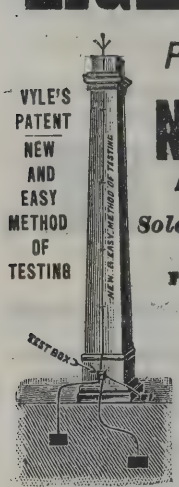
I believe that if the facts could be collected it woul found that the greater portion of the iron and steel girders in the construction of the large buildings now being erecte London and the large provincial centres comes from Bel and Germany.

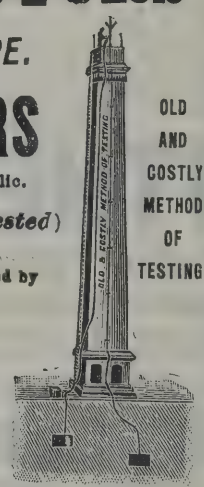
For years I have been trying to give the preferen British products in this particular, but with only partial su Now it is clear I must give up the unequal contest, answer to an inquiry I have just made to one of the few who have hitherto supplied girders of British manufact am told that the Belgian or German article is from 20*s.* t a ton cheaper delivered in London, and that whilst a tim be specified for the completion of the works in their case impossible to specify a time if British steel is used. The re is lack of enterprise, only one or at most two English rolling a sufficient variety of girders to be able to supply out delay, whilst there are several continental firms wh supply almost any quantity of nearly every kind of gir the shortest notice. This has been going on to my know for several years.

Again, I have been very anxious to use British slate certain colour on a number of buildings, but I have met nothing but difficulties.

I had the choice of a British slate and of a slate of si

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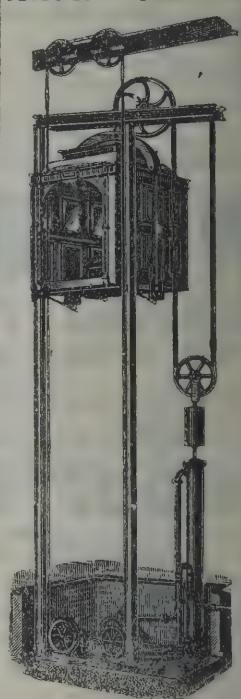


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ur and character imported from Germany and one from erica. It is a fact that the British slate was the best in ur and thicker; in fact, unnecessarily thick, requiring a e expensive roof to support it, and likely to endure much er than modern buildings are called upon to last, owing to changes which take place in our great towns. But these antages had to be very heavily paid for. The British slates e 40 per cent. dearer, and no guarantee could be given as hen they could be delivered.

The gentleman who represented the British firm may be sidered as being admirably equipped for his vocation from British merchant's point of view, for he had never seen the rries whose products he was trying to sell, he could not tell thinner slate could be supplied at a lower price and gently recated any inquiry on the subject being made at the rry, and was unaware that American or German slates were ig offered in the London market at a much lower price n British. He was, in fact, quite a representative British eller.

Without encouragement from him I ventured on some ish slates and started a building or two with them, but soon to give up, for the supply could not be maintained, and on remainder of the buildings a foreign slate is now being l.

Let us take another example.

In the ventilation of a public and a large business building erected I desired to employ a British firm and sent for an lish manufacturer to come and see me.

The reply came written on the back of a printed sheet ng a list of the many buildings then being ventilated by firm's system, that Mr. Blank was in the country, but on eturn in about a week's time he would wait upon me.

In the meantime my clients, who had some knowledge of erica, drew my attention to an American firm carrying on ness in London, and their representative on a hint from n called upon me. I found him a well-educated, intelligent interesting personality, full of his firm's particular system, to explain its operation with a wealth of scientific know- e and practical instances, able also to defend its principles nst objections and to favourably compare it with its British petitors.

The Englishman was completely outclassed. He was too and when he did come he knew nothing about the erican system, and on a hint of competition showed signs tiring into his shell.

I was able to draw a moral when shortly afterwards I found an English firm contentedly fitting up, in a subordinate capacity, the appliances which American ingenuity had invented, American energy had obtained the order for, American workmen had produced, and of which American capital was about to reap the profits.

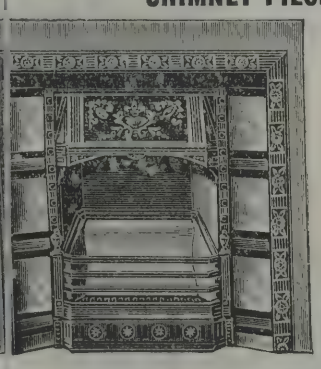
Much of the success with which foreigners are beating our countrymen out of the field may be due to our labour troubles. That I do not propose to enter into now, but to my knowledge much of it is due to the hidebound conservatism and lack of ideas which characterise many of those engaged in carrying on British manufactures and trades at the present moment. There seems to be little enthusiasm for their work in the minds of those to whom are entrusted the making of arrangements with the consumer. The Englishman is worse educated than the foreigner, less keen to arm himself with every item of knowledge that can be acquired concerning his work, less able to see that in the successful carrying out of a matter of business there is something elevating to the character, and that in entering into, appreciating, and perhaps even in influencing his customer's needs there is an element which may make his life interesting and satisfying. He has his own article and thinks that if it does not do it ought, and should be made to.

The Englishman one meets in such capacities seems to think that the great object is to expend as little force, energy, initiative and vigour as possible in the execution of any work he has in hand, and this is why he is a mere tiro by the side of his foreign competitor, bred on ideas and educated with a fulness and breadth of which we in this country have little conception.

The interesting account of the Japanese system of commercial education which appeared in your columns some eighteen months ago should open our eyes to what is necessary in this direction. If the country is not to take a bad fifth or sixth place in the markets of the world, which she will surely do if the foreigner is allowed to beat her sons out of her own home markets with the ease with which he is beginning to do so, a higher quality of mental capacity and training must be expected of those who represent this country.

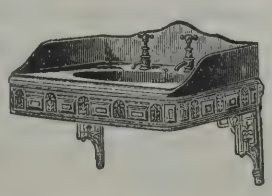
The last generation of middle-class Englishmen who read and thought were brought up on the creed of Carlyle and Kingsley, and many of them saw dignity in the hard work and strict performance of duties taught by those writers, to whose influence some of our commercial prosperity was due.

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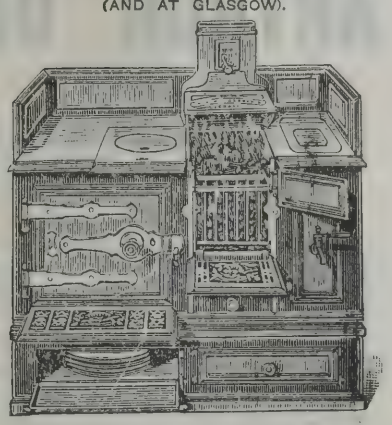


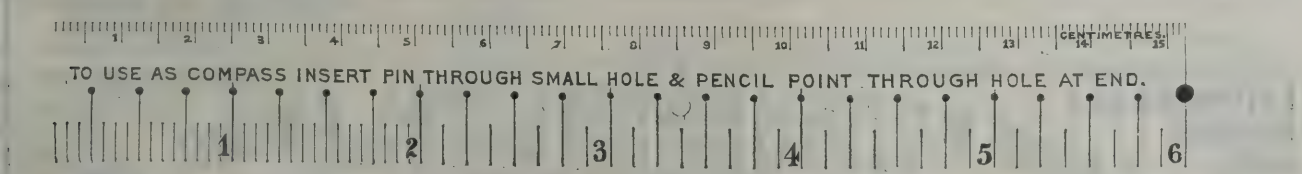
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To-day Mr. Kipling is teaching us the lesson of strenuousness. His illustrations, however, are drawn from the career of the soldier and sailor and the administrator of subject races, and hardly bear a direct message to the man of manufactures and commerce.

Perhaps when he has recovered from his present illness he will discover for us that the administrators of our manufacturing and commercial firms and the commercial traveller are not necessarily condemned to a barren materialism, but that there is a fertile world of ideas in which they may live their lives not without advantage to themselves and with decided advantage to the race of which they form so large a part.

ROAD-MAKING IN PERSIA.*

The new road from Resht to Teheran is the latest move that Russia has made to widen the circle of her Persian trade.

During a recent visit to Teheran and Russia I had an opportunity of obtaining the following details with regard to this undertaking.

The concession to construct this road was given in 1893, and includes the right of widening the entrance to the Murdab at Enzeli. It was granted to the "Compagnie d'Assurance et de Transports en Perse," founded by Mr. L. S. Poliakow, of Moscow, who is also the founder of the International Commercial Bank of Moscow, which has a branch office at Teheran. It is said that the Russian Government have shown a keen interest in this scheme, and that it was at their request that Mr. Poliakow undertook the enterprise. At all events, it was no doubt through official pressure that the chief merchants and manufacturers at Moscow who have, or are in the future likely to have, business relations with Persia, became shareholders of the company to which the concession was sold, and which was formed with a capital of 1,000,000 roubles in 1,000 shares of 1,000 roubles. Some of the Moscow firms took as many as 100 and 150 shares.

At first the work was taken up with much zeal, but, possibly discouraged by the formidable difficulties met with as soon as the higher ranges of the Elburz were reached, and which necessitated a larger expenditure than may have been foreseen, this energy became gradually less, until it looked as if the plan had been abandoned. In 1897, however, Colonel Mszichovsk who had been given charge by the company of the whole wor came to Persia on a visit of inspection, and soon after h return the Russian Government decided to come to the assis ance of the company by taking debentures to the amount 1,000,000 roubles, on condition that the work should be finishe without delay. According to the terms of the concession th road should have been ready for traffic at the end of last yea but a prolongation of one year was obtained. Finding that th 2,000,000 roubles were not sufficient to complete the road, th Government again came to the aid of the company by takin another 500 debentures of 1,000 roubles, on condition this tim that the capital should be increased by 700,000 rouble This was done (most of the shares were taken by t original shareholders), so that the company is now workin with a capital of 3,200,000 roubles (1,700,000 rouble shares, a 1,500,000 rouble stock), or, say, 340,000*l.*

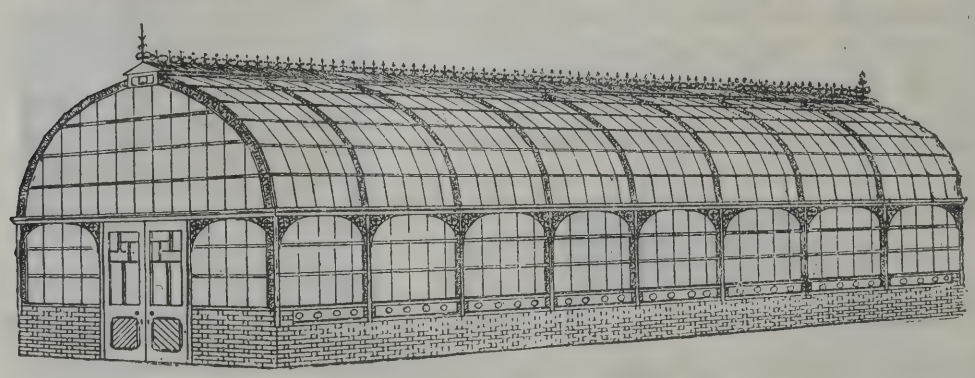
This no doubt seems a large amount, but it should be born in mind that it includes the cost of the concession, Enze Kazvin, with extension to Hamadan, at 40,000*l.*, and the pu chase of the Kazvin-Teheran road at the same price. Th cost of the actual road-making has been 30,000 francs p kilometre, and that certainly does not seem excessive, as th difficulties have been great. Between Pir-i-Bazaar, Resht a Kuhdum, for, say, twenty miles, where the soil is exceeding marshy, large quantities of stone brought from distant mou tains had to be used in many layers before a sound foundati could be obtained. This work went on for two years, and w much hampered by the fact that rice is cultivated in ma places on both sides of the road; the complicated system dams and dykes for irrigation purposes making the work ve tedious. At first Russian workmen were employed, but the m tality among them in the lowlands near the Caspian was ve great; during the first year thirty out of 300 died of malarial fev They have been replaced by Italians, who resist the clima better. After reaching the mountains difficulties of anoth but hardly less costly nature arose. Near Rudbar, Menjil a Mullah-Ali not less than fifty miles had to be cut through so rock by means of "roburite" imported from England.

The local management is in the hands of Captain Glinoefs who has had much experience of road-building.

Starting from Pir-i-Bazaar on the Murdab, the road (miles) turns to the left quite near Resht, crossing the Rud by a wooden bridge, thus avoiding the town with its narr streets. It then follows the old track to Kuhdum, and w

* From a paper on "Persian Trade Routes," read by Mr. A. Hotz before the Foreign and Colonial section of the Society of Arts.

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cticable last spring for carriages as far as Ziah Rud, arsakhs, or about 30 miles from Resht. The road now ins to climb in earnest, and it frequently leaves the old e track. In April I found it levelled and ready for use as as Rudbar (14 farsakhs, or about 47 miles from Resht), and I e just heard from Colonel Mszichovski that it has been ned for traffic as far as Menjil; that is, half the distance veen Enzeli and Kazvin.

From Rudbar to Menjil and Paichenar several gangs, of ningly over 100 men each, were at work blasting and pick-ıg the solid rocks of limestone which line the Sefid Rud so ressively.* All travellers to Teheran will remember the roach to the Menjil bridge coming from Resht, and will ise the enormous expenditure of work that was required to a road with a practicable gradient through these forbidding ses. Here the old road, a veritable rock ladder, on which unfortunate mules or chapar horses have to clatter as best r can, has been of no use whatever to the new one. Under e circumstances, it was necessary to limit the width to the owest possible dimensions. At such places the road is etres (16½ feet) broad, but at distances of 200 metres it has der stretch, so as to allow for the passage of two carriages. normal width between Resht and Teheran will be schens (21 feet); the usual gradient is 1 in 24 to 1 in 20, in w exceptional cases 1 in 15

Nothing has been done so far to the bridge at Menjil, of ch, as usual of late years, a couple of arches have fallen in. ıvans have at present to pass with great precaution by a rickety construction of wooden rafters, supported by and attached to the pillars of the bridge. Carriages could not possibly use this quaint structure, which is very narrow and about 142 yards long. As it is cheaper in Persia to build a new bridge than to repair an old one, it has been decided to replace the present structure by one of iron. The material has arrived from Russia; but as the Sefid Rud is a stream with a considerable current the work of spanning it will take time, and it will be no doubt necessary, for some months after the completion of the road, to change carriages at the bridge, crossing it on foot with the horses.

At Paichenar a young engineer, M. Wolfenseider, has his headquarters. So far, the new road has followed on the tracks of the old one, except for a few short deviations. But it is now approaching the Kharzan Pass (about 7,500 feet), a conclusive barrier to anything on wheels. The two roads here part company, and the new one, following the telegraph line as far as Kuhin, makes a detour of about 12½ miles by following the left bank of the Yuzbashi river, and, passing by Mullah-Ali, where another iron bridge will be built, rejoins the old road at Agha-Baba. I have not visited this part of the road. Last spring work there had not been commenced. It is now well on its way. General Schindler is, as far as I know, the only traveller who has described this section, and his itinerary is the same as that adopted by the Russian company. The following is a brief summary:—

"Leaving Teheran (in July 1879, just before the construction of the present Kazvin road) Agha-Baba is reached by a good road of 14 miles. Continuing almost due west, the Bascher is crossed (2 miles) and passing Bumehin a descent to the Do-deh plain, followed by an easy ridge, leads to the large village of Kuhin (5,106 feet) situated in a fertile valley (5 miles from Agha-Baba). Nearing the Azalek, a small stream, by a somewhat sharp climb, the Aspabin plain is reached, dominated by the Piruz. The direction has now become north-west, and at Beg-Baghi (3,056 feet) changes to north, when the road traverses the broader watershed of the Yuz-Bashi, where, as a sign of a milder climate, figs and oleanders are observed. Following the windings of this valley the winter settlements of the Ghaswend nomads are passed. The road now enters the valley of Mullah-Ali (also called Hassan Khani) with the finely-situated village of that name, which is deserted in summer. Here a bridge is required during the spring floods. A couple of miles further, passing the village of Kogir, the post-house of Paichenar is reached (1½ miles beyond Paichenar the Yuz-Bashi joins the Shah Rud,

The following details about the staff and workmen employed may interest. Besides the chief engineer, M. Glinoefski, there are in a two engineers and twelve assistant engineers or chiefs of sec- (this number has been gradually reduced as the work advanced). ıer, a chief book-keeper with two clerks and five or six juniors. a doctor and several assistants. The number of workmen was at about 4,000 (1,000 horses and donkeys for the transport of el), but at present there remain only a few hundred in the sections that have not been completed. They are chiefly ans and Kurds, and a small number of Greeks, Turks and ns. There are few Russians employed now, for reasons already ined. On the whole, nearly a million cubic metres have been with, of which about one-third, in rocky parts, was where the pean workmen were chiefly engaged, because the Persians of the ian provinces are deficient in energy and strength, on account of limate.

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which at Menjil unites with the Kizil-uzun, forming together the Sefid Rud)." In a footnote the general character of the road is described as offering much less difficulty than the one crossing the Kharzan Pass. The undulations are more practicable, the winters are milder and more free from snow. Many villages are met with. Incidentally the road is mentioned as being the one chosen for the then (1879) projected railway from Resht to Teheran.

Between Paichenar and Kazvin two new post-houses will be built; on the other sections the existing stations will be put in thorough repair.

At Agha-Baba the gradually rising plain is entered that stretches to Kazvin and Teheran, and there are now no more engineering difficulties to contend with; in fact, a rough cart-road has been in use for some time as far as Kazvin, and all that has to be done is to metal it and provide for drainage. From Kazvin to Teheran a regular carriage service has been in existence for about eighteen years. It is at present farmed by a Persian, who keeps the service in a fairly efficient state. The distance of ninety-six miles, divided into six stages of equal length, is covered in sixteen hours under average circumstances. After a heavy snowfall there is delay. The road has an excessive width, and is not metalled. The bridges are in bad repair and unsafe. The Russian company will have to spend a considerable amount of money to bring this road up to the level of what is being done beyond Kazvin; but this, in good time, will be accomplished

The company does not intend for the present to undertake the carriage of passengers, mails and merchandise, although it has acquired the right to do so. The revenues of the road will, therefore, have to be derived entirely from the tolls. These have been fixed at 4 krans (say 1*s.* 6*d*) per pack animal (horse, mule, donkey or camel), from Resht to Kazvin, and the same from Kazvin to Teheran. Carriages pay 42 krans (17*s.*) for four horses, 30 krans (12*s.*) for three, 20 krans (8*s.*) for two, and 10 krans (4*s.*) for one. Loaded carts pay 50 krans (20*s.*) each. A proportionate deduction is made for a shorter distance.

People at Teheran are waiting impatiently for the completion of the road, and no doubt much polite pressure is being exercised, not the least by the different legations. In fact, the chiefs of the two principal ones have had personal experience of the hardships of the old order of things. Both Sir Mortimer Durand and M. Argiropulo have been detained for days in very uncomfortable huts near the Kharzan, waiting till a path had been made through the snow. The sufferings of the great often bear good results for the multitude. Foreign ministe travel too seldom on other roads in Persia.

M. Mszichovski is very sanguine that the entire road w be finished by the end of May, and it will be opened with so ceremony in the presence of the Sadrazen and the Russi Minister at Teheran, who have been invited by the company visit Resht for that purpose. Should there be unforeseen del the inauguration will probably be postponed until the autum because the weather in Persia between May and September too hot for such a prolonged picnic.

PATENTS.

[*This List of Patents is compiled specially for this Journal Mr. G. H. Rayner, of the firm of Rayner & Co., C sulting Patent Agents, 37 Chancery Lane, London, W from whom all particulars and information relating Patents may be had gratuitously.*]

Applications for Patents

6103. John Fleming Wallace, for "An improved ventilat cover for drain traps."

6186. Eliza Harriett Spettigue, for "The Pyramid s corner block."

6311. Fitz Gehre, for "Improvements in artificial stone."

6513. Wilson Adolphus Allen, for "Improvements in inva elevators."

To Inventors.—Patents for Inventions, Trade-marks and Des secured; every assistance given to inventors. Specialists in Build matters. Information free.—Messrs. Rayner & Co., Patent Age 37 Chancery Lane, London, W.C.

The new parish church of St. Aidan's, Bradford (M chester), was consecrated by the bishop of the diocese on 30th ult. The church, which seats over 500 and has c £6,600, is of a simple character, consisting of one span, w organ-chamber and vestries for the clergy and choir. architect is Mr. R. B. Preston, and the contract work has b carried out by Mr. R. Carlyle, of Ardwick.



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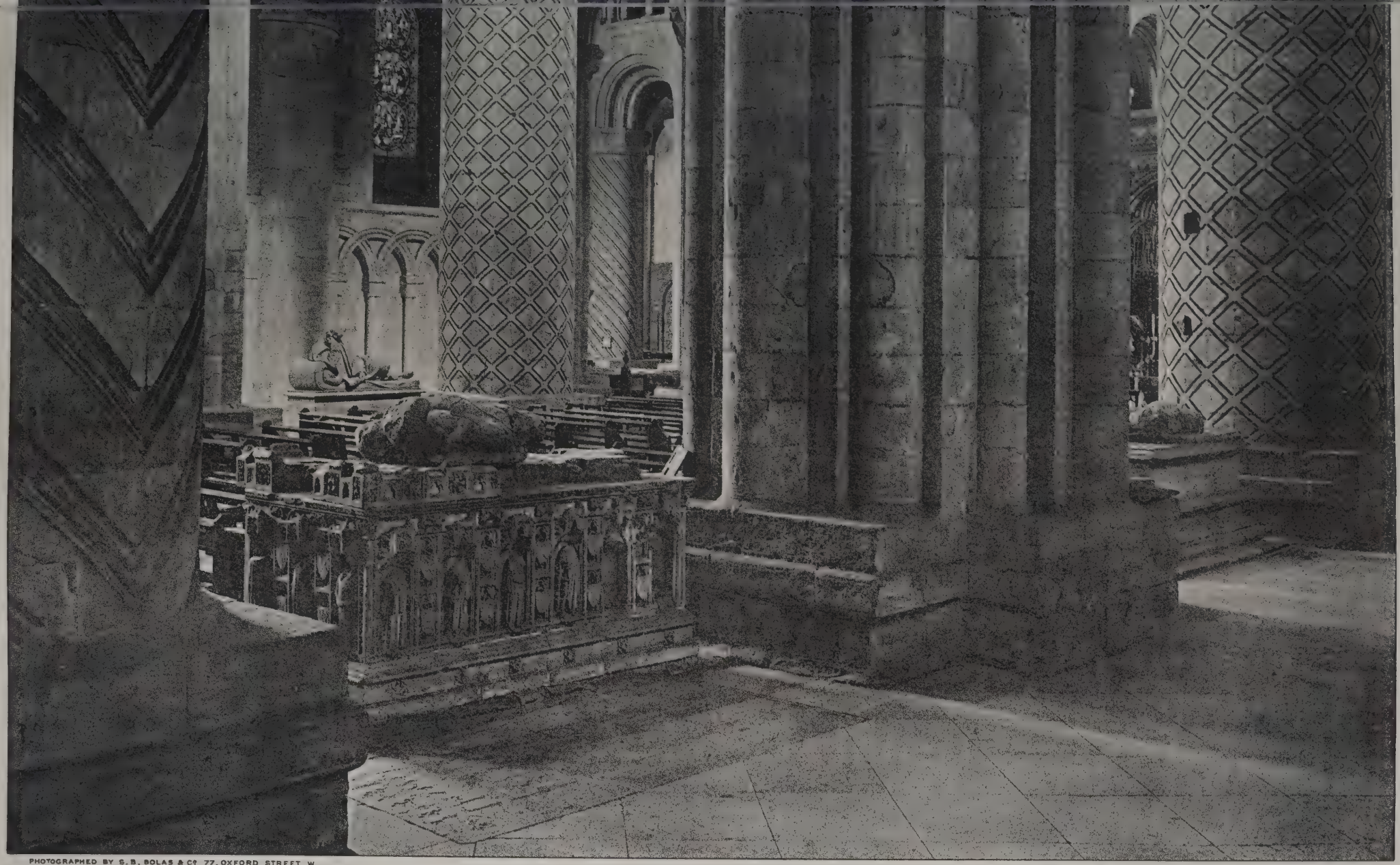
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CATHEDRAL SERIES, No. 219.—DURHAM: NAVE, LOOKING WEST.

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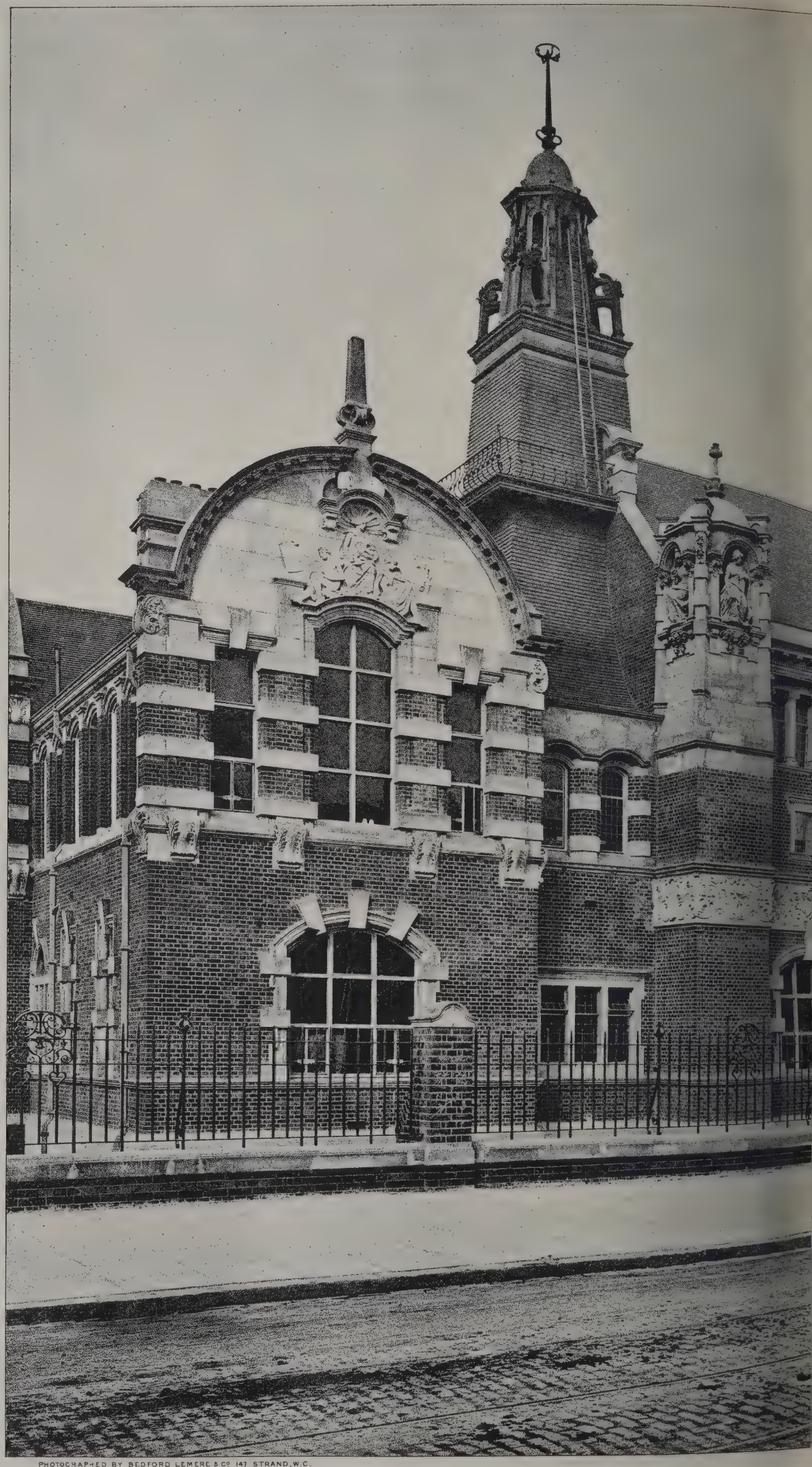




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CATHEDRAL SERIES, No. 220.—DURHAM: LOOKING NORTH-EAST ACROSS NAVE.



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: THE HAGUE.

The Architect.

THE WEEK.

"Good wine needs no bush" is an English proverb which may have originally expressed the thought of a painter of tavern signs and inscriptions who was annoyed by the economical innovation which made his art superfluous. Whether signs or inscriptions came first it would be difficult to decide, but both can set up a claim to the privileges which antiquity confers. Another archæological question arises. Were the signs and inscriptions derived from the mottos on drinking vessels or the reverse? That such questions can have interest is plain when we find the French Académie des Inscriptions devoting a sitting to a consideration of a couple of lines which were found on an earthenware tankard, viz.:—

OSPITAREPLELAGENACERVESA
COPOCNODITVABESESTREPLEDA.

At first sight one is disposed to take such combinations of letters as expressing something of the value of Mr. Pickvick's immortal discovery; but the inscription is of the early Merovingian period, and expresses the two phrases, "hospita, reple lagenam cervesia," and, according to one interpretation, "copo: audi, tu habes, est repleta." The first line we may take to mean, "Hostess! fill up my cup!" But surely not with beer. The other is the reply, "Can't you hear? Here it is, full to the brim." About the first there is not much difficulty, but the second is not easy and has given rise to a discussion among the Academicians. For what does "cnoditu" signify?" It is supposed by some to be a mis-spelling of "conditum," and was the name of a spiced wine. The second line could therefore be interpreted as a continuation of the order given in the first, and if "repleda" is "replenda," it would be equivalent to saying "Let it be the sweet wine; (but quick) my cup is empty." The language used by the Roman soldiers and immigrants in France was not Ciceronian, and modern French retains some of their barbarisms, so we must make allowance for the shortcomings of the ancient potter. But could he or the host or hostess or the wine-bibber anticipate that ages after the revel some of the foremost scholars in France would be at loggerheads in an endeavour to discover the meaning of a tavern joke?

Crannogs usually consist of several dwellings standing on piles, but one has been discovered at Hyndford, near Lanark, by Mr. A. E. Smith, which was a single dwelling. It is also a post-Roman example. The piles form a circle about 34 feet in diameter; within the space at irregular distances were several fireplaces rising to some height above the clay flooring, and surrounded by masses of ashes and charcoal, mingled with occasional relics of the occupation of the structure. The clay floor, laid as it was over a substructure of brushwood, had subsided more than once owing to the decay of the supporting substratum, and on this account both floor and hearths had been heightened as became necessary. One of the special features of the crannog is that a large proportion of the relics it has yielded are unmistakably of the Romano-British period. Among these may be noted fragments of at least six different kinds of Samian ware vessels and several of the coarser white earthenware, including two handles of a very large amphora. There were also some fragments of a square-shaped bottle of blue glass, some of those ribbed beads of porcellanic paste, and armlets of blue and green glass, and iron axe-heads, similar to those usually found in Roman stations in the south of Scotland. Along with these there were also a spiral bronze finger-ring, a large collar-shaped ornament of bronze like the so-called torc from Lochar Moss, consisting of a number of bead-shaped knobs, flat on one side and strung upon a bent rod, apparently of iron; a cup-shaped vessel of steatite, with a pierced handle; a smaller stone cup, a polished stone axe and a polished disc of stone, and several whorls, whetstones and a portion of a stone mould. The Hyndford crannog must be considered as unique, and much credit is due to Mr. Smith for revealing so interesting a relic to archæologists.

The latest number of the *Architectural Review* is mainly a monograph by Mr. E. Prioleau Warren on "The Work of Messrs. G. F. Bodley & T. Garner." It is satisfactory to know that English artists, like English writers, are appreciated in America. In that way the friendliness of the two countries is fostered. Mr. Warren in his article is inspired by a spirit that is almost affectionate, and, indeed, it would be difficult to say too much about architects who have convinced their age that Gothic is no obsolete form of architecture. The character of the two will be derived from the following extract:—"Thoroughly in unison as regards the essentials of their art, at one in reverent homage to the past, the partners present a wide diversity of personal character, a marked individuality of mind and manner. A poet in temperament, a musician by nature and acquirement, endowed with a rich facility of imagination, and with a singularly refined and sensitive feeling for form and colour, Mr. Bodley brought to the partnership a distinguished and acknowledged talent, an established and growing reputation, founded upon several years of single-handed work, and the creation of several buildings of unusual interest. Mr. Garner, considerably his partner's junior, contributed wide and scholarly knowledge, a highly educated taste, an acute and skilled perception, and an admirable power of draughtsmanship. He further contributed the experience gained in small but responsible work of his own, and an enthusiasm matched by indomitable energy." In conclusion, Mr. Warren says of his friends:—"Their aim has never been to startle, they have never 'played to the gallery,' they have ever avoided the obvious ingenuities that recur so tiresomely in much of modern design. The quality of their work is as remote as possible from the mock rusticity, the 'cottagey' affectation that is one of the prevailing architectural sins of the moment. Their manner is essentially the grand manner. They have exercised a very palpable influence upon their contemporaries by the sheer force of distinguished example; their reputation will long outlive them, for they leave to posterity not only a great number of beautiful buildings, but a record of conspicuous ability, high probity and unfaltering conviction." The article is abundantly illustrated with reproductions of photographs.

Tendering, we suppose, must henceforth be considered as inevitable with all businesses connected with building. One late instance is afforded by the Brentford Board of Guardians. The plans are ready for a new workhouse which is to cost from 70,000*l.* to 90,000*l.* A surveyor offered to take out the quantities at 1 per cent. Low as was the charge, it was resolved to ascertain whether cheaper bills could not be discovered. An advertisement was issued. No less than fifty tenders were sent in. The percentages varied from the recognised $2\frac{1}{2}$ per cent. to three-eighths. The Guardians did not accept the lowest tender. The work was given to the surveyor who had previously offered to undertake it at 1 per cent., but at the reduced rate of $\frac{3}{4}$ per cent. The victory makes the economists proud, but they cannot realise the task which the surveyor has undertaken.

Archæological "finds" are not always to be valued according to their artistic merit, and the discovery of Dr. Ernst Steinmann in the Vatican is an example. The stanze are associated with Raphael's genius, for on the walls he executed commissions given by Julius II. and Leo X. But after the great artist had demonstrated his supremacy in the *School of Athens* we know that Giulio Pippi and other artists were not afraid to attempt painting the walls. It is, therefore, safe to conclude that before Raphael appeared in Rome efforts were made to adorn the rooms. Remnants of these early paintings have come to light. They are not of much importance in the history of art, for they have an amateurish aspect, but they suggest that the whole of the walls of the stanze were covered with a series of paintings which may have helped to originate the great works which followed. Raphael began with the intention of celebrating the deeds of Julius II., and the *Heliodorus* expresses the Pope's desire to expel the French from Italy. Leo X. afterwards resolved to symbolise his own pontificate, and the discovered wall-paintings may relate to some predecessor of Julius II.

FIRE PREVENTION.

THE fatalities which fires have lately caused in England and America have excited some alarm, especially among nervous people. It must be allowed that when one thinks that the most terrible of deaths may strike down anybody, and that in most cases all efforts to escape which an individual can make are vain, the strongest must quake before the dreadful vision which arises. What adds to the terror is that all the organisations for extinguishing fires and saving lives are often of no avail in an emergency. It is inevitable that fires must occur and that fatalities will follow, but happily the deaths are less numerous than people suppose, especially in times like the present, when there is a disposition to be panic-stricken.

The fatal cases would be less numerous if simple precautions were more generally adopted. The majority of fires are caused by carelessness, or from an excess of confidence in good luck. If people in private houses, workshops and factories would realise how easily a fire can arise, and with what rapidity its dangers increase, we should then see a very different return of disasters published every year. But the belief in exemption from dangers that afflict others, which is one of the characteristics of most men, inspires temerity, with what consequences is known to every fireman. The modern organisation of society also leads people to suppose that for protection of every kind they are to trust to constituted authorities. Judges, in trying cases brought against railway and omnibus companies, are often compelled to point out that passengers are not to assume they are mere parcels bearing the inscription "with care." They must exercise common sense, and if they will act irregularly it is not to be expected officials will be on the spot to shield them against the consequences of their own acts.

Just now it appears to be supposed that houses and other buildings should be constructed in such a way that when through carelessness a fire bursts out in one of the rooms, no harm can arise to the inmates. That houses are not uninflammable throughout is supposed to be owing to the indifference or incompetence of the architects. The *Times* considers architects are more anxious about the exterior appearance of a building than about its construction. We all know it is easy to make a scapegoat of an architect, and to hold him responsible for errors of which he is innocent. The Disraelian formula, "Hang an architect," has not been as yet applied in practice, but a great many wise persons firmly believe there will be no safety for all who live in houses until a few examples are made as an object lesson for the profession. Sanitary defects and absence of fireproof construction are taken as sufficient grounds to frame indictments against architects in general.

Now security against fire should be provided as far as possible by individuals who build houses for their own occupation, and it becomes more of a duty when the houses are to be let to tenants. But it is well to remember that English law does not prescribe more than a very limited provision to secure safety against fire, and it is only in times which are comparatively modern the provision was compulsory. The London Building Act exemplifies the utmost stretch of power on the subject. No doubt it has made all buildings less dangerous, but its limitations were exhibited on a great scale by the Cripplegate fire, where houses which were in accordance with the Act succumbed as quickly as the timber structures in the Great Fire of 1666. The Act prescribes that party-walls are to be carried to a height of 15 inches above roofs with dwelling-houses and 36 inches with warehouses. In certain public buildings lobbies, corridors, passages, landings and stairs are to be of fire-resisting materials. Means of escape are also to be provided in high buildings. The injunctions are not over onerous, although many building owners deem them to be oppressive. In this country officialism must not be too obtrusive, and as much as possible is left to the individual. If a man will employ fire-resisting materials throughout a building the law will not interfere with him so long as he respects the dimensions which are prescribed for inflammable materials. He can have roof, stairs, floors, partitions, doors, window-frames, girders, columns, &c., which will resist flames until the building is subjected to floods of water, but he must not seek to obtain official sanction for what he has done. His responsibilities in the eye of the law are not diminished by the extra expenses he has disbursed.

When the law is in its present condition it is hard to make architects accountable for its shortcomings, as if they were legislators who could alter enactments to suit the conditions of the time. Every citizen is supposed to be of use to the State, and consequently those who attempt suicide are punished; but although a fire may cause the death of many individuals, it is not considered necessary to adopt more than insignificant means for fire prevention. Building owners take it for granted that they are acting in a praiseworthy manner when they obey the law to the letter, and they ask themselves why should they assume more concern for the public safety than is exercised by the authorities? What they have erected may be called a death-trap or any another imaginative name, but it is a legality and upheld by Acts of Parliament and by-laws. An architect who attempted on public grounds alone to involve a client in the extra expense which is necessary whenever preventive measures are adopted would soon discover he had changed a friend into an enemy and probably lost commissions also. It should however be known by writers in the *Times* and other journals that an architect has no interest in opposing fireproof construction. Concrete, "armed cement," fire-clay blocks, terra-cotta lintels, corrugated iron and other materials may not always be pleasing to look on, but there is no difficulty in veiling them without diminishing their fire-resisting qualities. Percentages are commonly supposed to have much influence over an architect's arrangements, but the class of work of which we are speaking is more costly than what is easily subdued by fire, and the rate of commission is proportionately increased. Fireproofing is really a question for clients and municipal authorities; in the majority of cases an architect cannot suggest it without sacrificing his own interests.

Then we must take into account the question of insurance. Speaking generally, companies are not disposed to reduce premiums because measures are adopted in a building to produce safety. It is very difficult to classify buildings according to a fire-resisting scale, and for the time required for the surveys and calculations there could not be compensation. Insurance has to be treated comprehensively, and there are so many contingencies, even with the most secure buildings, it is found to be preferable to make few distinctions between them. A column encased in plaster is less likely to succumb immediately than one without protection; but what fraction of a premium should be allowed for the additional safety? From the fact that a reduction cannot be made, the building owner is likely to conclude that encasement is so unimportant it is not worth the additional expense. In that way measures for fire prevention become undervalued, and those who produce them derive insufficient encouragement.

The remedy is not to be found by alleging that architects care mainly about decorations, or by exaggerating the risks of ordinary houses. The vast number of old houses in England is evidence that several generations can come and go in safety without incurring more risk than can be overcome by a parish engine. Of late years there are new dangers, such as explosions of gas, bigger windows, increased use of woodwork. On the other hand, the means for coping with a fire have been extended and improved. If we take into account the efficiency of modern fire brigades, the possibility of destructive fires is not more apparent than formerly, although it must always be remembered that fire does not always respect the calculations made about its risks, and sometimes appears as if resolved to show their fallacy. On the whole, there is no ground for panics, but it would be more prudent to increase the chances of immunity by adopting aids of which experience has approved.

There is no reason to suppose, as the *Times* declares, that "British architecture demands, it would seem, its customary victims by fire, and the gruesome tribute is paid with unfailing precision," unless we are to take it for granted that every building in England should resemble a fire-brigade station by the quantity of life-saving apparatus prepared for emergencies. Nor is it altogether exact to say that architects "resent interference by outsiders." If they are "ingenious in giving reasons why this or that contrivance for saving life would spoil the skyline or disfigure the

elevation," it is simply because several fire-escapes are unquestionably a sight that is not delightful to all eyes. It would be more preferable to make buildings secure within than to have provision for escape outside, but as long as the Legislature will not interfere the additional expense needed for security will not be approved.

THE TURNER EXHIBITION.

TO suggest the development of TURNER'S power in seeing and representing land and sea and sky, his works ought to be shown in a polygonal gallery with sides that would correspond with the number of manners we can perceive in the paintings. The principal room in the Guildhall Art Gallery, which is now occupied with thirty-eight of his works in oil-colours, has but three available walls, and an exact classification of his methods is impossible. But by skilful hanging the pictures manifest one of the great factors which exercised influence on his style. That was light. The works on one wall, if compared with those opposed to them, appear almost sombre, while the paintings on the end wall suggest a period of transition. As generally happens with all attempts at classification of works by a man of genius in literature and the arts, no less than with works of nature, it is an error to attempt to lay down a hard and fast line of demarcation between divisions. It is so with the TURNER pictures. Whenever in these fitful days the sun condescends to illuminate them the darkest pictures assume a novel interest, and we see an abundance of detail in parts which before appeared almost monotonous. It will repay the trouble of any student of art who will patiently watch the effect of brightness and gloom on the works of a man who must have considered that nature suffered when deprived of light.

The earliest picture—for chronology is respected in the hanging—is *Kilgarran Castle*, which was painted in 1799. TURNER was then twenty-four, and had gone through a laborious education imposed by himself. The castle stands on a rocky hill, which is separated from another of similar form by a narrow V-shaped opening through which a river passes, connecting as it were the sky with the river Teif, which is in the first plane. The hills indicate that in those days TURNER was impressed with mountain beauty, and drew rocks with as much care as an anatomist would take with a skeleton. There is a replica also exhibited which is in a much brighter condition, but the only other difference we can perceive is in the laying on of the paint, and both show a treatment which would not now be considered as the most effective. *Dunstanborough Castle* was a subject which enabled him to contrast rocks and sea as worthy opponents. *A Mountainous Scene with Cattle*, dated 1802, indicates some of the mystery in cloudland which TURNER was afterwards to reveal, and another disturbed sky is to be seen in a small view of *Kilgarran Castle*. The fine *Conway Castle* also belongs to 1802. Here, in defiance of rules, he places the building in the centre of the picture, and in representing it we see that loving labour to do justice to architecture, as if a building were comparable to a work of nature, which characterises his earlier architectural drawings. When he introduced a barge on the shore, with its sloping mast, he also rebelled against an accepted principle. TURNER had a curious perversity for inclined lines, and especially with trees. He may have thought the verticality of other forms was made more emphatic in that way, but it is more likely the contrast was intended to show his disregard for an arrangement that he considered to be conventional.

The *Fisherman on a Lee Shore in Squally Weather* was exhibited in 1802. In it and in *Boats carrying out Anchors and Cables to Dutch Men-of-War* we have examples of his exact knowledge of the dangers of the sea, and of the cool courage which characterised the Dutch sailors of that time. The *Fifth Plague of Egypt*, which was painted for "VATHEK" BECKFORD, the son of a Lord Mayor of London, is probably TURNER'S earliest effort to deal with the supernatural. There is a pyramid which becomes mysterious in the white light, and there are bridges, domed buildings, &c., which resist the visitation to which trees succumb, and people who are overcome by terror. But what is remarkable is the sickliness of colour, like Death on a Pale Horse, and to sustain that view the artist gave no suggestion of the fire that ran along the ground. Another example of license or independence is the "*Victory*" *Returning from Trafalgar* with NELSON'S body. The ship is seen in three positions. In one it is black, as if suggestive of MILTON'S line, "Built in the eclipse and rigg'd with curses dark"; in another the bow seems coming on with the irresistible majesty it bore down on the Bucentaure at the head of the weather column, and on the third we see her with canvas spread. In none of the Dutchmen's works is to be found such delicate handling. The sails are defined in black, with lines or bolt ropes that might have been drawn with an etching needle. Not a reef point is missing. The rigging is exact enough to satisfy a boatswain. The general effect must originally have been more of triumph than of mourning, and probably that was the reason for introducing the blackened "Victory."

The *Scene on the Apennines* is warm in colour, and may be a transcript of something existing. It has an increased charm from the contrast with the rocks and seas of the north. The trees are as gladdening to the sight as those which are found near the coast. The *Trout Stream* might be the work of an angler. It also is, we suppose, a view, though we cannot identify the place. The *Windmill and Lock*, a work of 1806, suggests the growing delight of TURNER in sunlight. The mill itself is very dark and less picturesque than the majority of such structures, but the colour is a foil to the red brickwork of the lock chamber. TURNER was no more afraid to show the courses and to record the differences between the form of the bricks in the coping and those in the walls than he was to distinguish between the rigging of different vessels. Whatever he undertook he did thoroughly, regardless of the established canons of painting. The *Wreck of the Minotaur*, the *Nore* and *Sheerness* bring us again to the sea, from which TURNER'S thoughts could not long be separated.

Somer Hill must have been a commission from a gentleman who believed there is no place like home. It is a view of a house standing on a gentle slope beside a lake and flanked with trees. TURNER evidently entered into the spirit of the owner, and has made a picture which is as English in sentiment as any of the coast scenes. Yet it is accurate enough to be used as legal evidence. It is worth noting that the lines of the house are not exactly vertical, although when seen at a little distance they appear so. *Newark Abbey on the Wye* is, it must be confessed, freakish. It is a study in lines rather than a landscape. The abbey, unlike most of TURNER'S ruins, does not excite regret for its ruinous condition. The rude cranes on the bank of the river, the ugly barges, the contorted trees, all seem to be evidence of a mind that was not at ease, and out of vexation seized on a scene that was disagreeable. But there is compensation in the adjoining *Walton Bridge*. Here we have a large stretch of country to which the pair of bridges serve as confines, and which might be described as animated. The cattle are well drawn and grouped with skill. The river carries sailing-boats and mirrors the trees, the figures have all a purpose, and the scene is enhanced by a sunset that appears to be in keeping with it. *Mercury and Hersé* is redolent of the south. Who could care for the title? What we see is a plain, through which a river gently flows, while in the foreground on the left side are fragments of the cornice of some great temple. The eye on following the lines meets with a hill which is crowned with a triumphal arch that evidently was intended by the painter to rival the little temple of Tivoli. Yet the hill, lovely as it is, serves only to aid the marvellous perspective in which the characteristics of Italy are introduced. The picture is an anticipation of the wondrous *Modern Italy*, which is an epitome of the south. Next we come to a secluded scene, *Ivy Bridge, Devon*, with immense boulders in the foreground that suggest a war of the elements and the triumph of igneous forces, but which have only served to form a pool overshadowed with trees, in which DIANA could bathe without fear of an ACTÆON. Lastly, on the end wall we have the *Mortlake* and the *Barnes Terrace*, which are proofs of TURNER'S affection for his beloved Thames. TURNER never shirked a difficulty. In the Mortlake view it was necessary to introduce a commonplace house, the "seat of WILLIAM MOFFATT, Esq.," and a dreary stretch of wall, which still exist. He

accepted them, and made no attempt to conceal their meanness. In his hands wall and house help to make the Thames more delightful. The water on which the sunlight plays becomes an expanse of silver and gold, and as placid as if a ripple had never disturbed its surface. That the same hand could have painted this water and the "yesty waves" we see in the sea-pieces is one of the marvels of art. Claude could paint the Thames at Mortlake, but he dare not attempt a picture like *Boats carrying out Anchors and Cables.* In the companion piece, *Barnes Terrace*, Turner was less hampered. He had a bit of lawn for foreground, large enough to introduce a table, a red chair, a portfolio, &c. The wall, too, was more remote. In 1827 the Corporation of London possessed rights on the Thames, and the state barges were as familiar as the Lord Mayor's and sheriffs' coaches are now in the City. The two scenes may have been sketched on one day, but in the second work the river bears more life upon it. The latter ought also to be more pleasing to the multitude, for on the river wall a dog is seen, which is not painted, being only cut out of black paper, and, it is said, by Landseer.

On the wall which follows we see examples which were produced between 1835 and 1849. They reveal a revolution in Turner's mind. In the preceding years he recorded facts, afterwards he preferred to express ideas. It is like prose which gradually becomes poetry. A comparison of a couple of pictures in one of the upper rooms with Turner's will suggest the peculiarity of his treatment. Clarkson Stanfield's *The Morning after the Wreck* is an accurate example of wave painting, the work of a man who possessed a sailor's knowledge of the sea. But it will not sustain a comparison with Turner's the *Storm*, or *Off the Nore*, which were painted four years earlier. Take another case. As a representation of architecture, David Roberts's *Grand Canal, Venice*, is as honest an example as exists. The line of buildings from the Doge's Palace to the Mint has almost the accuracy of a photograph. It is the view which would be preferred by the "practical man," and by those who can no longer see Venice with their early enthusiasm But the Venice of romance, the Venice which many of us endeavour to preserve as a memory, is seen in Turner's *Marriage of the Adriatic*, the view of the *Giudecca, Santa Maria della Salute and San Georgio Maggiore* and the *Campo Santo.* James Holland's *Santa Maria della Salute* and *Church of the Jesuits*, which are also exhibited, are more brilliant than Roberts's work; still, they do not give us the "golden city paved with emerald," which might have been the creation of artists alone. Turner is as inseparable from Venice as Titian, Cagliari, Giorgione, or Tintoret, and, indeed, his visions of the city are less material than theirs. On the same wall with the Venetian scenes are the *Rape of Europa*, in which the myth appears to be interpreted as a diffusion of light over a cliff-bound land like Britain; the *Mercury and Argus*, which is of incredible variety, and in which we can see the dark-brown trunks of the trees enlivened by occasional infinitesimal strokes of vermilion; and the *Proserpine*, which also is a panorama of a mountain district; then we have the *Sun rising in Mist*, originally known as *Fish Market on the Sands*, *Sun rising through Vapour*, a curious combination of an atmospheric phenomenon and the effect produced by it on waves, with the buying and selling of produce, business which always was respected by Turner as became an early prowler in Covent Garden and Billingsgate. We have also the *Ehrenbreitstein* with which Turner rewarded Pye the engraver. It is taken by Mr. Ruskin as "a typical instance of Turner's principle of misrepresenting facts for the purpose of representing a larger truth," but the words are applicable to almost every one of the pictures on the wall. The view of *Rosenau*, with its alleys, where water is substituted for hard roads, is also an example of suggestiveness superseding exact representation. The curious rainbows in the *Wreck Buoy*, painted two years prior to the artist's death, may also have a meaning.

There are about eighty of Turner's water-colour drawings. They were produced from time to time during more than half a century, and are as valuable exemplifications of his progress as the oil-paintings. Some were drawn when he was fifteen. His anxiety for accuracy is evident from them. The architectural drawings, such as *York Minster*, the *Chapter House, Salisbury*, the *Lady Chapel, Salisbury*, *Magdalen College and Bridge*, should be studied by all draughtsmen. They are monochromes, but the eight views in colour for the "Provincial Antiquities of Scotland," which used to be seen in the breakfast-room at Abbotsford, reveal that Turner continued to be no less exact when employing colour. Scott wrote the descriptions to accompany the views, and we wish he had given some sign of appreciating them as they deserve. We can only discover one remark, in which he says of the view of Edinburgh, "The pencil of our celebrated associate, Turner, has here given a daring representation of one of the most magnificent scenes in this romantic city," words that might be considered as expressing either blame or praise. Mr. Ruskin has lent nine of Turner's drawings, including the *Bonneville*, the *Falls of Terni*, the *Lake of Nemi*, the *Bridge of Narni*, *Rome from Monte Mario*, and the *Splugen Pass.* Fine impressions of plates from the "Liber Studiorum" have been also obtained, and the upper rooms will for many admirers of Turner have more interest than the lower gallery.

Although the space is limited, a sufficient number of examples by Turner could not, we suppose, be obtained to cover the walls. A "selection of pictures by some of his contemporaries" is therefore employed to make up the deficiency. If landscapes and seascapes like those by Stanfield, Roberts, Linnell, Constable, Nasmyth, Callcott were introduced, they would bear some relation to the chief attraction of the exhibition. Many visitors might like to realise whether Turner exercised any interest on the men around him. But the connection between portraits by Reynolds, Gainsborough, Romney and Opie and Turner's landscapes is a puzzle. It may be showmanship to offer a variety of pictures, but when they combine to form a disturbing element, as is the case at the Guildhall, blank walls would be preferable.

THE NEW MARINE DRIVE, SCARBOROUGH.

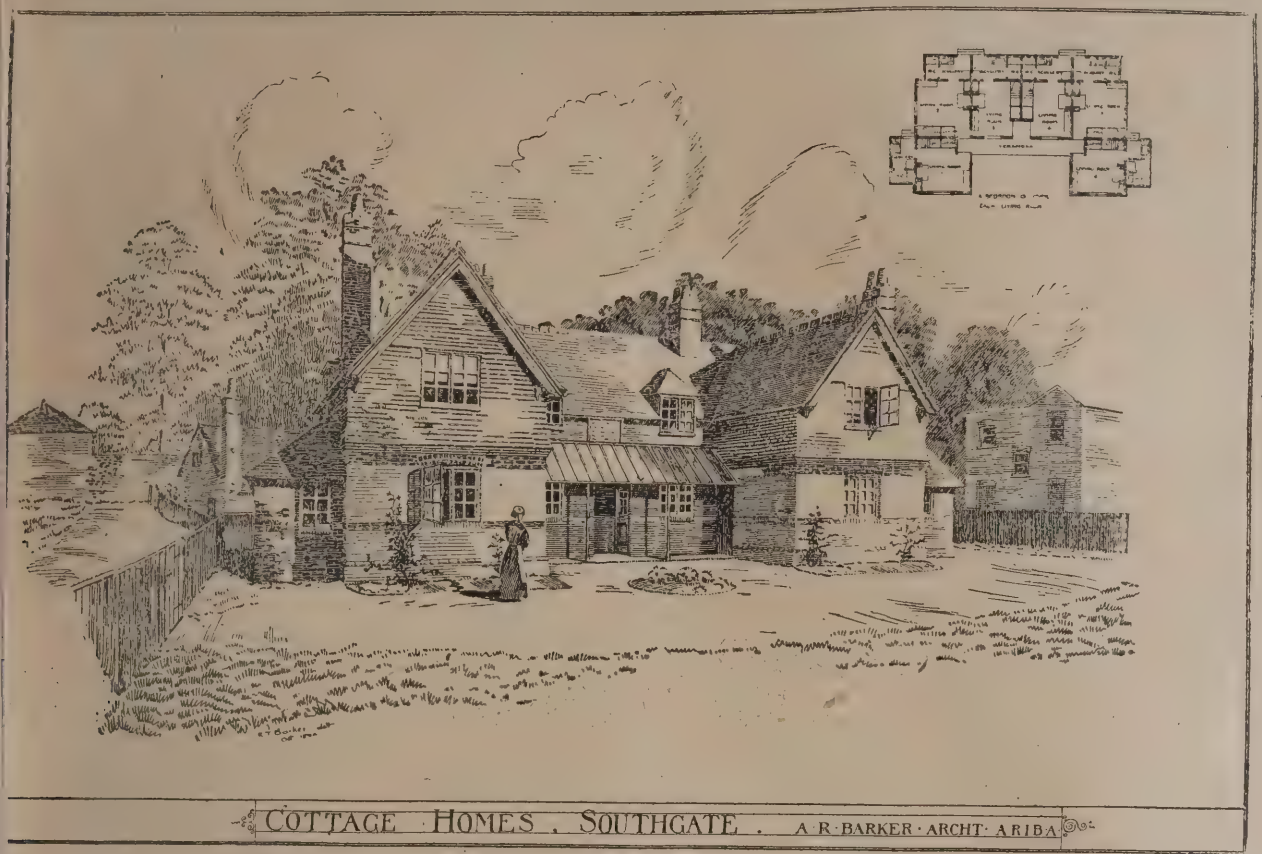
At the meeting of the Scarborough Town Council on Monday the resident engineer of the new Marine Drive reported that 37 feet of foundation blocks were set during the early part of last month, and 18 feet more in the latter part of the month, when the weather was not so favourable. He had been ordered to submit a report stating by whose authority and under whose directions he allowed the line of the sea wall of the New Marine Drive to be deviated in February of last year from the line shown on contract drawings. He now reported that early in 1898, from his experience of the average run of tides, he came to the conclusion, for many reasons, that the line of the sea wall should be brought somewhat nearer the foot of the cliff than was shown on the contract plan, and that so far as the portion which would be affected during the immediate future was concerned, an alteration of about 12 feet would be sufficient. He informed the then chairman of the sub-committee of what he proposed, and he arranged for a meeting of the sub-committee. This was held on the works on January 31, 1898, and was attended by nearly the whole of the members, to whom he explained his proposal. No member raised any objection, wrote Mr. Everett, the engineer, and "there was no doubt in my mind but that the sub-committee generally understood and approved of what was proposed." He added that so far the line of the wall had only been affected to the extent of about 5 feet, and the deviation could if necessary be restricted to that amount. No useful object, however, was to be gained by so doing, as even if the deviation were carried out in its entirety there would still be a space of about 75 feet between the road and the foot of the cliff on the portion affected.

Mr. Eaman stated that the engineer's report had been discussed at two meetings of the committee, but they had not been able to apportion the blame. None of the members of the committee seemed to remember what took place at that committee meeting when the engineer said the deviation was sanctioned, except Alderman Hall and Councillor Taylor. The Council could not fathom the mystery, but it was evident a mistake had been committed. They proposed to let bygones be bygones, but all the same before such deviation took place the full Council should have been asked to approve.

The Ordinary Meeting of the Institution of Civil Engineers will be held on Tuesday next, April 18, at 8 P.M., when a paper will be read, with a view to discussion, on "Buenos Aires Harbour Works," by James Murray Dobson, M.Inst.C.E.

COTTAGE HOMES, SOUTHGATE.

THESE Cottage Homes have recently been erected at Southgate to the memory of the late Rev. J. Baird. The work has been carried out at a cost of 1,100*l.* by Mr. Goodall, of Stoke Newington, from designs of Mr. A. R. Barker, A.R.I.B.A., of 11 Buckingham Street, Strand, W.C.



COTTAGE HOMES, SOUTHGATE. A. R. BARKER. ARCHT. A.R.I.B.A.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. H. L. rence, vice-president, in the chair.

The Secretary announced the decease of Mr. Edmond Egan, was elected an Associate in 1880.

Mr. H. Vaughan Lanchester and Mr. F. Lynn Jenkins read ers on

The Application of Colour to Interior Ornament in Relief.

Mr. Lanchester said that the question of form and relief was frequently of first importance that he should deal in his er with the massing and treatment both of colour and form n applied to internal decoration.

Modelled work as a basis for colour treatment gives a dity and strength that enables the painting to be kept in a re delicate key than would otherwise be thought satisfactory. e relief also is helpful in connecting the work with the uldings and forms around it in a way that no flat-painted k could do; and if the design of the whole interior is died by architect and sculptor in conjunction, the result uld be far beyond the very frequent method by which the hitect leaves a space here labelled "Sculpture" or a panel e marked "Painting." The sculptor naturally asks for as ch freedom as possible, while the tendency of the architect's a is towards formality and symmetry.

Of the spaces the architect usually puts at the disposal of decorator the frieze is the most interesting, and offers the atest variety in its requirements; it may consist of simple etition of somewhat severely conventional forms, or it may n with variety when it illustrates the great events connected place or people. The frieze, however, is not always the t suitable form of decoration to adopt, and its comparatively orm continuity of colour and modelling is not always what ost to be desired. A certain massing of either or both at vals may, without cutting it up into disconnected panels, the desirable suggestion of repetition to the frieze, and at same time suggest a sense of support or connection between r portions of the whole design. This treatment suggests eater degree of solidity and higher relief in the supporting ividing portions, though the same end might be attained iving them more severity of form. An uninterrupted frieze s length to the surface on which it is placed by the horizontal stratified effect so obtained, and the more the frieze is cut up into sections the less will the modification in proportion appear.

Vaults and ceilings give exceptional opportunities to the sculptor, though he can rarely put into them work having the same human and personal interest that the vertical surface of the wall allows, as in most cases the decoration must be of a more structural and conventional character.

With a view to suggesting the effects that can best be aimed at in various cases, the author went on to consider the actual methods of executing the work, and the most suitable colours and materials.

The combination of relief with colour is not only valuable where the figure forms the basis of the design, but can also deal in an interesting way with decoration based on landscape, architectural and other forms, varying according to the subject and the dependence placed on the relief and on the colour. If the scheme of decoration is suitable, a delightful effect can be obtained by using colour very sparingly, as mere suggestion—in ceilings, for instance, where colouring should always be delicate unless supported by very strong architectural forms. Interesting effects may be obtained where it is desired to embody existing pictures or sculpture in the decoration, such works giving a note as to treatment and colour.

Mr. F. Lynn Jenkins, in the second paper on the subject, observing upon the present craze for lavishly-decorated buildings, said that each new hotel, restaurant or place of amusement has to vie with and, if possible, go one better in point of extravagant decoration than its predecessor, and the architect must often experience the greatest difficulty in complying with his client's demands, and sometimes at the expense of his own natural good judgment and taste. The necessity has arisen for a decorative material which shall, above all, be durable and easily cleaned, being permanently coloured to any key of brilliancy and enriched with metals. These properties are embodied in the material known generally as coloured plaster relief work, and should prove almost sufficient reason for its production and use.

With regard to the prevalent mode of decorating rooms in private houses, it is becoming more and more apparent how false a notion it is, and how extremely difficult to get any satisfactory effect by papering the walls and hanging pictures upon them. The revival of the old method of designing and making such decorations as are required as part and parcel of the scheme of the room is a movement the influence of which is bound to be widespread by reason of its truth of principle, and

also because even the unanalytical mind will grow to perceive its advantage without knowing why. The use of coloured relief for such purposes would often be found most serviceable.

The author then described the material and method of its production, and the plan adopted in the working of reliefs by Mr. Moira and himself, working in collaboration. The relief work in question can in no respect be considered according to the usual laws governing bas-reliefs, but must be modelled strictly with a view to the reception of colour. The quality of the colour depends so much on the texture of the surface underneath that it requires not a little experience and many experiments to obtain good results. The peculiar properties of the material enables the painter to get a brilliant transparency of colour on some parts to contrast with the density of others, so that there are practically no limitations to handicap him. This plastic material has the additional merit of giving exact reproduction, even to the impression of a thumb-print in the finished cast. The panels are easily removable from the wall without damage to them. When the work is fixed complete in its position it is carefully reconsidered with relation to its exact surroundings, and alterations can be easily effected if desired. Some special advantage is derived in coloured relief work by the collaboration of painter and sculptor. Each would exercise a wholesome restraint on the other beneficial to the work, while the joint imagination of two minds should instil a greater degree of interest.

A number of cartoons and various examples of coloured reliefs were exhibited on screens and round the walls. They were studied with much interest by those present.

Mr. J. M. Brydon, who proposed a vote of thanks to the authors of the two papers, said they were glad to hear the various points that had been raised as to the use and advantage of coloured decoration. It was generally difficult to successfully introduce interior decoration in relief in a room, although there were no difficulties nowadays in getting reliefs in colour. The design of a frieze of this kind must from its infancy have been decorative, otherwise it marred the artistic effect of the whole room. The treatment of the panel, too, raised a serious question. In a coloured relief the delicacy of light and shade might be wanting which would be obtained from modelled forms. In all coloured work these forms would have to be conventional, for when the naturalised form was followed the difficulties increased. The question which presented itself was, What would one do with the frieze of the Parthenon if it came to be coloured? It seemed, the speaker said, that the treatment which they had seen and heard about that night was a little too restless for an architecturally-treated room. They must have been struck, the speaker continued, by the broad effect which was produced by the great use of gold, and no amount of colour would give this effect. Instead of using a multiplicity of colour, with gold and a few colours this broad effect so necessary could be more easily obtained.

Mr. Harold Rathbone also made some remarks on the subject.

Mr. E. W. Mountford, who seconded the vote of thanks, said every process of this kind of work had its difficulties, and the high glaze which was to make the pottery permanent did not seem suitable to the decoration of private houses. The whole matter was a problem.

Mr. J. D. Crace said he found little that was new in the process that had been explained to them. There was one point which should be borne in mind. The artists in the past in their works held that the work should be clear, and the ground maintained throughout neither lighter nor darker. We were apt to concentrate our penetration on technicalities, and the value of the bold and definite line was lost sight of. The speaker said he regretted that they appeared to be interested more in the technical part of the subject than in the method of line. It was really a matter of finding that which should express the forms harmonious with the architecture, and the form which should be sufficiently definite to be recognised from the distance at which the design would be ultimately seen.

The Chairman said he had not been convinced of the suitability of the glazed material for homely architecture by what he had heard. Considering the number of Owen Jones students that went out from the Institute, the Chairman said he was disappointed that there were not more interesting points raised in the discussion.

Mr. Lanchester and Mr. Lynn Jenkins briefly returned thanks.

THE LONDON GOVERNMENT BILL.

THE following letter from the Council of the Institute has been addressed to the First Lord of the Treasury:—

Sir,—The Council of the Royal Institute of British Architects, viewing with some apprehension certain clauses in the London Government Bill which affect the architectural profession, desire most respectfully to draw your attention to various points set out below, of which they would urge your earnest consideration. In the first place, however, they would point out that the Royal Institute is the statutory body for the examination of district surveyors, and that the metropolitan Fellows, all practising architects, number 295, while further, there are 545 Associates, all engaged in the work of designing and building in London, many of these being principals.

On behalf, therefore, of a responsible and representative body, the Council of the Royal Institute most strongly urge:—

1. That architects practising in London on behalf of their clients, the public, would have great difficulty in complying with the by-laws made by forty different borough corporations, and that wide differences in the administration of any building laws must ensue where there is not one responsible head as at present.

2. That it is of the utmost importance for the proper carrying out of the Building Act that district surveyors should be independent surveyors, responsible only to a central authority, and not merely officials of a single corporation, and therefore subject to local control. And, further, that the supervision of buildings should continue with them, and not be deputed to building inspectors under the control of a borough surveyor or engineer.

3. That architects having to submit their drawings for important and public buildings to the district surveyors, strongly object to subject themselves to the direction of anyone who is not a qualified and experienced architect, and independent of all local influences.

4. That the administration of the London Building Act, 1894, having worked well for so many years there is no reason for any alteration. For such a purpose London must be treated as a whole, and therefore the rules applying to the other town corporations, which are quite apart from, and independent of, each other, cannot apply to these London corporations, which are merely parts of a huge Metropolis.

5. That for the above reasons clause 6 of the Bill be entirely omitted, and the powers under clause 5 be strictly limited to matters which are local and not general.

6. That architects acting for their clients, the public, already labour under great difficulties in consequence of the very varied character of the sanitary and other by-laws at present issued and enforced by the local authorities in the London area, and that the London County Council, as the central authority, be empowered to issue to each proposed Corporation by-laws as to sanitary and other matters affecting buildings which shall be compulsory throughout the whole London area.

7. That no further splitting up of the laws affecting buildings in the Metropolis be allowed, but that rather all these be made uniform throughout the whole area affected by the Bill.—We have the honour to be, sir, your obedient servants,

(Signed) WM. EMERSON, Hon. Secretary.
W. J. LOCKE, Secretary.

ROYAL INFIRMARY, GLASGOW.

A MEETING of the executive committee for the reconstruction of the Glasgow Infirmary was held last week. Consideration was resumed of the elevation plans prepared by Mr. James Thomson for the south front of the new infirmary buildings, together with a drawing of the plan which has received the greatest amount of favour at the last meeting in February, the drawing being then suggested as necessary to exhibit the features of the plan with the greater distinctness. The Lord Provost first of all read a *résumé* of the minutes from the beginning of the scheme in March 1897, in so far as dealing with plans, to enable members thoroughly to understand the course of the committee's procedure, which had been throughout largely regulated by the views put before them by the managers and medical and surgical staff of the infirmary from time to time. His Lordship then invited a free expression of opinion on the merits of the plan before the meeting when several members stated what they conceived to be characteristics that ought to be possessed by the front building, situated as it is close to the cathedral, and that the plan, while it fully met, as was believed, internal infirmary conditions, did not at the same time harmonise sufficiently with the ancient environments of the institution. After a full and harmonious interchange of views it was agreed with unanimity that, in the whole circumstances and to prevent the possibility of after-reflection, a limited number of architects should be invited to submit elevations meanwhile of the south or Queen's Jubilee monumental front building, which shall as far as possible answer the external architectural conditions desiderated while likewise fulfilling the still more essential internal purposes the building is to serve. A small sub-committee was appointed to draw up the terms of competition and to make selection of the architects to be invited, and to report. The Lord Provost made the gratifying intimation of a further subscription of 5,000*l.*, which brings up the fund to over 85,000*l.*

The *Glasgow Herald*, with a view to show more clearly the objectionable character of the scheme at present before the executive, publishes the following resolutions adopted a

ıeeting of the staff held on April 19, 1898, on the plans then ıbmitted for consideration, along with their remarks on the mended plans considered at the meeting on March 24 ıst :—

Surgeons' Requirements.

1. There is a want of proper provision for housing and ursing separately septic and aseptic patients, and that the nly satisfactory method of securing this, keeping in view that ıe number of male cases is considerably larger than the :male, is, in their opinion, that each surgeon have three ards—two male and one female—with suitable side rooms in ɔnnection with the female wards.

As regards the provision of arrangements for housing and ursing separately septic and aseptic patients, it was noted that ıe managers have stated that they are unable to comply with ıis requirement, but have shown no alternative and have given ɔ reasons.

2. The theatres are too small and have no accommodation ɔr students and no proper accessory rooms for sterilisers and ressings.

That the provision of accessory accommodation for the eatres is still inadequate.

3. The following necessary apartments are only provided r to the extent of about two-thirds, namely :—(*a*) small side ɔms, of which there should be one for each ward ; (*b*) resi- ɛnt's room, which should consist of bedroom and sitting-room each set of wards ; (*c*) visiting surgeon's room ; (*d*) test-room r clinical clerks for each service ; (*e*) work room for micro- ɔpic, &c., research (this might be combined with *c*) ; (*f*) tients' day-rooms, of which there should be one for each ırd ; (*g*) students' cloak-room ; (*h*) splint-room ; (*i*) bath- ɔm, lavatory, &c., for the staff ; (*j*) kitchen, scullery and ıen-rooms. The surgeons suggest that most of these apart- ɛnts might be provided for in projections outside the main ilding.

(*c*) Visiting surgeon's room for each service ; shown in ɔrth house, not in east house ; (*d*) test-room for clinical ɛrks for each service not shown ; (*e*) workroom for micro- ɔpic, &c., research for each service, not shown, and if com- ıed with (*c*) not satisfactory ; (*j*) linen-rooms ; not shown.

4. The space between the beds is insufficient, being only feet, whereas it ought to be 9 feet.

Space between the beds, recommended to be 9 feet from d-centre to bed-centre ; not complied with.

5. All the surgical corridors—one of which, in the basement the east house, is 130 feet long, and the others 65 feet long are so planned that they will be dark, badly lighted and ill- ıtilated.

Corridors still dark, and unaltered except in east house sement and ground-floor, which are the only parts of the east ıck shown.

6. The plans fail to show the accommodation required for ɛcial diseases, and the surgeons recommend that they should ke provision in this respect as follows :—For the gynæco- ist, two wards (one for septic and one for aseptic cases), h theatre and other accessory rooms. For the aural surgeon, lve beds (six male and six female) in the surgical side, with use of a theatre. For the surgeon for the throat and nose, may be arranged.

Accommodation for special diseases ; the plans still fail to ɔw the accommodation indicated under this head, and which, s understood, is to be provided for.

Physicians' Requirements.

1. That each physician should have two wards, namely, a ıale ward of eighteen beds and a male ward of thirty beds; ɔ of the female beds to be in two side-rooms, and three of male beds to be in two side-rooms.

Number and distribution of beds; the recommendation has been complied with.

2. That there should be, in addition to wards, kitchen, ɔ hroom, lavatory, &c., a lecture-room and two smaller rooms ɔe used as test-rooms, bacteriological-rooms, &c., on each ır.

Test-room; not shown. Doctors'-room, if to be used for roscopical purposes, is badly placed.

3. That to provide the accommodation indicated in 1 and ıany of the apartments shown upon the plans, as being in body of the main building, ought to project behind the ding.

4. That the stairway ought to be so placed as to allow of ıteen beds being on one side and thirty on the other.

Position of stairway in block not as recommended.

5. That all the five physicians, instead of four only, as ɔosed in the plans, should be accommodated in the front se, which would require that the building, like the other ks, be six storeys high.

6. That the medical staff observe that no provision has ı made in the plans for an electrical department for the ɔital.

7. That they recommend that a special bath department be provided for the hospital.

Bath department ; a complete system not provided.

8. That they also recommend that the different blocks be connected by a subway.

Subways connecting different buildings ; no subway from reception-house to main building.

THE DECORATION OF ST. PAUL'S.

THE following communication has been sent to the Dean and Chapter of St. Paul's :—

To the Dean and Chapter of St. Paul's Cathedral.

The decorations now proceeding under the dome of St. Paul's Cathedral having given rise to much criticism, we trust that the following appeal will meet with your favourable consideration.

Although the members of the Royal Academy, the members of the Royal Institute of British Architects and other recognised authorities have hitherto remained silent, there are strong grounds for believing that they, in common with many others, fear that—in the words of the late Dean Milman—"the solemnity and the harmonious simplicity of the edifice" may be disturbed under the present scheme.

While recognising a general desire to enrich the interior of the building, we would venture to submit to the Dean and Chapter that the opinion of experts appointed by the above-named bodies should be taken as to whether the stencilling in red paint of the principal mouldings and cornices under the dome and the black lettering on the frieze are a form of decoration likely to impair the chief architectural features of the structure as originally conceived and carried out by Sir Christopher Wren.

Stanhope.	Newton.
Egerton of Tatton.	E. Poynter, P.R.A.
Windsor.	Samuel Howe.
Leconfield.	F. Cavendish Bentinck.

Dean Gregory, in reply to Mr. Cavendish Bentinck, writes :—"I can promise you and the memorialists that their memorial shall have the fullest consideration. It is satisfactory to find that such distinguished and wealthy men take an interest in St. Paul's—an interest, however, which none of them evinced when we have been collecting funds for raising St. Paul's from the discreditable condition in which it was allowed to remain for a long period of years, and which was a disgrace to the Metropolis."

WEST OF SCOTLAND TECHNICAL COLLEGE.

FOR the spring holiday visit of the students attending the architecture and building construction classes of this college Motherwell and Hamilton were the selected places. The party numbered about forty and were met at Motherwell on their arrival by Mr. Alexander Cullen, architect, who kindly acted as guide for the day. The first place visited was the Co-operative Buildings, when the large hall was much admired and also the external treatment of the building as a piece of design in architecture, and thereafter the party proceeded to the Victoria Lodging House in process of construction. Here all were much interested in the simplicity of the design, as well as its suitability for the purpose for which it is intended. Next, the recently opened Technical School in Airbles Street was visited, also designed by Mr. Cullen, where the students expressed themselves as being highly pleased with the splendid accommodation and fittings provided for the students in Motherwell. After a splendid dinner in the Brandon Hotel, the party walked to the new County Hospital, where they were met by the resident doctor, who courteously showed them the plan of the buildings, and accompanied the party while they visited an unoccupied pavilion and the various parts of the hospital which could be seen, such as the laundry, the disinfecting rooms and the sewage purification arrangements. Thereafter the Ross House was visited, where the grouping and details of this beautifully situated modern mansion were fully appreciated by the party. Hamilton Palace was reached about half-past three o'clock, and as permission had previously been obtained, the party were shown over the interior of the palace to the great delight of all. The party were greatly interested in the small details of the work as well as the larger arrangements, such as the effects of the design of the various rooms. Lastly, three buildings in Hamilton were visited—the old parish church, by the Brothers Adam, the architects ; the new Avon Street U.P. Church, by Mr. John B. Wilson, of Glasgow ; and the Brandon Chambers, by Mr. Alexander Cullen. Before parting, Professor Gourlay expressed the indebtedness of the party to Mr. Cullen for his kindness in having arranged such an excellent series of visits for them, and for having personally conducted them so pleasantly over all the buildings visited.

NOTES AND COMMENTS.

THE Sibyls at one time were appreciated in the Latin Church, and consequently their introduction as co-equals of the Prophets in the Sistine Chapel was only logical. But it was hardly to be expected that they would be an element in the wall decoration of Scottish houses until a period which was subsequent to the Reformation. Mr. THOMAS ROSS, one of the authors of the excellent work on "The Castellated and Domestic Architecture of Scotland," gave examples of the practice at the meeting of the Society of Antiquaries of Scotland on Monday. He described a series of six paintings of the Sibyls found on a wooden partition in taking down the old house of Wester Livilands, near Stirling, the property of Mr. JAMES M. DRUMMOND. The partition containing the paintings, which was of handsome construction, was divided into six compartments by Corinthian pilasters, having frieze and cornice, with the portraits of the Sibyls above, in panels about 3 feet square. The style of the paintings and of the decorations around them was quite in agreement with was to be found in many old houses in various parts of Scotland erected about the beginning of the seventeenth century, to which period the present examples might be most probably assigned. Beneath each portrait there was a six-line verse inscribed in black-letter, similar to those at Cheyney Court in Herefordshire, which were apparently about the same date. These verses give the names and the nature of the prophecies ascribed to the different Sibyls in the scheme of Christian symbolism of which they formed a part.

THE appointment of architect for an English pavilion in a foreign international exhibition is rarely profitable. According to rumour it means generally an honorary office, for the expenses are cut down to the lowest, and in such cases the architect is doomed to suffer. Elsewhere there is a different custom observed, and one which is infinitely more satisfactory. Herr RADKE, for example, has received a commission for the German building which will be seen forming part of the Paris Exhibition of 1900. The appointment brought him under the notice of the Emperor, who is not above scrutinising architectural plans. Herr RADKE satisfied the Imperial critic, and, as testimony of approval, he has received the appointment of inspecting architect of the royal buildings. We congratulate the architect, for of late years men of Herr RADKE'S profession appear out of favour with the supreme authorities of all States.

THE purification of drinking-water is a subject which occupies the attention of many municipalities. Systems are proposed from time to time, but it is generally found the cost is prohibitive. On one occasion it was shown before a Royal Commission that to properly deal with Thames water the cost would be so enormous, brandy would not be more expensive. The late WILLIAM ANDERSON introduced at Antwerp BISHOP'S system of employing spongy iron, the water being vigorously churned in cylinders with small particles of iron, with much success. At Lille water has been sterilised and purified in large quantities at the local Institut Pasteur by MM. MARMIER and ABRAHAM. They depend for success on ozone, which is found to be fatal to microbes. The idea is not new, but at Lille it has been first utilised with success. What is also important is the economy of the process. The experiments have been watched with interest by representatives of many foreign municipalities. A report was also prepared by a special scientific commission, and apparently ozonised water can be obtainable without adding much to the water-rate. It remains to be seen whether the process is suitable for all kinds of potable water. PASTEUR removed micro-organisms by means of filters of unglazed earthenware, but that was too expensive a means for adaptation to a town supply.

THE geological surveyors attached to the Department of Mines and Agriculture of New South Wales have discovered a novel use for prison labour. The colony is rich in deposits of marble, but so much attention is given to the discovery of gold that building stones of every kind receive little consideration. The gold is of great importance, for between 1851 and 1897 the value of what was found was 44,488,371*l.* In the latter year the value was 1,088,413*l.* The surveyors have resolved that marble must not be altogether neglected. They have succeeded in obtaining permission to employ the prisoners in Bathurst Gaol at polishing. The revelations have been a surprise, and it is now evident that, besides gold, silver, diamonds, emeralds and other precious stones, the colony has a most valuable supply of many varieties of beautiful marbles.

FRENCH sculptors do not appear to be eager to see their work exhibited in this year's Salon. Only 852 examples were submitted to the jury. The collection consisted of 298 busts, 65 statuettes, 300 medals and plaques, leaving less than 200 pieces to represent sculpture of a high class of composition. The jury were able to perform their duties in two days. They have excluded 350 examples. It is not likely the sculpture will this year present its usual attractiveness at the Salon, but, after all, quality may compensate for quantity.

THE French Chamber voted a sum of 3,000,000 francs towards the expenses of reconstructing the hall where the sittings of the deputies are held, and it was generally recognised that double that sum would be needed. But it has been decided to postpone the operations. The work could not be completed within a year, and it would not be wise to allow visitors to see a parliament house in a state of confusion, for that would be too symbolic of the country. The interval may allow of a reconsideration of the scheme, and those who are opposed to the erection of a new façade towards the court may in 1901 arrive at a different conclusion.

LAXTON'S "Price-book" for 1899 is so portly a volume it suggests an encyclopædia of building. From the continuous efforts of the publishers (KELLY'S Directories, Limited) to introduce improvements, it is difficult to say what size the volume will eventually attain. There are over 72,000 prices, which "are calculated with regard to the best material and workmanship, including profit and other contingencies usually taken into account." A more wonderful collection is not to be found in any country. Although abroad the price-books are prepared by societies or officials, LAXTON'S demonstrates the superiority of private enterprise. We need hardly say that the contents are not confined to prices. Memoranda given about the different classes of work, builders will find useful. Acts of Parliament, by-laws, decisions in the Courts and other information is supplied, and the whole forms an invaluable book of reference which is accepted as trustworthy.

ILLUSTRATIONS.

THE ENGLISH CHURCH AT LUCERNE.

THE growing popularity of Lucerne amongst English tourists has necessitated the erection of a new church in that city, and we illustrate to-day the building consecrated by the Bishop of London yesterday. The edifice has been erected under the auspices of the Colonial and Continental Church Society, and owes its existence largely to the energy and organising ability of the secretary, the Rev. Canon HURST. The cost of the tower and spire has been defrayed by contributions from the Town Council and inhabitants of Lucerne.

The church is situated in the Halden-Strasse immediately opposite the Kursaal, and has been built of Swiss sandstone with granite for copings and other weather portions. Accommodation is provided for 500 worshippers. In plan the church consists of the nave in one span without aisles, sanctuary, narthex and porch and vestry.

The building has been erected from the designs of Mr. FREDERIC R. FARROW, F.R.I.B.A., of the firm of COLSON, FARROW & NISBETT, of London and Winchester. The whole of the working drawings and full-size details were prepared by the architect in England, and the superintendence of the erection was undertaken by Messrs. A. BRINGOLF & H. VON SEGESSER, the contractor for the work being Mr. J. MANDRINO, of Lucerne.

CATHEDRAL SERIES.—DURHAM: SEDILIA, ETC. TRIFORIUM, LAST BAY OF CHOIR, NORTH SIDE.

FERNLEIGH, NOTTINGHAM.

WEIGH HOUSE CHAPEL, DUKE STREET, GROSVENOR SQUARE, INTERIOR.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &C.

(*Continued from page 227.*)

XVII.

Dijon.

AFTER hearing part of the morning offices in the cathedral at Langres on Sunday, I caught a forenoon train for ijon, little or nothing of architectural interest on a large e challenging attention during the somewhat monotonous thither. The day, which hitherto had been one of un- ded sunshine, became overcast as, shortly after two, Dijon e in sight; still I was much struck with my first view of the tal of Burgundy, presenting as it does two distinct and very architectural groups, albeit the locally celebrated central e of the cathedral—for which I anxiously looked—was not idence, it having been taken down for purposes of repair. Of these two groups the western one comprises the cathe- with its pair of octagonal western towers; a church (St. ibert's), now desecrated, with a tall, octagonal tower and e like old Truro Cathedral; and St. Jean, a large aisleless iform building, with a couple of square towers flanking a t eastern limb. The eastern group embraces a tall spire, h I supposed belonged to Notre-Dame, though I was quite quainted with its outline; the imposing Renaissance façade . Michael; a Classical domed church; and sundry square rs belonging to the ducal palace. The whole formed an mble of great variety, and towards its component members stened as soon as I had set foot outside the railway station, ous to get a clear hour among them before three o'clock ers at St. Benigne's Cathedral.

To me Notre-Dame, of all the other churches of Dijon, was ramount interest. A storm was evidently brewing; clouds ust obscured the boulevards, and rain began to "spit" ously. So I jumped into a tramcar, and was soon sited, after much bumping through the older streets, in the e d'Armes, behind which the object of my journey rises. My ns of Notre-Dame at Dijon had been derived from the h of it in Pettitt's "Church Architecture with Illustrations," also from a very good woodcut in the "Saturday Maga- " of February 1, 1834, in both of which the central tower is sented as being in two stages—the lower one lofty, with lar turrets at each angle; the upper one short, arcaded, crowned by a low pyramidal capping, from which a spirelet. But "nous avons changé tout cela"; the "restorer" been here and eliminated the character which this steeple otre-Dame possessed, for he has taken away the upper altogether, replaced it by a tall four-sided spire, and has nged the circular corner turrets into gawky-looking things, ing them with pinnacles. Follies enough and to spare have committed in our own cathedrals and churches under the e of "restoration" since the Gothic Revival, but in France nischief has been ten times more fiendish. No doubt the tantial repairs carried out in her churches from one end of ice to the other during the reign of Napoleon III. enabled fabrics to resist the destroying influences of time, and out which many of them might ere this have been in ruins; he reckless manner in which such works were conducted leprived them of much poetry, to say nothing of obliterating eat deal of the history once so plainly legible in their tures. The destruction of the Middle Pointed nave chapels ns and their replacement by modern Transition work, good kind, but totally uninteresting, is an instance of destructive- quite unparalleled.

Delay the ruthless work awhile—O spare,
Thou stern, unpitying demon of repair,
This precious relic of an early age!
More fatal is thy touch than the fell rage of warring elements.

* * * * *

It were a pious work, I hear you say,
To prop the falling ruin, and to stay
The work of desolation. It may be
That ye say right: but O! work tenderly;
Beware lest one worn feature ye efface;
Seek not to add one touch of modern grace;
Handle with reverence each crumbling stone;
Respect the very lichens o'er it grown;
And bid each ancient monument to stand,
Supported e'en as with a filial hand.

To the architectural and ecclesiastical antiquary every stage in the history of a church has its value, and possesses an interest of its own, so that the obliteration of the work of any one period is like tearing out a leaf in the visible history of the structure. Of course in many instances no little judgment is requisite to discern where the historical interest ceases. Certainly it does not apply to the ill-judged excrescences, mutilations and alterations of the eighteenth and early part of the nineteenth centuries, yet many of the works of the earlier years of the former century, especially its *instrumenta*, command our admiration and respect.

Sir G. G. Scott attempted to lay down a rule that all architectural work is to be respected which is antecedent to the extinction of Pointed architecture in the sixteenth century; and this he urged, that if not taken exclusively, may be in the main right. It must, however, be admitted that some works anterior to that great change may be questionable as to their claims for preservation, and certainly some works of later date possess such claims.

I entered this noblest of Burgundian First-Pointed interiors—Notre-Dame at Dijon—by a small door opening from the Place des Ducs, and the impression it made will not readily be effaced from the tablets of memory. Although it belongs to a great cluster of churches—the outcome of that burst of enthusiasm for building which occurred during the first half of the thirteenth century—Notre-Dame at Dijon presents many and very marked peculiarities. These are especially observable in (1) the elongated, boldly-carved capitals—of the papyrus rather than the acanthus kind—which crown the tall circular pillars of the nave; (2) the unfenestrated wall behind the simple tripled arcades forming the triforium stage, as in the choir at Auxerre; (3) the employment throughout the building of large single lancets; (4) the absence of choir-aisle and procession-path, and (5) the presence of an apsidal chapel on the eastern side of either transept. There is, however, a good deal of detail work, reminding one of Rouen Cathedral, the cluster of shafts forming the responds to the nave arcade and the disposition of the great central tower piers being almost identical. Above the great arches of the crux at Dijon the tower is open, forming a magnificent lantern. Some of the shafts from which its groining ribs spring are only 7 inches in diameter to 20 feet in length, others are only 5½ inches in diameter, although 15 feet long. Frequently monolithic, these shafts are all entirely detached from the wall. In the nave, the ribs of its sexpartite vaulting spring from slender shafts which rest upon the abaci of the massive columnar piers, not being continued down them in the unpleasant but more truthful manner observable at Seez and Soissons. Each transept at Notre-Dame, Dijon, has a grand fenestration, consisting of a huge circular window, untraceried and unfoliated, surmounting a quintuplet of lancets, all filled with coeval painted glass in the Mosaic style. The manner in which the subjects are placed in roundels formed of lead-work—tracery being, as I said above, absent—is very remarkable.

The choir, short and aisleless, terminates in a groined apse, recalling in many of its features St. Peter's Church, Vauxhall, London, and of a singularly élancé character. The lowest stage of its wall is relieved by trefoiled arcades, then come tall single lancets. Surmounting these is a triforium lighted by unfoliated circles which peer through small arcades. In the clerestory are more tall lancets, where, as well as in the lower windows, is much good modern glass.

Externally the feature, par excellence, of this church is its western façade, which, instead of taking the customary gabled form, is rectangular. Although the idea for it may have been derived from Southern sources—Pisa or Lucca—this west front of Notre-Dame has a distinctly Burgundian character, its salient features being the triple arches opening into a deep porch from the street, and the two tiers of continuous arcades on slender detached shafts above. The whole composition, rising very much above the apex of the nave roof, takes the form of an elongated tower, to the extreme right of which a tourelle is perched containing the celebrated "Jaquemart"—a clock brought in 1328 from Courtrai, by Philippe le Hardi. A railing surmounts this tourelle, which is octagonal, and supports an open flèche of ornamental ironwork containing a bell.

Within the railing stand three figures, a man, a woman and a child, the two former dressed in peasant costume, but the child destitute of any garment. Jaquemart and Jaquette are

armed with large hammers and strike the hours, whilst baby tinkles the quarters with his tiny martlet. Quite a crowd—including a very portly-looking priest who was evidently "lionising" Dijon with a small party of ladies—had assembled in front of the façade as I came out of the church after a second enraptured visit about six o'clock to watch these figures go through their performance.

A little to the east of Notre-Dame stands St. Michael, with a western façade equally interesting, though of an entirely different period. It belongs to the Renaissance, and while in its outline and arrangement, *i.e.* with three portals, central compartment and flanking towers, it recalls the façades of the great Mediæval cathedrals, its details are Classic, though applied without much constructional propriety, and with but little ornamental effect. The work of Hugues Sambin—a pupil of Michel Angelo—its greater part dates from the middle of the sixteenth century, but the octagonal domed turrets surmounting it are purely Classical; they are, in fact, a century later, and rather disturb the harmony which reigns below them. In the triple portals the detail is wonderfully well imitated from Romanesque work, particularly in the small figures which form the mouldings of their deep recesses, while from the Gothic, but the change took place very much earlier than it did in England. Almost every large French town offers a specimen of this class of church, wherein the Gothic and Classic element are so intermingled that it is difficult to discern where one begins and the other leaves off. Perhaps the most imposing, as it is the earliest and most complete specimen, is St. Eustache, Paris, a structure in which we do not perceive any attempt on the part of its designer to copy Roman temples or to rival their greatness, but rather to adapt the Classical styles to Gothic forms, whereby the effect taken in the mass is exceedingly grandiose. St. Etienne du Mont, also in Paris, is another building of the same epoch, but, unlike St. Eustache, it is not a homogeneous whole of a composite style, but a building which puts forward one element in one position and one in another, the whole general effect being Pointed. St. Maclou at Pontoise, St. Pierre, at Auxerre, and St. Jean Baptiste, at Joigny, may also be taken as types of the Early Renaissance before it passed into what may be called the Jesuitical style of Maderno, Borromini and others, whose works present a rich but unsatisfactory ensemble. I refer to such churches as SS. Paul and Louis, the church of the Sorbonne and that of the Val de Grace, all in Paris; St. Charles Borromeo at Antwerp, St



Interior of Notre-Dame at Dijon.

the double inner entrance, with its figures niched between the doors, and the sculpture in its tympanum, is so clever an architectural forgery that it needs a keen and practised eye to detect it. A purist will doubtless overlook this western façade of St. Michael at Dijon as an utter barbarism, yet its otherwise "unprofitable magnificence" has its peculiar use, as showing to what extent it is possible to compensate for deficiency of purity in the minor parts by careful adjustment of arrangement and composition. Let me take a home illustration—Wren's steeple of St. Michael's, Cornhill. It is quite a study, teaching us how details, clumsily designed and unsightly in themselves, are, by the mere force of composition and by a thorough knowledge of the rules which govern proportion, made to assume an effect of singular felicity. At a short distance this tower will bear comparison with that of Magdalene College, Oxford.

In France the architecture of the Renaissance grew directly Nicholas at Prague, and many others. After this, the architecture of France settled down into the frigid Classicism of the Louis XIV.-XVI. period, when frightful ravages were made upon the Mediæval instrumenta of her cathedrals and churches—a bathos from which it did not emerge until the era of Napoleon and the restored Bourbons. Then were inaugurated to remove the excrescences of bad taste, as well as to repair the devastations of the Great Revolution, works which, although carried out with the best intentions, were seriously marred by the ignorance and incapacity of their authors.

A case in point is the abbey church of St. Denis, near Paris, whose restoration, begun under Napoleon I., and resumed under Charles X. and Louis Philippe, revealed a sad series of blunders, incompetencies and instances of bad taste, comparable with those perpetrated in our own cathedrals of Durham, Lichfield and Salisbury, through the stupid Georg

norance of James Wyatt. For instance, at St. Denis the npanum of the western portal contained a Majesty, our essed Lord being accompanied by St. Mary and the Apostles. volutionary fury had decapitated and mutilated these sacred ures. The head of Our Lord was replaced by one imitated m Jupiter Olympus. Above His head, on a cross, was cribed "INRI," letters never found upon a Romanesque npanum, while in each hand was placed a scroll with a text scripture written on it, and the chapter and verse good-uredly added; while, as the fit *comble* of all, the body of Mary was equipped with a male head, bearded and ustachioed, thus making of her a thirteenth Apostle! This s too much, and so the hirsute appendages were knocked and the head given as far as possible a feminine ex-ssion.

Later on, however, during the reign of Louis Napoleon, en half the French cathedrals were placed under restoration, ch of the well-intentioned but absurd work of the previous nasties, perpetrated at St. Denis, was undone by M. Viollet-Duc, to whom and M. Didron we are indebted for the ival and purification of Mediæval art in France, and about time that our "Cambridge Camden," afterwards the cclesiological Society," began its never to be sufficiently nked labours.

The architectural movement in England had quite a erent origin, and went further than it did abroad. With us re has been no period since the Reformation in which con-ictions, either partially in the spirit of Gothic architecture or roducing some of its details, have not been erected. Love Old Pointed art has never become extinct in England; even absurdities of Strawberry Hill attest this fact, while a nce through the volumes of the *Gentleman's Magazine*—ost the only periodical in which the arts were duly repre-ted, registering as it did all the metropolitan improvements, cribing the new churches, and chronicling all the archæo-cal discoveries—is sufficient to show that, while its con-utions betray an ignorance of technicalities, they are itedly penned, and did much towards keeping alive the ple flame of Gothic architecture in England. Warton, hop Milner and John Carter—all men of the last century—wise deserve our gratitude for what they wrote or did in the se of Mediæval art. Much of its progress, too, must be ed to the writings of Sir Walter Scott, who will earn from cerity a higher praise than has ever been the lot of any mere ary man, from the purity of his writings, and the lessons ch his readers could not fail to draw from his truthful and active portrayals of Mediæval customs and manners.

That the ecclesiological movement of sixty years ago was spontaneous growth of the English Church is a fact which will take the trouble to deny. It is an acknowledged g that, when all ecclesiastical principles seemed lost in the century, if English churches were bad, Romanist chapels e worse. In which Church did a better taste first arise? hesitatingly it must be referred to the almost simultaneous nation of the Cambridge Camden and Oxford Architectural ieties in the year 1838. Neither grave ecclesiastics nor ctical architects were among the first and most important these societies. Set on foot by two undergraduates of nity,* truths were grasped and those truths were manipulated. first a desperate battle seemed to be being waged against rwhelming odds, but ten years passed, allies were aggre-ed, architects excogitated, committees patronised, and in-duals at their private cost built churches which in richness truthfulness of design bade fair to rival the old examples. land, in fact, was moved from one end to another almost as man.

The great English ecclesiological movement had no counter-on the other side of the Channel. There the modern val of Mediæval taste has been effected under Government ices, fostered, as I mentioned just now, by the care hen like Didron, Lassus and Viollet-le-Duc. There, too, the vast works of cathedral and church restoration, extending over the country at the same time, was a Napoleonic idea, having its origin in the necessity for creating large public enterprises to keep the strong and intelligent class of labourers quiet.

With many admirable examples to the contrary, the seminary education of France cannot be said to have so developed the spirit of historical inquiry as to make the priests of that country what it has made our Anglo-Catholic clergy—good ecclesiologists. Among those exceptions we must not be oblivious of the cathedral bodies of Amiens, Bourges and Tours, who have monographed their splendid stalls and painted windows. But, taking it all round, we do not perceive among the French nation that interest in works of antiquity and ecclesiology as we do at home, chiefly from the fact that in France the Government is the custodian of her sacred buildings, thereby precluding that feeling of privilege in being constantly invited to aid in their reparation and embellishment.

The modern town churches met with in France—chiefly from their exaggerated size, the smooth stone used in their construction, and the purity of the atmosphere—do not possess the poetry of design, nor can they ever present that air of antiquity which the churches built under the Gothic revival in England so frequently assume. Indeed, externally a modern French church can rarely be viewed with unalloyed pleasure; but the interiors of such structures as the church of the Sacré Cœur at Moulins, that of La Déliverande near Caen, and those of Ste Clothilde at Paris, St. Martin at Tours, and St. Marie at Havre, are undeniably imposing from their size, and the minster-like character imparted to them by their consistent stone vaulting.

As a rule, the modern French village church is a very sorry affair, being built in most cases in a raw-looking Romanesque style, having a slate spire, and disfiguring rather than adorning the fair landscape in which it should be set like a gem.

But I must return from this rambling train of thought, into which I was primarily led by the contemplation of the extraordinary Renaissance façade of St. Michael at Dijon. The interior of this church, to which the front with its deeply recessed porches forms so grand an approach, is gloomy and disappointing, though town-like and spacious. The nave has tall arcades with shafts towards the aisles only, and is destitute of triforium or clerestory; while the aisleless choir, with its tall Flamboyantly traceried windows, either follows the traditional Burgundian plan, as evidenced in Notre-Dame and St. Benigne, or may be traced to that German influence which is so conspicuous in the ecclesiastical buildings of this eastern part of France—an influence which protrudes itself very forcibly and by no means pleasantly in Metz and Toul, whose cathedrals, deficient in artistic design, do not display that elegance of proportion and that beauty of well-considered and appropriate detail which rarely fails to satisfy the mind when contemplating the buildings of the northern and central provinces.

(*To be continued.*)

* John Mason Neale, the eminent liturgiologist, ecclesiologist, and , who died in 1866, and Benjamin Webb, who in 1862 became of St. Andrew's, Wells Street, a mediocre Perpendicular structure 347, but which in his hands became enriched with *instrumenta* the designs of almost every architect of eminence the Gothic val has produced.

THE ADVANCEMENT OF PUBLIC TASTE IN ARCHITECTURE.*

THE architect from the popular point of view is a pictorial artist on a large scale, and of all the arts his is the one most capable of prolonged effort in design, music and poetry coming next. Again, the painter will produce pictures to frame and hang on a wall to be seen only by a chosen or limited number; a sculptor will adorn a pedestal with his effort, and only those who seek it find it; music and poetry reach an increased number, but architecture as a decorative art is seen by all men at all times, and its silent influence, consciously or unconsciously, affects the minds of the cultured and uncultured.

To speak broadly, there are two faculties displayed in the architectural art—invention and imagination—one constructional and the other æsthetic. Invention has to do with the plan and scheme of a building and the relationship of its parts—the artist calling this faculty into play in much the same way as the dramatist creates characters, disposes of their destinies,

* A paper read by Mr. Siddall at the eleventh convention of the Ontario Association of Architects, and published in the *Canadian Architect*.

thinks out the course of events in his story, and sets the scenes. This can all be done by the faculty of invention. Having made the plan and settled the scheme of the structure, its heights and sizes, imagination does the rest, and clothes it with beauty. The construction will, of course, give the motive of the design. Every structural problem will be met and solved before the building is begun, and the architectural design keep pace step by step with the construction, partly modifying it and making it obedient to artistic consideration.

It is of the decorative or imaginative side of the art that I wish to speak—the side which appeals most to the public.

We are all the time seeing and handling things which are beautiful and give us pleasure, or ugly and give us pain. There is nothing, however, to compel us to look at poor pictures or distorted statues; but we cannot escape the ugly buildings which disfigure our streets. Nor can we prevent the baneful influence of such bad buildings on the minds of our children, who unfortunately grow familiar with them, and whose tastes will in all probability become as corrupt as those of the public to-day.

Considering then that architecture as a decorative art is so transcendently important, is it not astonishing that the bad architecture should have been so long a matter of indifference, or at any rate so long tolerated by the educated public?

The first question I ask, therefore, and will endeavour to answer, is, How is the public taste to be trained to a better judgment in matters of architecture—a better appreciation of art—and taught to know good architectural design from bad?

The first essential is that the public shall be induced to take an interest in architecture, and shall be educated to do so. How is this to be achieved? Not so much by talking as by doing. Not so much by lectures and papers and art criticism as by our actual work in stone and brick and wood. By the quality of the art set before it will the public taste be healthy or unhealthy. It depends, therefore, upon the architects themselves in the greatest measure whether there shall be any advancement in the popular appreciation of our art.

The next essential is closer and more friendly relations between the public and the profession. While I don't agree that the feeling of contempt that is sometimes spoken of exists, except amongst the least thinking class, it is undoubtedly true that there could be a more mutual feeling of respect between them.

It is said that culture only means the development of new relations between ourselves and the world around us—a better understanding of how one thing affects another. This can be made clear perhaps by imagining the way in which every individual would conduct himself towards the rest in a society of the highest possible culture. Courtesy would of course be the rule. Each person would recognise the welfare of the whole as of the utmost importance, and do all in his power to establish it. Nothing would be done in a spirit of selfishness or to draw attention. All would be in sympathy and work in harmony. Under conditions such as these architecture could attain to something like popular appreciation.

My second question is, Are we architects going to work in the right way to produce the best of which we are capable, or are we working under hopeless conditions, which must prevent not only any originality, but even tolerably good work?

Any art is valuable only so long as the artist can be seen in it. The inanimate material which the artist handles, be it a lump of clay, a stretch of canvas, or a heap of stone or bricks, is quickened into life by the artist's communication of his own spirit into the thing. I mean, of course, without premeditation, resulting in unconscious expression. We all know of some buildings which have been erected under conditions where the thought of the architect can be read, and his hand traced not only in the general design, but in the minutest feature. Such buildings are interesting because they have character, and they owe it to the impress of the architect's personality on his work, and it is only such that can charm and interest the uneducated as well as the educated, and that really deserve the name of architecture.

In the Middle Ages very much was left to the trained workmen which the architect—or master builder—employed, but they worked under his personal direction, and he was always on the spot to tell them what to do and how to do it, and often himself worked with mallet and chisel on the sculpture which adorned the building.

If this supervision over every part of the building was necessary then, when the architect had under him a skilled body of artisans, trained to the methods of a single school, how much more necessary must it be at the present day when he has no such traditions? They have to work one week in one style and the next in another, and then probably in no style at all. No wonder they are hopelessly at sea when left to themselves. The architect of to-day should, therefore, think no part of his work too small for his attention; everything should be thought out, studied, and the smallest detail designed as carefully as the more important.

It is hardly necessary to say that this has not been do with a large proportion of the buildings in our cities. It is melancholy fact that much that has been produced is eith positively bad or absolutely uninteresting. The buildings th are offensively bad are so from sheer ignorance or contem for the recognised rules of art, and those that are dull a stupid often are so from the mere mechanical repetition stock forms and stale ideas, which do duty for thought a save trouble of invention. With others truth has be sacrificed to whim, orders have been painfully caricatured, t details are inappropriate and often out of their proper positi —a meaningless combination of forms, freaks and devic dressed up to look fresh and clever. An uncultured a unappreciative public will call any extravagance fresh a clever until they are taught to know that there is a violation some law. But the architect who does these things wins cheap, but doubtful, reputation by pandering to a taste whi if he does not know is bad it is because his taste is no bet than their own. He does not fear to blunder in his detai because he knows there is no one to detect them. His safe is is public ignorance.

How essentially different was it when the Greek architec were building. They were encouraged or admonished by t knowledge that they were watched by the trained and cultur eyes of all the Athenian people.

Every citizen was an intelligent critic. No Greek archite could deceive the public with a false proportion or vulg profile; neither were they deceived by abundance of orname covering a weak design. Nothing but purity and perfecti obtained for the architect a reward. But when their high id of art was reached, the appreciation and applause we promptly and ungrudgingly given, and the reward—rich honour and fame.

But alas for the architect to-day who is endowed w creative imagination and a keen sense of duty—whose p fession is dear to him because of his love for his art. There little in the condition of public sentiment from which he m draw inspiration and encouragement. He will see bad wo pretty generally admired, poor work too often approved.

I now come to the question, Is not the public taste architecture retarded by a want of respect among architects each other, and for which they are responsible more or less mean an absence of professional etiquette—the esprit de co of other professions.

Some time ago I read in a professional journal of incident which occurred in the States and was singularly li one in which I was personally interested. A brother archite was in the witness-box, having been called by the plaintiff testify in certain points regarding professional charges. cross-examination the opposing counsel asked, "Is it not ve common for architects to offer to submit plans on a ventu hoping that they may be accepted?" The question w objected to by the plaintiff's counsel, but the objection was t sustained by the judge, who remarked that the architectu profession was not like that of doctors or lawyers, who ne solicited work, but that it was well known that architects w always glad to compete. The incident shows how little t architect's point of view is appreciated even by the educa portion of the community. But was it not to some extent tru The temptation to get work at any price is a constant one, a while the profession is open to anyone, irrespective of ability is not strange that good and bad should be lumped together the public in a single category.

It is true that there is a fundamental difference between architectural profession and others mentioned. A lawye practice must be a member of the Bar, the physician must h received his degree from the medical university. The ar tect, however, is let loose upon the public with or without tr ing. It is not to be expected then that there shall be resp in the public for a profession which does not discrimi amongst its own members, and which is content to let its fessional name be used by untrained individuals. Law medicine have taken measures to protect the public fron efficiency. Architecture has not.

Another element in the want of appreciation of architec as an art by the public is the established level charge for services of all—the authoritative schedule of charges sanctio by the mass of the profession.

The most carefully educated and gifted man gets no r for his services than an ignorant bungler. In other profess such as music, painting, sculpture, medicine and law, ar ability is so remunerated that there is always an incentive opportunity for still further increase, and the public den for a high artistic standard is established in these profess It is evident that the value of the work of a true artist is gr than that of the man of small ability. Moreover, the sy takes little account of the nature of the design and the am of brain work required to produce it; the carefully studied elaborate detail of a first-class residence is of no more v judged by the existing standard, than the unadorned sc house or barn.

writer in one of the papers has summed up the question in words:—"By the present mode of payment the public refuses to recognise the difference in the artistic capacity lividuals; second, it refuses to recognise the artistic nce in widely varying services rendered by the same dual; and, third, it refuses to pay the architect in a way ill enable him to give its work his best attention." But rangest anomaly of all is, that the financial interests of chitect and his client are diametrically opposite. Take se of a building of the normal value of, say, 50,000 dols, mmission for which would be 2,500 dols. An architect led and giving little thought to his work would probably 60,000 dols. in carrying out the work, for which he would id a commission of 3,000 dols. Another architect by ht, labour and diligence, and making various studies and es in his drawings, is enabled to reduce the cost by dols. His faithfulness and care are rewarded, not by payment for extra study and labour; he receives no pay- it all for that, and the original commission is reduced by ols., 5 per cent. on the amount saved for his client. etter he serves his client the more his commission is d.

recapitulate and conclude, I would say that before we cts accuse the public of being indifferent we shall ll to look at home and see whether the work we ut has any real claim to be interesting, and before we that they do not know good work from bad, it is our ss to ask ourselves whether we have given them a fair of seeing what good work is. We shall educate them critics by giving them good and faithful work as a rd by which to judge the quality of the whole, and we pend that every piece of really meritorious work will be ect lesson for the education of the popular taste and appreciation.

IBURGH ARCHITECTURAL ASSOCIATION.

MEETING of the Association was held on the 25th ult. in the Royal Institution, Princes Street, Mr. Thomas president, in the chair. After the minutes had been read, mes Bruce, W.S., referred to the honour recently conupon Mr. M'Gibbon, an ex-president of the Association, University of St. Andrews, and moved that they express ise of their high satisfaction that St. Andrews University en fit to confer the degree of LL.D. on Mr. M'Gibbon. ught it reflected great credit upon St. Andrews to have d one so well worthy of receiving a high academic . The motion, which was seconded by Mr. Kerr, archias cordially agreed to. Mr. Campbell Irons then read a on the "Architectural Antiquities of Leith." In the of his lecture, which was illustrated with limelight views, ons said one of the difficulties he had had to contend as the paucity of architectural features in Leith. It be idle to go to a small seaport on the east coast of d in search of noble examples in architecture. He nly say in the words of the Apostle, "Silver and gold none, but such as I have give I unto thee." The origin h was wrapt in mystery. The first reliable mention of t was in the foundation charter of the Abbey of Holy- House, granted by David I. in 1128, in which it was that the first house built in Leith was erected in the century. The lecturer proceeded to give descriptions old buildings as Leith possessed or still possesses, and various anecdotes referring to the owners and occupiers e. By means of the lantern a large number of illuss of the antiquities of the port were shown, and at the f his address Mr. Irons received a very hearty vote of .

MUNICIPAL COUNTY BUILDINGS.

E Mid-Lothian County Council have invited architects to submit competitive designs for the proposed new county gs. In their printed conditions of competition the l offer two premiums—the first of 100*l.*, and the second ; and it is declared that if from any cause the buildings proceeded with, and no drawings other than the com- drawings have been prepared, the selected architect eceive a payment of 200*l.* in full of all claims. It is e stated that any design which is estimated to cost more ,000*l.* may be disqualified. The available site specified es Liberton's Wynd—that is to say, the buildings may ght forward towards the existing pavement on the east Melbourne Place; on the north or High Street side, ain on the east or Parliament Square side, the new struc- ay be brought out as far as the railings which enclose sent building; at the south-east corner the buildings me out to the lane that skirts the Signet Library at oint; whilst towards the south they may run down s the line which divides the County Council site from the low-lying open ground belonging to the Advocates' Library. In regard to the Ionic portico, which is so conspicuous a feature of the Parliament Square elevation of the present building, competing architects are expressly asked to consider whether it is desirable to retain it in its present position or in any other position in connection with the new building; and while the Council are entitled to build up to the limits of their ground, competitors who consider it desirable to remove the portico are requested to have regard to the general amenity of Parliament Square in the building line which they may adopt for the east front of the new building. In the statement of accommodation required mention is made of a council chamber for forty-one members, two committee-rooms and a county councillors' writing-room; offices for the different county officials and their assistants, and for the headquarters staff of the county police; a public office for the collection of rates, and a justice of peace court-room, with a floor area of 1,250 square feet approximately. It is suggested that the justice of peace court and offices might be placed on the southern part of the site and in a building of less height than the other parts of the structure, so as to interfere as little as possible with the windows in the west end of the Signet Library. The designs are to be lodged with the county clerk by June 27.

MOORISH ARCHITECTURE AND ART.

A LECTURE was delivered at Preston on the 22nd ult. by the Rev. C. F. Richardson, B.A., LL.D. (late superintendent minister of the Lune Street Circuit, Preston), on "The Moors in Spain," before the members of the Preston Scientific Society, at their rooms in Fishergate. Mr. Yates Booth, J.P., presided over a good attendance.

The lecturer began by describing the Moors in Africa, dealing at length with their architecture, numerous specimens of which were thrown on the screen by Councillor Margerison. Mr. Richardson pointed out their perfect proportions, rich ornamentation and the peculiar horse-shoe shaped arches, to be found in all the buildings. All the ruins found were not of Saracenic origin, some being traceable to the Romans. Those stately buildings were built by the Moors, but not the mixture of Berber, Arab and Negro, which to-day were called the Moors of Morocco. They were the memorials of a vanished race, which for more than seven centuries were lords in Spain, and for more than two centuries were the most civilised race in Europe. It was almost impossible to realise that after a sway as long as from the time of William the Conqueror to the middle of the reign of George III., and a state of pomp almost unparalleled, they vanished like a dream. Whence did the Moors get the art of building? They got an answer by examining the great Mosque at Damascus, on which was the inscription, "The kingdom of Christ is a kingdom of all ages, and Thy dominion is from generation to generation." It was a whilom Christian Church, and one of those that were filched at the Conquest from those of our faith. The art of the Moor was the child of once Christian Constantinople, of Greek Christian art, but transformed by a fiery race of enthusiasts. The lecturer then passed on to the rise and fall of the Moors in Spain, and excellent views of their chief buildings, notably the Alhambra, were shown, and their chief features pointed out. A number of amusing legends connected with the places described were well told.

A hearty vote of thanks was given to Dr. Richardson.

PLASTERING—PLAIN AND ORNAMENTAL.*

I PROPOSE making a short review of materials before taking up their use and application. The first is lath. My experience calls for great care in the selection of this material. A soft white pine that will stay where it is nailed is my preference. It should be seasoned, but not necessarily dry, and have a straight grain. When a dry lath is coated with mortar it must necessarily swell, and when it dries again it must shrink. A lath which is not thoroughly dry will not have so much shrinkage and will have a more secure key. Wire lath nails 1½ inch long are what we generally use; there is no advantage in having them heavy, but they must have a good flatted head. Metal lath is now offered in many forms; I do not intend to indicate my preference; there are several good articles on the market. I will merely ask you to examine samples in the full sheet—note the stiffening; they should be rigid every way. Satisfy yourself as to the key and effect upon it of a settlement or shrinkage in the building, and always have it painted or galvanised. Wire lath is good—it is almost all

* A paper read at the eleventh convention of the Ontario Association of Architects by Mr. W. J. Hynes, and published in the *Canadian Architect*.

key. It is more expensive to buy, apply and cover than metal lath, and for that reason is not so much used.

Lime mortar is in general use, and most of our specifications for the preparation are taken from English authorities. I will not attempt to give you the theory of lime—most of you had a full explanation of that in your student days. I think that the Architectural Chair of our University might devote some attention to the examination of the various limes offered in our market, with the proper proportions and description of sand they will carry. Until such time as this is done, I would advise you to have your work done by contractors in whom you have confidence. Good work can be done with lime, but it is a very variable article ; we are well served in Toronto, but some very bad limes are used in the country. Our mortars are mostly made from grey lime ; they are cool in working, and should be given ample time to thoroughly slack before mixing with sand. Haste upon the part of the mortar man, or a tendency to stir up the mass before it has slacked, will most likely result in lime pitting on the finished wall. In some lime, or in fact in all lime, if not properly burned, there is a great danger from this. There seems to be an underburnt core which very often disfigures good work. As this generally occurs in winter work the cause is more often with the mortar man than with the lime itself ; but, be as careful as you may, it will occur sometimes.

Lime putty is made from white lime, generally called fat or rich lime. It is run in large vats, and should stand a month or more before using. This material has no strength in itself and requires to be mixed with sand or gauged with calcined plaster before use.

Hair is necessary for mortar for use on lath-work, and a smaller quantity is of decided advantage to the straightening or browning coats. It should be clean, well saved, long, winter cattle hair. Hemp, sisal, palmetto fibre and many substitutes are used instead of hair in other places, but are not offered on our market.

Calcined plaster, the most useful of our materials, is used for many purposes. By mixing one-fifth to bulk with lime putty we obtain the compound for what we call "hard finish." A greater quantity mixed with the same putty allows us to form run mouldings. Where the thickness of moulding is too great to use putty and plaster the work is cored out with mortar gauged with plaster. Quick work can be done by gauging the first coat of mortar in plastering to admit of finishing at once.

Its greatest use is in moulding and casting decorated ornaments, staff and fibrous plaster-work. The property it possesses of swelling when setting serves to give us most faithful and accurate copies from any original, hence its extensive use in fine art. In addition to this, calcined plaster forms the basis of nearly all the patent or prepared plasters. By the addition of retarding and hardening compounds its setting is delayed sufficiently to allow of mechanical manipulation, while its ultimate strength gives a much stronger wall at once than can be obtained by using lime. My own conviction is that in time most all our work will be done in those materials or with machine-made mortars whose proportions are fixed and accurate. Plaster is also the base for the white cements, such as Keene's, Parian, Martin's and others. I do not consider myself an authority upon these cements, and shall not dwell further upon this than just to say they are perfect goods, make perfect work and deserve much more attention than you have given them.

Before speaking of lathing I have something to say about the necessary preparation therefor. The genius who first conceived the idea of making the plasterer responsible for the carpenter work by a clause in the specifications calling on him to examine all studding, strapping, &c., before lathing, and if not found correct to stop and report same to the architect, could not have grasped all the facts :—1st, the carpenter is a bad man for the plasterer to fall out with ; 2nd, tale-bearing is not congenial work ; 3rd, lathing is done at the rate of 2 or 3 cents per yard by a boss lather who is hustling a gang to make his work pay. It is easier and cheaper for him to get over the carpenter's bad work than to lose time and report it. If the angles are not solidly nailed the lather is not likely to do it ; if a line of joisting demands the cutting of 8 or 10 inches off the lath for a long distance, the chances are the lather will find a convenient board or scantling, place it where the joists or stud should have been, and make his nailing to this loose piece, trusting to the lath nails to hold it until plastered. This is bad —very bad—but who is to blame? I say the architect is. If joisting and studding are not sized, and one bulges below or forward of the others, it is easier to add on a few laths and give the wall or ceiling a graceful but incurable curve than to wait on a carpenter to trim it. Kindly examine the carpenter work yourself ; don't dodge or depute your responsibility.

Have your lath laid in bays with breaks every 15 inches. Have a $\frac{3}{8}$-key on walls and slightly larger on ceilings. Do not allow carpenter work to force the use of vertical lath. Have heavy timbers counter lathed. Do not allow laths to break over door post ; slamming that door will break the plaster. Use plenty of bridging on joisting and studding. Strap all ceil Have false arches and beams made very rigid with as timber in their make as possible. See that all junctio wood and brickwork are nailed very solid, and have covered with metal lath ; 16-inch centres is the greatest dis that should be allowed for $1\frac{1}{2}$ lath ; it is too great for lath ; they should have 12-inch centres. Try and have work so correctly planned that the lather can make mone will give you a good job with pleasure. The only way I to do this is to have that greatest of all boons on a build good carpenter; the only way to get one is to give him a paying price. He wants to live, too.

Now before the mortar is applied, before even the lath started, any ordinary good job should be well prepare grounds. This is generally done badly, and the result always to be seen before completion. The entire details interior finish should be made before this work is done ; it only way if you want it correct.

Perhaps I have been too lengthy on this particular que but I wish to impress upon you that good plastering dem solid, firm and well prepared work to secure it. I am not to tell you what bad plastering requires, but your chanc holding up bad work are good if work is prepared properl

If, as I have suggested, the details have been prepare grounds fixed, a very definite idea will have been formed character of each portion of your building, and you can nitely specify the proper finish. Two-coat work is most ge It is sufficient for ordinary rooms to execute this work often specified—plumb, true and straight is not possible. coat of mortar only can be finished with that wonderful to call a "darby ;" it is a great implement for effecting a g levelling up, but don't try a straight-edge on work left afte

Hard white finish is made by gauging lime putty wit cined plaster and trowelling it to a finish before it sets. haps some of you have discovered that hard white fi misnamed—the hardest lime finish is never white ; the str of this coat is improved by the addition of sand.

Now if your work is to be decorated, if expensive pai and paper are to be applied to it, you should hesitate placing them upon work that is neither straight nor s Three-coat work admits of proper straightening. It wi on ceilings generally guard against the danger of seeing joist and lath some time after work is finished, and furt gives you an opportunity to finish it as your work demand

The best hard finish is made with lime putty and thoroughly tempered and applied to the straightened c mortar. It is first laid true, then very thoroughly water f or scoured, and finally trowelled and retrowelled until a is secured. It is then dry brushed. This work is smoot true enough for any painting, hard and firm enough fo paper.

Bastard stucco is done in very much the same manne the trowelling only progresses far enough to secure a pa smooth wall. As its name implies it is neither trowelle nor rough stucco. This makes strong work, admirably a for either paint or paper.

Rough stucco used on exteriors, hallways, churches public and semi-public places, is generally executed coats—the first being heavily scoured, the second brough finish in one operation. Three-coat work admits of a stucco; the work being straightened in the second coat of a great variety in texture of the finished stucco. Yo have it left very rough with all the indications of floating with the graceful sweeping lines and curves, this work made very effective—or you can have it finished of a g matt surface of great uniformity and evenness. Vaults, intersecting groins—especially where finished without ings—are best done in this work.

In speaking of stucco I use the term as generally by the trade to the rough-floated work I have been sp of. I would like to see the use of this word in specifi somewhat limited. In its literary sense there would s be no limit.

I have worked in Toronto twenty-seven years. not now, as formerly, carry a few stock cornices of each tect's design ; I am not ordered to run same mouldi same centres, brackets and such stock work on each suc job. Your opportunities to individualise your work lie ordinary everyday problems you handle. How much to give each client something of his own instead of fur him with a duplicate of a previous work. Why not f the modern decorator and make him follow lines dicta architectural study, than have him run riot with colou attempt to decorate an impossible interior?

My earliest recollections of cornices are of a hug following closely to the angle of the room ; below was mass of mouldings, their size, no doubt, the result of computation on the amount of dust it could carry. T completed by a similar collection of heavy mouldings ceiling. Such a room was not complete without a flower, which must, of course, conform to the size and s

)m. We had to fix with plaster huge ornaments 5 and oval and circle as was thought necessary, and from es to 12 inches deep. These had beautiful strong ut ornaments that held more dust that was impossible of ion. Well, some of these are still up; some have caused ughter; many have helped the sale of china and furni- Time taught us this was not safe, and the next result attempt, under the sacred name of good Queen Anne, as many members as possible into a given space and he pitfall of our predecessors by making this as light as e. With this came a revival of the run centre, and we)rced to form mouldings around gas-pipes that were fear- ıd wonderfully designed. From my vantage point before :an say many things that I would not like to say to you ually—the cap might fit. Those of you who caused hings to be done were, no doubt, like myself when work- this, under the impression that we were executing archi- I work instead of perpetuating architectural monstrosi- What I want to impress upon you to-day is that you are chers, the leaders. Even the jerry builders look to you ıters.

t all know the method of run work. I will not describe would request that you study the limitations of the mate- d have brackets provided for your mouldings and not sk of the work falling by overweight; the best work not average 1 inch thick.

: World's Fair at Chicago first placed before the pro- the merits and demerits of staff. The name was new, ing use of the materials new; but the use of fibre with was familiar to European mechanics for years previous As used in the White City, it was exposed to the ts; it was hastily nailed in position by any workman tractor could secure, then hastily painted. Lines were y, intersections not exact or true; the general effect was d, and it was successfully secured. Perhaps this very ness that I mention helped the effect; they certainly remote resemblance to the varying and inexact lines of ly artist plasterer, whose work was all by hand in posi- d carried with it that peculiar and indescribable effect ndwork always does.

s staff is now before you as a commercial substitute for ı mouldings. The cost is nearly alike, unless when quantity and richness favour the staff, or a small y and comparative plainness help the older method.

staff work you will have to think out your design— g the material; the best effects are plastic, the true of the material. You need not have a smooth moulding; bing and corrugating we vary the texture so that even a oulding may display its design with a side-light without

n your detail the model is finished complete in the shop. pproval it is cast in plaster. While this mass is setting amount of fibre or serim-cloth is embedded into it; this us to make large and strong casts. A frieze which I or the Conservatory of Music here was 12 feet by inches, and cast in one piece.

ar my subject is too much for me. I would sooner do k than talk about it. What I would like would be to give d every one of you a sample from your own details. I that this method of work is here to stay. It is light ong, comparatively cheap, and will stay where fixed. st of our substitute for the sheet metal ceilings is not reater than that very undesirable article; of course it drawback of repetition, but under good design this may e an advantage. I shall leave to your professional training nowledge the matter of design; my object will be l if I can make you regret the wasted opportunities of t and inspire an anxiety in you to do better in the future.

TESSERÆ.

Aristotle's Philosophy of Art.

is defined by Aristotle as the realisation in externa orm of a true idea, and is traced back to that natura imitation which characterises man and to the pleasure ve feel in recognising likenesses. Art, however, is not to mere copying: it idealises nature and completes its cies; it seeks to grasp the universal type in the ial phenomenon. The distinction, therefore, between rt and history is not that the one uses metre and the t, but that while history is limited to what has actually d, poetry depicts things in their universal character. itation may represent men either as better or as worse en usually are, or it may neither go beyond nor fall ne average standard. Comedy is the imitation of the pecimens of humanity, understood, however, not in the f absolute badness, but only in so far as what is low and enters in what is laughable and comic. Tragedy, upon er hand, is the representation of a serious or meaning- full, rounded or finished, and more or less extended or far-reaching action, a representation which is effected by action and not mere narration, and which is fitted by portraying events which excite fear and pity in the mind of the beholder to purify these feelings and extend and regulate their sympathy. Such a "Katharsis pathematon" is well termed by Zeller "a homœopathic curing of the passions," and we may further accept his theory that art being, as we have seen, a universalising of particular events, it follows that tragedy in depicting passionate and critical situations takes them outside the selfish and the individual standpoint, and views them in connection with the general lot of human beings. In a partly similar sense Aristotle explains the use of the orgiastic music of the worship of Bacchus and other deities as affording an outlet for religious fervour and so steadying our religious sentiments.

The Elephant of Catania.

The diligence of Professor Holm has brought to light one or two scraps both of Byzantine and of Saracenic work lurking in the streets and lanes of Catania. But no Byzantine or Saracenic building remains. There is however one work of art which, if we can believe the local legend, belongs to the days of Byzantine rule, but which by no means comes within the standard of Byzantine orthodoxy. The elephant wrought in lava, with tusks of white marble, which in later times has been set to carry an Egyptian obelisk in the place before the cathedral, is held in local belief to be the work of a certain Diotro, Diodoros, Liodorus, or Heliodoros, who in the eighth century turned Jew, practised magic and became a manufacturer of idols. The Jews of Catania were a numerous and a proselytising body in the days of Gregory the Great; but, whatever may have been their misdeeds, it is hard to charge either them or the Saracens with being makers or worshippers of idols. But this Sicilian forerunner of Lord George Gordon was a mighty necromancer indeed. He turned men into beasts, and, when he was carried to Constantinople to die for his crimes, he escaped the vigilance of the Imperial police by flying through the air back to his own city. But there he met with his match in the Bishop Leo of Ravenna, who, as himself a worker of wonders through holier influences, bore the surname of Thaumatourgos. Heliodoros, once, it is said, a candidate for the bishopric, was burned, not indeed in Ætna, but in some lowlier furnace of fire. The modern historian of the Sicilian Mussulmans sees in this tale a legendary account of the last destruction of heathen monuments by Christian hands. But the elephant, whatever may be his date, is there to speak for himself, not only in his own person, but in the place which he bears in the arms of the city. The obelisk which he has borne for the last 150 years has no natural connection with its bearer, nor is it obvious why an Egyptian work should find itself among the ornaments of the Sicilian city. An explanation has been found in the fact that Agathokles had an Egyptian wife Theoxena, who, it has been guessed, was the stepdaughter of the first Ptolemy. Agathokles may have received an obelisk as part of her dowry, and he may have set it up at Catania. At any rate the work of the Egyptian is there, mounted on what passes for the work of the convert to the creed of the Hebrew.

The Legh Brass, Macclesfield.

In the Rivers Chapel of St. Michael's Church, Macclesfield, is a brass which is a memorial of Roger Legh and his wife. This brass is much mutilated, the figure of the lady being altogether gone; it has but little pretension to beauty, indeed is very coarse and rude in execution. It consists of the kneeling figures of a gentleman and six children, in the long gowns then worn by civilians; an inscription beneath, in Latin, states that Roger Legh deceased November 4, 1506, and Elizabeth, his wife, October 5, 1489; a label from the mouth of the principal figure has on it, "a damnatione perpetua libera nos, domine;" one corresponding from the female figure, which is preserved in a drawing, Harl. MSS. 2151, British Museum, ran thus:—"In die judicii libera nos, domine." But the most interesting feature, the only one which renders this monument of any value, is the curious representation which appears above the heads of the figures. Here we have exhibited an altar on which is a chalice and missal; before it kneels a figure in the triple crown, a nimbus round the head, and vested in the priestly habits worn at the celebration of the Mass. Behind the altar is the figure of the Saviour, arising out of a sepulchre, and hands uplifted as displaying the wounds of His Passion. This is a representation very common in missals, and well known to ecclesiastical art, but not found, except in the present instance, on monumental brasses. The subject has reference to a passage in the life of St. Gregory the Great, which is given in old missals on St. Gregory's day, and is often illustrated both in MSS. and in early printed copies. It is called St. Gregory's Mass, or St. Gregory's *Pity*, and is one of those numerous legendary stories of miracles performed in confirmation of the doctrine of transubstantiation. A very interesting piece of sculpture, representing the same story, is

found in Stoke Charity Church, Hampshire. The variations in the treatment of the subject from that of the brass at Macclesfield are that St. Gregory is represented as a bishop only; his mitre is deposited on the altar, and he holds in one hand the chalice and in the other the consecrated host. Opposite to him is the figure of an attending priest, and behind the figure of the Saviour is a piece of drapery held by two angels issuing from heaven. The same subject, in sculpture, is to be found also in a chantry chapel of Exeter Cathedral; it is much defaced. In this the figure of the unbelieving woman is introduced, and behind the figure of the Saviour are the cross, crown of thorns, and the other implements of the Passion. A very elaborate design is also extant from the story, by Albert Dürer. The literature of the Middle Ages abounds with tales of the miraculous host, all having the same intention—that of conversion of unbelievers to the doctrine of the real presence; many of these relate to Jews, and one of the earliest is found in Evagrius and of the sixth century. One of the most celebrated paintings by Raphael in the Vatican—*The Mass of Bolsena*—is from a similar legend.

Art in Daily Life.

Must not beauty be sought for in the forms which we associate with our everyday life? Yes, if you do it consistently and in places where it can be calmly seen; but not if you use the beautiful form only as a mask and covering of the proper conditions and uses of things, nor if you thrust it into the places set apart for toil. Put it in the drawing-room, not into the workshop; put it upon domestic furniture, not upon tools of handicraft. All men have sense of what is right in this matter, if they would only use and apply that sense. Every man knows where and how beauty gives him pleasure, if he would only ask for it when it does so, and not allow it to be forced upon him when he does not want it. Ask any one of the passengers over London Bridge at this instant whether he cares about the forms of the bronze leaves on its lamps, and he will tell you no. Modify these forms of leaves to a less scale and put them on his milk-jug at breakfast, and ask him whether he likes them, and he will tell you yes. People have no need of teaching if they could only think and speak truth, and ask for what they like and want, and for nothing else; nor can a right disposition of beauty be ever arrived at except by this common sense and allowance of the circumstances of the time and place. It does not follow because bronze leafage is in bad taste on the lamps of London Bridge that it would be so on those of the Ponte della Trinita; nor, because it would be a folly to decorate the house-fronts of Gracechurch Street, that it would be equally so to adorn those of some quiet provincial town. The question of greatest external or internal decoration depends entirely on the conditions of probable repose. It was a wise feeling which made the streets of Venice so rich in external ornament, for there is no couch of rest like the gondola. So, again, there is no subject of street ornament so wisely chosen as the fountain, where it is a fountain of use; for it is just there that perhaps the happiest pause takes place in the labour of the day, when the pitcher is rested on the edge of it, and the breath of the bearer is drawn deeply, and the hair swept from the forehead, and the uprightness of the form reposes against the marble ledge, and the sound of the kind word or light laugh mixes with the trickle of the falling water, heard shriller and shriller as the pitcher fills. What pause is so sweet as that—so full of the depth of ancient days, so softened with the calm of pastoral solitude?

Popularising of Styles.

When a new style appears in a country it must either have been invented in that country or have been introduced from some other. In the first case it appears probable that the invention will be made by successive steps, and that regular transition buildings will be the consequence; but in the second case, as the new style is supposed to be brought in complete, it appears at first sight as if there ought to be no transitions; still, something like them may be supposed to be produced in the following way. It would only be on occasion of erecting some building of greater magnitude than usual that foreign artists would be employed, and these would naturally produce a complete specimen of the style then practised in their own country, and, we will suppose, totally differing from that habitually made use of. This new work would, of course, create a great sensation, and everybody would be for following the new fashion; the native architects, driven to imitate the new style, would produce specimens in which new and old would be mixed in different gradations, according to the skill of the individual and his power or opportunity of mastering the new principles. Some, too, would persevere in their old practice, while the foreign artists would also be employed in erecting other buildings; so that at the same period of time and in the same country we should have buildings in progress, some in the old style, some in the new, and others in every possible gradation between them. These may be called imitation specimens, to distinguish them from regular transitions. This employment of foreign artists is commonly alluded to in old chronicles, and the sensation which th works excited is mentioned in passages of this kind, which ha been quoted in the well-known treatises of Bentham, Hawk and Murphy, and serve to show that the above representat is not exaggerated.

Roman Construction.

A singular class of monuments that throw much light the history of Rome are the tombs. As an Indo-Germa race, it is not a little startling, at first sight, to find them p sessing tombs at all; but when we bear in mind the str Etruscan element that pervades all their civilisation, and pe out now and then when least expected, their tombs not o become intelligible monuments, but, under the empire, repres the element which, so far as written history is concerned, lose sight of on the extinction of the early kingdom. As wo of art they are generally better than most other Rom buildings; indeed, they seem to have copied the Etrusc tomb or Grecian cenotaph, with far less attempt at their o clumsy invention than in almost any other class of buildin and some of them are of considerable beauty and suital solemnity of appearance. It is true, however, that they are completely ruined that we have but little means of judging what the true effect of the great ones of the empire must ha been when complete; and one cannot help suspecting th like everything Roman, they are far more beautiful in de and ruin than when displaying the georgeous vulgarity of th designers. The taste displayed in them was probably bad, still not without a sense of that power which sheds a mel choly tinge of greatness over everything Roman—even crimes. Generally speaking, the greater ones, such as th of Augustus or Hadrian, or that of Cecilia Metella, w circular in form, like the tumuli of the Etruscans, which th resembled in most respects, only that with the Romans, might be expected, the low circular basement that surrounc them was magnified into a principal object, so that at last th assumed more the form of a circular tower with a conical r than that of a tumulus. In their smaller tombs the Rom copied the rectangular rock-cut or structural tombs of th prototypes, only adding a few inappropriate pilasters or thr quarter Greek columns, so as to spoil the simplicity of th effect, but at the same time to mark them as truly Ron works of art. On the whole, perhaps, the best and only rea satisfactory works of the Romans are those we usually releg to the engineer; their roads and bridges, their aqueducts a ports, and their fortifications, are conceived on a scale a executed with a solidity worthy of the greatness of the empi These they derived solely from Etruria; the Greeks offe them nothing which they might incongruously mix with the Besides, the exigencies of the works of this class kept th vicious taste in restraint, and they went to work, in this ca with an earnestness of purpose and distinctness of aim, a consequently carried them out with a far better feeling th that which pervaded their more ambitious, and what t attempted to make more artistic, productions.

GENERAL.

M. Léon Bonnat will be represented in this year's Sa by a landscape. His portrait of President Loubet, which to appear, has yet to be commenced.

A Paper on "Inlaying" is to be read by Mr. Step Webb at the meeting of the Applied Art Section of the Soc of Arts on Tuesday next.

The Maison du Peuple, which was inaugurated last w in Brussels, is said to have cost nearly two million of fra It is intended to be the headquarters of the Belgian Sociali

Mr. W. D. Caroë was requested by the trustees under Liverpool City Churches Act to advise them upon the prop demolition of St. George's Church tower; but after the dec of the City Council, they have decided not to oppose removal of the structure.

The Salon Jury for awarding medals and prizes for a tecture will consist of MM. Pascal, Loriot, Laloux, Dau Mayeux, Redon, Coquart, Vaudremer, Raulin, A. Norm Moyaux, Scellier de Gisors, Guadet, Paulin.

The Executors of the late Mr. Pyke Thompson agreed to give 3,000*l.* to build the Fine Art wing of proposed museum at Cardiff.

Charles Yriarte, who died a year ago, was engaged literary and artistic study of Isabelle d'Este and the of Mantua, which he considered as his most important w Although completed before his death, this important att to explain one of the influences of the Renaissance ren unpublished.

A Bill promoted by the Corporation of Newcastle-on- seeks powers for the expenditure of 770,000*l.* on street provements.

THE

rchitect and Contract Reporter

IMPORTANT NOTICE.

ORKMEN'S COMPENSATION ACT.

n view of the many difficulties which are certain to se in connection with the law, practice rules and eedure under the above Act, we have added to our ff A VERY EMINENT BARRISTER, who has made subject a special study, and will be glad to answer he columns of this paper any questions relating to complicated matters arising from the provisions of difficult Act. Our LEGAL ADVISER will further wer any legal question that may be of interest to readers. All letters must be addressed "LEGAL VISER," Office of "The Architect," Imperial Build-s, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

authors of signed articles and papers read in public must necessarily be held responsible for their contents.

communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

respondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. on Thursdays.

NEW READING CASE.

o Librarians of the Public Libraries and Reading-ns.—A new handsome Reading Case can be supplied nominal charge of 2s. by post 2s. 6d., on early lication to the Publisher, Imperial Buildings, Ludgate us, London, E.C.

For Advertisement Scale, see page xiii.

CONTRACTS OPEN.

ABERGAVENNY.—April 20.—For erection of a cottage pital and dispensary, Hereford Road. Mr. E. A. Johnson, rgavenny.

ALNWICK.—April 24.—For erection of a farm-steading, isting of four covered fold-yards, feeding-pens, food-stores and stables for seventy-eight head of cattle and horses, and three cottages at Low Buston. Mr. M. Temple Wilson, architect, Alnwick.

APPLEGARTH.—April 21.—For addition to farmhouse, Applegarth, Richmond, Yorks. Messrs. Clark & Moscrop, architects, Darlington.

BARNSLEY.—April 21.—For erection of a store and house at Silkstone. Mr. G. Moxon, architect, 26 Church Street, Barnsley.

BARROW-IN-FURNESS.—For erection of a Congregational church. Mr. E. M. Young, architect, 90 Duke Street, Barrow-in-Furness.

BARROW-IN-FURNESS.—April 28.—For erection of a technical school, and alterations to existing building in Abbey Road. Messrs. Woodhouse & Willoughby, architects, 100 King Street, Manchester.

BELFAST.—For erection of shop and dwelling-houses, Falls Road. Mr. W. J. Moore, architect, Whitehall Buildings, Ann Street, Belfast.

BEXHILL.—April 22.—For erection of three police constables' cottages adjoining the county police-station. Mr. Fred. J. Wood, county surveyor, County Hall, Lewes.

BLACKBURN.—April 18.—For alterations of and additions to the conveniences at the No. 1 market house. Mr. W. Stubbs, borough and water engineer, Municipal Offices, Blackburn.

BOURNE.—April 24.—For alterations to house, North Street. Mr. F. G. Shilcock, architect, Bourne.

BREAMORE.—May 1.—For construction of brick, concrete, and stone pier abutments, approach walls, &c., for the substructure of a bridge over the River Avon. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

BUNTINGFORD.—April 20.—For erection of an isolation hospital and incidental works near Aspenden, Buntingford, Herts. Mr. Ernest George Thody, High Street, Buntingford.

CAISTOR.—For erection of a new schoolroom adjoining the Congregational church, Caistor. Mr. J. H. Cooper, architect, Lincoln.

CAMBRIDGE.—April 18.—For erection of a police-station and other buildings in St. Andrew's Street. Mr. John Morley, architect, 22 St. Andrew's Street, Cambridge.

CARDIFF.—April 18.—For erection of a stable, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

CHAPEL-EN-LE-FRITH.—April 22.—For erection of isolation hospital buildings, &c., at Chinley, near Chapel-en-le-Frith. Mr. W. R. Bryden, architect, 1 George Street, Buxton.

CHELSEA.—April 18.—For reconstruction of the two bath turrets at the infirmary in Cale Street. Mr W. M ller, clerk, 250 King's Road, Chelsea, S.W

CHESTER.—For erection of four shops in the City Road. Messrs. T. M. Lockwood & Sons, architects, 80 Foregate Street, Chester.

CHESTER.—April 29.—For erection of public baths in Union Street. Messrs. Douglas & Minshull, architects, Abbey Square, Chester.

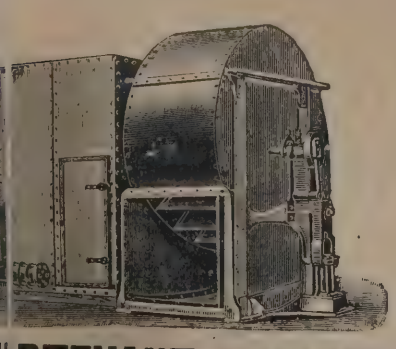
CLACTON-ON-SEA.—For erection of a detached residence on the Marine Parade. Mr. James W. Martin, architect, Station Chambers, Clacton-on-Sea.

CONSETT.—April 19.—For erection of two houses, shop, &c., Medomsley Road, Consett. Mr. Geo. Thos. Wilson, architect, 121 Durham Road, Blackhill.

CREWE.—April 26.—For erection of new Liberal club. Messrs. William Sugden & Sons, architects, Leek.

DARLINGTON.—May 8.—For erection of electric-lighting station. The Borough Surveyor, Town Hall, Darlington.

DEWSBURY.—April 21.—For erection of semi-detached villas in Northfield Road. Mr. J. Lane Fox, architect, Bond Street, Dewsbury.



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ELGIN.—April 19.—For erection of two double cottages in New Elgin Road. Messrs. A. & W. Reid & Wittet, architects.

GLOUCESTER.—May 6.—For erection of a mixed and infants' school, caretaker's house, &c., in the Hatherley Road. Mr. Alfred J. Dunn, 31 St. Michael's Square, Gloucester.

GOLCAR.—April 20.—For erection of a chancel, clergy and choir vestries, organ chamber and other work at St. John's Church. Messrs. John Kirk & Sons, architects, Huddersfield.

HALIFAX.—April 21.—For rebuilding and enlargement of St. Paul's Spiritual church, Alma Street. Messrs. W. G. Gray & Sons, architects, 28 George Street, Halifax.

HALIFAX.—April 29.—For erection of Board schools, formation of playgrounds, boundary walls and appurtenances at Sunny Side, Haley Hill. Mr. W. Clement Williams, architect, 29 Southgate, Halifax.

HALIFAX.—May 6.—For erection of Board schools, formation of playgrounds, boundary walls, &c., Sunny Side, Haley Hill. Mr. W. Clement Williams, architect, 29 Southgate, Halifax.

HEREFORD.—April 25.—For repairing various bridges in the Bredwardine, Ross, Hereford, Kington and Wigmore districts. Mr. A. Dryland, county surveyor, Shirehall, Hereford.

HOLLOWAY.—April 26.—For construction of corrugated iron shelters, erection of boundary walls, supplying and erecting iron railings, gates and wire fencing at the Public Garden and Recreation Ground in Market Road. Mr. J. Patten Barber, surveyor, Vestry Hall, Upper Street, Islington, N.

HORBURY.—April 25.—For erection of a U.M.F.A. chapel and school. Mr. W. H. Dinsley, architect, Chorley, Lancashire.

HORSHAM.—April 20.—For additions and alterations to the Shelley Arms, Broadbridge Heath. Mr. William Buck, architect, Horsham.

HUDDERSFIELD.—April 19.—For erection of three dwelling-houses in Cliffe Lane, Cliffe End. Mr. J. Berry, architect, 9 Queen Street, Huddersfield.

HUNSLET.—April 17.—For alterations and additions to the Union Offices, Glasshouse Street. Mr. W. E. Richardson, architect, Bond Street, Leeds.

IRELAND.—April 18.—For erection of an auxiliar Pettigo, for the Pettigo Co-operative Agricultural and I Society, Limited. Mr. John Gilmore, secretary, Pe co. Donegal.

IRELAND.—April 20.—For erection of cottages at D Hill, Wyringstown, co. Down. Mr. Henry Hobart, arch Dromore.

IRELAND.—April 22.—For erection of a dwelling-hou Creevy, Crossgar. Mr. F. W. Lockwood, architect, 16 W Street, Belfast.

IRELAND.—May 1.—For erection of four dwelling-ho at Lisburn. Mr. Henry Hobart, architect, Dromore, co. D

KEIGHLEY.—April 20.—For erecting bridge at Airew and for constructing approach road to same. Mr. W. H. kinson, borough engineer.

KELLING.—April 27.—For enlarging part of the sc premises at Kelling, near Holt. Mr. F. Andrews, clerk, Norfolk.

LEEDS.—April 23.—For erection of warehouse premise the Calls. Mr. Thomas Winn, architect, 92 Albion St Leeds.

LIVERPOOL.—April 25.—For extension of the South D goods station and alterations to the warehouse in Caryl St for the Lancashire and Yorkshire Railway Company. C. W. Bayley, secretary, Hunt's Bank, Manchester.

LIVERPOOL.—May 5.—For erection of Royal N Reserve buildings at Altcar, near Liverpool, consisting firing battery, magazine, messroom and latrines. Directo Works Department, Admiralty, 21 Northumberland Ave London, W.C.

LONDON.—April 24.—For erection of a public librar Westow Hill, Upper Norwood. Mr. Edward Hazleh architect, 7A Laurence Pountney Hill, E.C.

LONDONDERRY.—April 19.—For erection of a dwell house in Meadowbank Avenue, Pennyburn. Mr. W. Pinkerton, architect, 8 Diamond, Derry.

LONDONDERRY.—April 26.—For erection of station ho and works connected therewith, for the Donegal Railway C pany. Mr. James Barton, Exchange Buildings, Dundalk.

LOW MOOR.—April 25.—For alterations to the passen station, new platform-roof and additional opening u Bradford Road, for the Lancashire and Yorkshire Rail Company. Mr. C. W. Bayley, secretary, Hunt's Bank.

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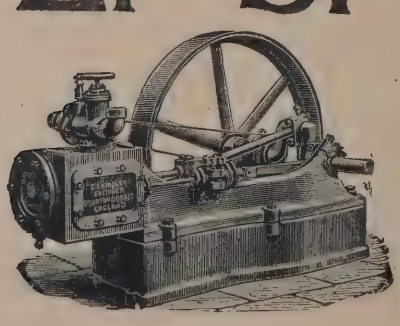
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[Mention this Journal.]

[ANCHESTER.—April 21.—For erection of a bandstand at recreation-ground, Oak Road, Crumpsall. The City eyor, Town Hall, Manchester.

[ANSFIELD.—April 17.—For additions to the Forest ›ital, Southwell Road. Mr. R. Frank Vallance, borough ›yor.

[ORECAMBE.—April 22.—For erection of a cottage off ındra Road. Mr. A. Lancelot Lang, 12A Pedder Street, ›cambe.

EW CROSS.—April 26.—For alterations to boiler and ıe-house and the erection of chimney shaft at the South- ›rn Hospital, Hatfield Street. Mr. C. Stanley Peach, tect, 28 Victoria Street, Westminster, S.W.

LDHAM.—April 19—For alterations to Clegg Street ›n, Oldham, for the Oldham, Ashton-under-Lyne and e Bridge Junction Railway Company. Mr. O. S. Holt, tary, London Road station, Manchester.

LDHAM.—April 25.—For erection of a retort-house, coal- and chimney, &c., at the Higginshaw gas station. Mr. ır Andrews, Gas Offices, Graves Street.

ENZANCE.—April 17.—For erection of a new buoy store other works at Trinity Store. The Secretary, Trinity ›e, London, E.C.

LYMOUTH.—April 18.—For construction of additional › to four warehouses at Plymouth Great Western Docks, ıe Great Western Railway Company. Mr. G. K. Mills, tary, Paddington Station.

LYMPTON.—April 18.—For erection of a footbridge at pton Station, Devon, for the Great Western Railway ›any. Mr. G. K. Mills, secretary, Paddington Station.

OOLE.—April 19.—For erection of fire-station, stables, ›, dwelling-house, &c., at the Green, Parkstone. Mr. Elford, borough surveyor, King Street, Poole.

OOLE.—April 26.—For alterations and repairs to the public on the east shore. Mr. John Elford, borough surveyor,

RUDHOE.—April 29.—For erection of a police station at ›oe. Mr. John Cresswell, county architect, Moot Hall, ›astle-on-Tyne.

UABON.—April 19.—For erection of a Board school and ›r's residence at Johnstown, Ruabon. Messrs. J. Morison ›n, architects, King Street, Wrexham.

RUNCORN.—April 24.—For erection of a shed, 21 feet long and 11 feet wide, at the workhouse, Dutton. Mr. John Ashton, clerk to the Guardians, Runcorn.

SCOTLAND.—April 19.—For erection of new Free Church at Stenhousemuir. Mr. James Strang, 102 High Street, Falkirk.

SCOTLAND.—April 20.—For an addition to Kettins public school, Coupar Angus. Mr. R. Watson, solicitor, Coupar Angus.

SCOTLAND.—For erection of shop and house in the village of Salen; addition to post-office, Acharacle; and erection of a house near Acharacle and two workmen's houses at Glen- borrodale. Mr. Tho. J. A. Armstrong, Glenborrodale, Salen, Fort William.

SEATON DELAVAL.—April 17.—For erection of a shop and house at Avenue Head. Mr. Richard M. Rennison, 4 Melton Terrace, New Hartley.

STOCKTON-ON-TEES.—April 21.—For alterations and addi- tions to the Oxbridge Lane schools. Mr. T. W. T. Richardson, architect, 57 High Street, Stockton.

TROWBRIDGE.—April 25.—For alterations and additions to Wingfield House. Mr. W. H. Stanley, architect, Market House Chambers, Trowbridge.

TRURO.—April 22.—For erection of a pair of cottages at Malpas. Mr. Wm. Swift, architect, 38 Lemon Street, Truro.

WALES.—April 19.—For erection of a Board school and master's residence at Johnstown, Ruabon. Messrs. J. Morison & Son, architects, King Street, Wrexham.

WALES.—April 20.—For erection of buildings at the Llan- fyllin County Intermediate School. Mr. H. Teather, architect, 83 Wyle Cop, Shrewsbury.

WALES.—April 21.—For alterations and additions to 1 James Street, New Tredegar. Mr. H. Sketch, architect, New Tredegar.

WALES.—April 27.—For erection of an infant school for about 200 children at Rhostyllen. Messrs. Harris & Lash, joint architects, Wrexham.

WALES.—May 1.—For erection of two additional wings to the Gwbert Hotel at Gwbert-on-the-Sea. Mr. C. Morgan- Richardson, Cardigan.

WALES.—May 6.—For erection of a concrete wall, drainage and other works to support the landslip between the main road and the river Usk, near the village of Llangrwyne, Brecon. Mr. H. Edgar Thomas, clerk, County Hall, Brecon.

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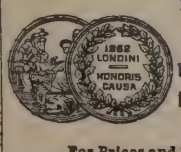
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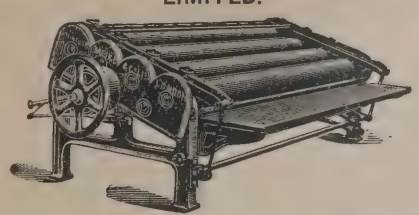

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For alterations on house at Cromlybank, Ellon. Mr. Wm. Davidson, architect, Ellon.
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W. Auld, Ellon, carpenter	93 15 0
W. Sievwright, Ellon, plasterer	54 11 0
W. Fyvie, Ellon, slater	30 14 0
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For erection of sixteen cottages, &c., at Birdwell, near Barnsley. Mr. J. Sykes, architect, Hoyland Nether.

M. A. Hague, Hoyland Common, Barnsley, mason	£1,464 10 0
H. Brearley, Hoyland Common, Barnsley, joiner	565 0 0
J. McPartlain, Barnsley, plasterer	170 0 0
E. Fleming, Eastgate, slater	163 10 0
W. H. Rawlin, Barnsley, plumber, glazier and painter	124 19 0

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Bendelow & Bennett, Rotherham, plasterer	147 10 0
F. C. Wilson, Wombwell, Barnsley, painter	41 0 0

For erection of a pair of villas (half-timber) at Pilley. Mr. W. J. Sykes, architect, Hoyland Nether.

F. G. Robinson, Birdwell, Barnsley, mason	£355 0 0
G. Cook, Hoyland Common, Barnsley, joiner	210 0 0
C. Firth & Sons, Barnsley, plumber, glazier and painter	87 0 0
C. Kemp, Swinton, Rotherham, tiler	68 0 0
J. McPartlain, Barnsley, plasterer	64 0 0

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W. Leighton, Broad Street (*accepted*) . . £1,312 5 6

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For excavating, sewering, levelling, ballasting, metalling, kerbing, channelling, &c, certain new streets off Eastham Street. Messrs. Easthams & Holme, surveyors, Clitheroe.

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J. Bleazard, Clitheroe (*accepted*) . . . 700 0 0

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R. Pearson, Cleator Moor (*accepted*) . . £81 0 0

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For erection of glassworks at Savile Town. Messrs. John Judson & Moore, architects, York Chambers, Keighley.

Accepted tenders.

Greenbow & Murgatroyd, Townfield Works, Keighley, joiner.
W. Thornton, Bingley, slater.

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For erection of two houses, Grange Road. Mr. A. Ramsell, architect, Dudley.

Love & Flint, Dudley (*accepted*) . . . £1,260 0 0

For erection of four cottages, Scotts Green. Mr. A. Ramsell, architect, Dudley.

Seckerson Bros., Dudley (*accepted*) . . £1,000 0 0

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For alterations to works, London Fields. Mr. A. Ramsell, architect, Dudley. Quantities by the architect.

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H. Dorse & Co., Cradley Heath (*accepted*) . 387 10 0

For erection of one house, North Street, Dudley. Mr. A. Ramsell, architect, Dudley.

Seckerson Bros., Dudley (*accepted*) . . £485 5 0

For erection of two cottages, Withymoor, Netherton, near Dudley. Mr. A. Ramsell, architect, Dudley.

D. Tromans, Cradley Heath (*accepted*) . . £720 0 0

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For making of a road about 350 yards in length on the High Common adjoining Trinity Square. Mr. STANLEY MOGER, surveyor, Halstead.

J. & R. KENDALL, Sible, Hedingham (*accepted*)	£351 0

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Whittington & Tomlin	730 0
F. Henson	727 0
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H. B. KENDALL, Lockwood, Huddersfield (*accepted*).

or erection of an assembly hall in connection with the Wesleyan Methodist church at Linthwaite, near Huddersfield. Messrs. JOHN KIRK & SONS, architects, Huddersfield.

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D. Haigh, Golcar, mason.
W. Schofield, Linthwaite, joiner.
J. Walker, Slaithwaite, plasterer.
G. Garton & Son, Huddersfield, plumber.
T. Cartwright, Milnsbridge, painter.
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or erection of a Congregational chapel and school. Messrs. WOODS & THACKERAY, architects, Darwen.

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J. Knowles, Bolton Road, Darwen, bricksetter, carpenter, joiner and slater	£2,650 0 0
Exors. of R. Entwistle, Duckworth Street Darwen, plumber, glazier and gasfitter	247 0 0
R. Lomas, Nancy Street, Darwen, plasterer and painter	165 0 0
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or erection of a glebe-house, outbuildings, &c., at Ardbraccan, co. Meath. Mr. FREDERICK SHAW, architect, Laurence Street, Drogheda.

N. Delaney	£1,343 0 0
C. Pigott	1,160 0 0
S. Henly	1,028 0 0
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For construction of a main sewer from Forest Lane Head, Knaresborough Outer, to the Starbeck irrigation land. Mr. ANNAKIN, surveyor.
J. FIRTH, Bilton, Harrogate (*accepted*) . . £683 17 6

LANCHESTER.

For construction of a bridge over New House Burn. Mr. W. CUMMING, surveyor.

W. Whitfield	£194 6 0
J. ATKINSON, Knitsley (*accepted*)	189 0 0
J. Westgarth	188 3 2
D. Champney	180 9 4

LEEDS.

For erection of public shelter on Holbeck Moor, Leeds. Mr. FREDK. W. RHODES, architect, Upper Wortley.
H. FARRELL, Wortley (*accepted*) . . £249 0 0

For erection of ten through houses. Mr. F. W. RHODES, architect, Upper Wortley.

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A. B. Cromack, Armley, plumber.
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For building chimney 35 yards high at Holbeck. Mr. FREDK. W. RHODES, architect, Upper Wortley, Leeds.
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RUGBY.

For erection of the Municipal Buildings in High Street.
F. W. PARNELL & J. P. ALLEN, Rugby (*accepted*) £6,856 0 0

SCOTLAND.

For erection of a lifeboat house at Lossiemouth. Mr. R. B. PRATT, architect, Elgin.
Accepted tenders.
Legge, Fochabers, mason.
Ritchie & Sons, Lossiemouth, carpenter.
J. Ross, Elgin, plumber.
G. Murray, Lossiemouth, slater.
A. McIvor, plasterer.
A. Forsyth, Elgin, painter.
Total, £590.

SEVENOAKS.

For erection of a shed for manual instruction, for the School Board.
W. P. BARK (*accepted*) £143 0 0

SCARBOROUGH.

For road, fencing, &c, at R. A. Barracks, Scarborough. Mr. J. E. EVERETT, engineer, Marine Drive Works, Scarborough.

G. Blacker	£1,953 2 5
A. S. Pickup	1,183 6 0
B. Cooke & Co.	1,162 16 2

SHEFFIELD.

For taking-down and rebuilding the Greyhound Inn, &c., Gibraltar Street. Mr. WALTER J. SYKES, architect, Hoyland, near Barnsley.
Accepted tenders.

G. Malpass, Crabtree, Pitsmoor, mason	£1,369 0 0
J. Lilleker, Alma Street, joiner	525 0 0
G. Thickett & Son, Corporation Street, plumber, glazier and painter	140 0 0
Bodkin & Jones, Bramall Lane, plasterer	134 10 0
C. Chadwick & Son, Victoria Street, slater	52 0 0

TEWKESBURY.

For erection of a landing-stage at the Knaves Acre.

B. Sweet	£33 10 0
Denley & Son	27 0 0
J. Howell	26 10 0
E. YOUNG, Tewkesbury (*accepted*)	24 10 0

WALES.

For construction of the proposed Gladstone Road at Barr Docks, about 1,500 yards in length and 60 feet wid including kerbing and channelling and drains. Mr. J. C PARDOE, surveyor, Holton Road, Barry Docks.

C. Davies	£5,868 1
W. Britton	5,729 17
A. Richards	5,500 19
Rendell & Motton	5,470 3
J. W. Froom	5,015 9
J. Britton	4,922 6
T. Rees	4,741 5
G. Rutter	4,558 11
E. OSMOND, Ely, near Cardiff (*accepted*)	4,480 1 1

For erection of fire-engine station, Barry. Mr. J. C. PARDOE surveyor.

A. Seaton	£4,041 2
G. Rutter	3,405 15
A. Richards	3,216 13 1
Evans Bros.	3,053 9
Lloyd & Tape	2,969 12
JONES BROS., Barry Dock (*accepted*)	2,785 15
W. Britton	2,750 0
Spratt Bros.	2,724 12

For construction of a highway bridge over the river Twrch near Maesycha, in the parish of Caio, Carmarthen. Mr W. COUSINS, engineer, 48 Gorse Lane, Swansea.
REES & KIRBY, Morriston (*accepted*) . . . £290 0

For erection of seventeen houses at Cwmaman, Aberdare, a per house. Mr. LLEWELLIN SMITH, architect, 20 Commercial Street, Aberdare.

J. Morgan & Sons	£182 10
W. E. WILLIS, Ystrad, Rhondda Valley (*accepted*)	162 10

For alterations to the Carmel Congregational chapel, Rachub, Bethesda.
R. & J. WILLIAMS, Upper Bangor, Bangor (*accepted*) £1,135 0

For erection of Amon Baptist chapel, Treorky.

T. W. Davies	£2,053 0
J. Rees	2,045 0
J. Jones	1,897 19
W. MATTHIAS & G. EDWARDS, Treorky (*accepted*)	1,800 0 0

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WALES - *continued.*

or erection of a chapel, schoolroom, &c., Nantlle.

J. T. Jones	£4,350	0	0
Jones & Roberts	4,272	0	0
D. P. Roberts	2,850	0	0
R. Jones, Llanwnda, Carnarvon (*accepted*)	2,671	0	0
G. Roberts	2,400	0	0

or construction of a girder highway bridge, with the approaches thereto, &c., over the Rhymney river at Pengam, between the counties of Monmouth and Glamorgan. Mr. J. H. Lewis, surveyor, Blackwood, Mon.

W. Williams & Sons	£1,120	0	0
W. T. Morgan	904	17	0
W. L. Meredith	872	4	0
Mainwaring & Davis, Llanbradach (*accepted*)	806	5	0

WOOLWICH.

or supplying and laying Victoria stone paving for footpaths at Elizabeth Street. Mr. H. O. Thomas, surveyor, Town Hall, Woolwich.

W. Griffiths	£535	0	0
Patent Victoria Stone Company, London (*accepted*)	522	0	0

WARWICK.

r demolition of old and erection of new general supply stores, Market Place. Mr. Francis P. Trepess, architect, 8 Jury Street, Warwick.

. F. Smith & Sons	£1,550	0	0
. Tallip, Warwick (*accepted, exclusive of fittings*)	1,438	10	0

WEST KIRBY.

construction of a conduit for steam and drain-pipes between two engine-houses at the Waterworks. Messrs. Charles H. Beloe & Frank E. Priest, engineers, 13 Harrington Street, Liverpool.

Price, Dee Gap, West Kirby (*accepted*)	£147	0	0

WINCHESTER.

electric lighting of a portion of the public offices, clock tower, &c., at the Guildhall, and at the public library and art school.

. H. Gudgeon & Co., Winchester (*accepted*)	£214	7	9

WESTON-SUPER-MARE.

For alterations and additions to the Weston-super-Mare wards of the Axbridge Union Mr. A. Powell, architect, Unity Street, College Green, Bristol.

T. H. Brown	£945	0	0
H. A. Forse	900	0	0
Lloyd & Son	875	0	0
W. M. Dubin	800	0	0
G. Sprake	795	0	0
H. Cook, Bristol (*accepted*)	680	0	0
J. Solway	620	0	0

WESTGATE-ON-SEA.

For erection of a private residence for Mr. F. Seaton. Mr. Delissa Joseph, architect, 17 Basinghall Street, E.C. Quantities by Mr. F. Taperell.

Paramor & Sons	£4,920	0	0
A. Wing	4,454	0	0
T. T. Denne	4,195	0	0
A. Dyke	4,189	0	0
G. H. Pettman, Birchington (*accepted*)	4,166	0	0

Received too late for Classification.

BRIXHAM.

For alterations, reseating and renovations at the Wesleyan Chapel, Brixham Mr. W. G. Couldrey, architect, Paignton. Quantities by Mr. Vincent Cattermole Brown, Paignton.

H. Phare	£1,490	0	0
E. Pike	935	0	0
W. Smaridge	898	10	0
R. Waycott	893	0	0
R. F. Yeo, Torquay (*accepted*)	889	0	0

MUSWELL HILL.

For construction of a new road at Muswell Hill.
T. Adams, Wood Green (*accepted*).

NELSON.

For construction of a skew bridge over the Walverden water at Water Street. Mr. B. Ball, borough engineer.
C. Metcalfe, Barkerhouse Road (*accepted*).

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HALL'S SANITARY WASHABLE DISTEMPER.

THE new specimen card of the colours in which Messrs. Sissons Bros. & Co., Limited, of Hull, now manufacture their excellent water-paint contains upwards of thirty different tints and shades, and all of these are exceptionally bright and pure, and at the same time very solid. This paint, the many excellent qualities of which cannot be too well known, is applicable alike to inside and outside work, and to any surface, whether of metal, wood, stone or brick. It may be put on a damp wall where, it is said, it will last better than oil-paint, and it has a notably hardening effect on plaster which from past dampness or other cause has perished. It does not crack or rub off and is perfectly easy to use, and it only requires to be thinned with a little water, either hot or cold. It has great covering powers, and can be painted on or varnished without previous sizing. Applied to woodwork which it is desired to finish in oil-paint, it makes an excellent filling, stopping all cracks and saving one of the finishing coats of the paint. It is essentially sanitary, and at the same time is death to vermin. It is, moreover, cheap in price and economical in use; in fact, Messrs. Sissons claim for it that it saves altogether about 80 per cent. as compared with oil-paint.

FIRES IN HOTELS.

AN engineer writes:—"While the great fire at the Hotel Windsor, in New York, is still fresh in the memories of every one, I think it is important that we should remember that no building can be considered absolutely fireproof while combustible materials are kept in it. In most of our hotels large quantities of inflammable goods are always on the premises, such as coal, wood, linen, oil and much besides. Were an outbreak to occur among these materials, very considerable damage might be done and great expense incurred; for although such a fire could not spread to any great extent, owing to the way in which most of our hotels are constructed, there would be nothing to check its progress until the fire reached one or more of the fireproof walls. It is therefore very necessary that some means for checking these comparatively small outbreaks should be provided in every hotel. Those who have stayed at the Royal Pavilion Hotel at Folkestone will have noticed the means for fire-extinguishment employed there. The Merryweather firm have fitted up very complete arrangements for the protection of visitors to this hotel from fire. Another hotel which I have noticed as being so fitted is the Savoy, London, where a very complete installation is provided. Those whose duties compel them to be constantly travelling about must feel the necessity for better fire protection in our hotels, and I most sincerely wish that all hotels were similarly equipped to those I have named."

A SILENT PAVEMENT.

THE North British Rubber Company may be cordially congratulated on having supplied a manifest want in a very thorough manner. We refer to the pavement which they have laid in the *porte cochère* of Claridge's Hotel.

This is made of a special quality of hard rubber and answers admirably the purpose to which it is applied. It is made in sheets about an inch in thickness and is laid on a bed of concrete, to which it is attached by means of solution. It cannot be claimed for this pavement that it is the cheapest on the market, but it may certainly be said that it possesses advantages to which others can have no pretence, and not the least of these is that it is absolutely noiseless. That it is durable is demonstrated by the section which was laid as long ago as ten to twelve years at the entrance to St. Pancras Station, which by nature of its position is subject to continuous hard wear, and is still practically as good as when laid down; in fact, the company claim for it that it is everlasting.

It can be made in various designs and colours, and is particularly suitable to such positions as quadrangles or courtyards of hotels, mansions, flats, &c.

"HE'S A BRICK."—Plutarch, in his life of Agesilaus, king of Sparta, gives the origin of this expression, which is regarded as slang. On a certain occasion an ambassador from Epirus inquired where were the walls and battlements to his capital. The king led the ambassador out on the plains where his army was drawn up in full battle array, and, pointing proudly to the serried hosts, he said, "There, behold thou the walls of Sparta—10,000 men—and every man a brick." This is one piece of classic "slang."

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PERNLEIGH, NOTTINGHAM.

IGH HOUSE CHAPEL, DUKE STREET, GROSVENOR SQUARE, W.: INTERIOR.

TRADE NOTES.

ESSRS. MELLOWES & Co., of Sheffield and London, have ently completed the roof glazing of the new Nottingham st Office on their eclipse patent imperishable system.

MESSRS. B. WARD & Co., of Great George Street, S.W., e just got out a pattern card of the latest designs in their f-keyed wood block floors, for which they claim that "they the cheapest in the market." The principle is certainly a ple one. No discs, disc-keys or wood or metal dowels are uired, as each block is keyed all round to the adjoining cks. They are made in all descriptions of wood, and the igns are pleasing and varied.

THE Shawlands Free Church Hall, at present in course of ction (Mr. J. Hamilton, architect, Glasgow), is being venti- d by means of Mackay's patent direct-acting invisible roof itilators, manufactured by the sole makers, Cousland & ckay, 150 Hope Street, Glasgow.

MESSRS. MAINZER & Co., LIMITED, have been entrusted h the carrying out of the mosaic floors at the Heath lum, Bexley, under Mr. G. T. Hine, the architect for the lding. The same firm have just completed the mosaic and azzo floors at the Whittingham Asylum, Lancashire, which been designed by Messrs. Simpson & Duckworth, archi- s, of Blackburn.

IN the ventilation of the Ballinasloe County Asylum, great ntion is being paid to the efficiency of the ventilation, which arried out by means of "Cousland's Improved Climax" nt direct-acting louvre ventilators of an ornamental design, by the "Climax" Ventilating and Heating Company, Limited, 93 Hope Street, Glasgow.

A LARGE clock has been erected in the parish church, Seighford, near Stafford, which chimes the quarters, strikes the hours and has two dials facing west and south. It is fitted with all modern improvements, and is guaranteed to keep accurate time. Messrs. John Smith & Sons, Midland Clock Works, Derby, have carried out the work. The same firm are making a large chiming clock for Swansea parish church.

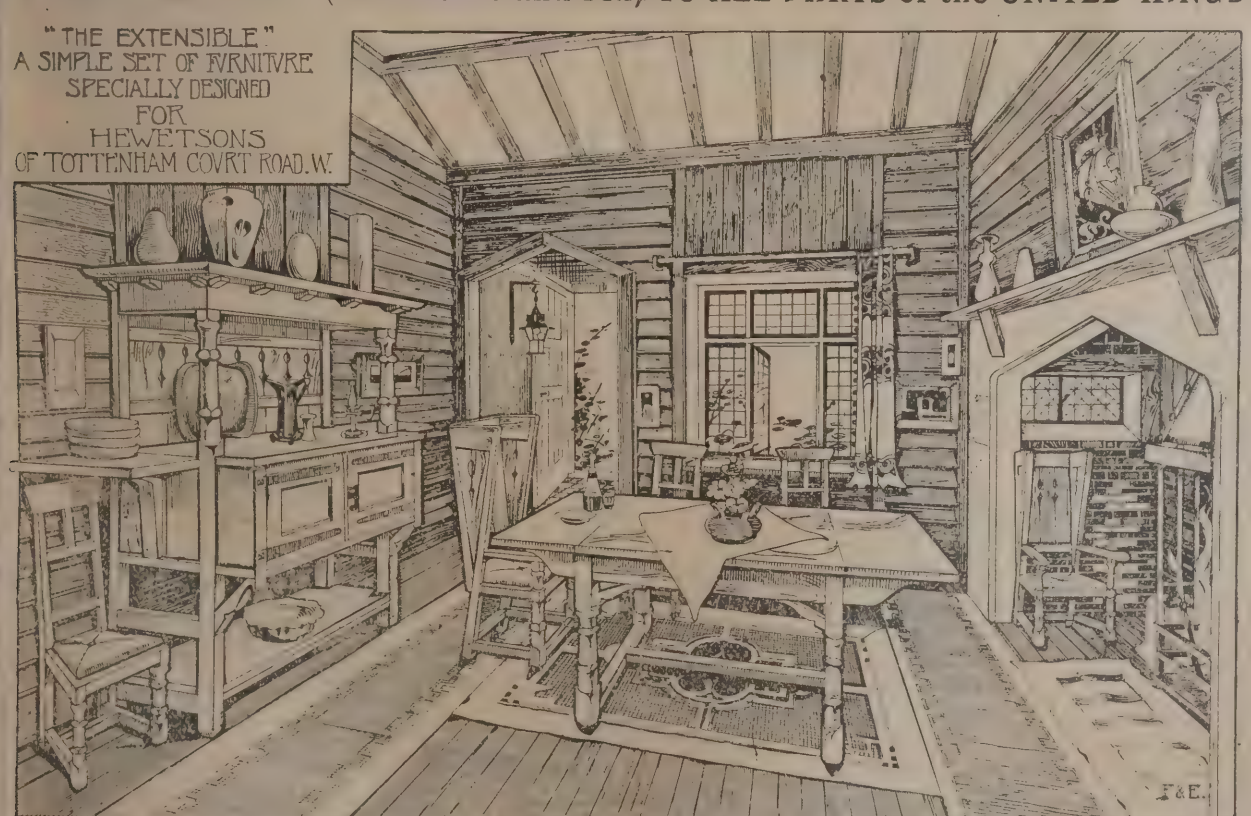
MESSRS. WOOLISCROFT & SON, LIMITED, of Hanley, Staffs, are preparing an object lesson which they hope to have ready by the opening of the Building Trades Exhibition. It consists of the paving of a portion of the roadway in Upper Street, N., in close proximity to the Agricultural Hall, with their new paving bricks. These bricks, which are of the hard, red, pressed variety, are specially moulded and prepared, and have the upper edges bevelled. They are laid on a bed of sand some 1½ inches thick, which rests on a concrete foundation, and are united by a grouting of bitumen. This system of pavement obviously possesses many advantages, among which may be cited cheapness (its cost being about the lowest of any of the systems at present in use), its neatness, its cleanliness and its durability. Of the latter quality there can be no question in localities where the traffic is not unduly great, but whether it will stand the wear and tear of the heaviest description of town traffic has yet perhaps to be demonstrated; the mere fact, however, that Messrs. Wooliscroft & Son have chosen such a position as Upper Street, with its numerous 'buses and trams, for a demonstration is very positive evidence of their confidence in the new material.

ELECTRIC NOTES.

AN inquiry has been held at Grimsby by Mr. W. A. Ducat, Local Covernment Board inspector, into an application by the Town Council to borrow 43,500*l.* for electric-lighting purposes. The scheme met with approval.

THE latest and most remarkable outcome of Signor Marconi's demonstrations of his wireless telegraphic system is the proposal to connect London with New York by its means. It appears that the Wireless Telegraphy Company have been approached by the representative of a proposed syndicate which desires to acquire the sole rights of establishing wireless

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telegraphic communication between England and America. It is stated that the proposal is made in all seriousness, and that there is every possibility of its being carried to a practical issue if the company and the syndicate can only come to terms. The directors of the company will consider the matter at their first meeting, which is fixed for an early date

VARIETIES.

A new church which has been erected at Newport, near Hull, at a cost of 10,000*l.*, was consecrated by the Archbishop of York on Saturday.

The new addition which has recently been made to St. Mary's schools, Rathbone Road, Wavertree, Liverpool, was opened with a meeting of the parishioners and the children of the schools.

The London Geological Field Class, conducted by Professor H. G. Seeley, F.R.S., will commence their annual series of Saturday afternoon excursions on April 22. Full particulars can be obtained from the hon. sec., R. Herbert Bentley, 43 Gloucester Road, Brownswood Park, N.

Arrangements are being made by the Office of Works for the forthcoming visit of the Queen to the South Kensington Museum for the purpose of laying the foundation-stone of the new buildings which have been designed to replace the present unfinished structures. The ceremony, which will take place on May 17, will be a semi-State function, as was the case at the Imperial Institute. It will be performed in a large marquee, the site for which has now been cleared.

The student section of the Dundee Institute of Architecture completed their winter syllabus on Monday last, when they travelled to Edinburgh per saloon. Mr. T. Delgaty Dunn, Technical Institute, Dundee, conducted the party during the day over all the places of architectural importance, finishing up by spending a couple of hours in the Science and Art Museum. The outing was very much enjoyed by the members, who numbered over thirty.

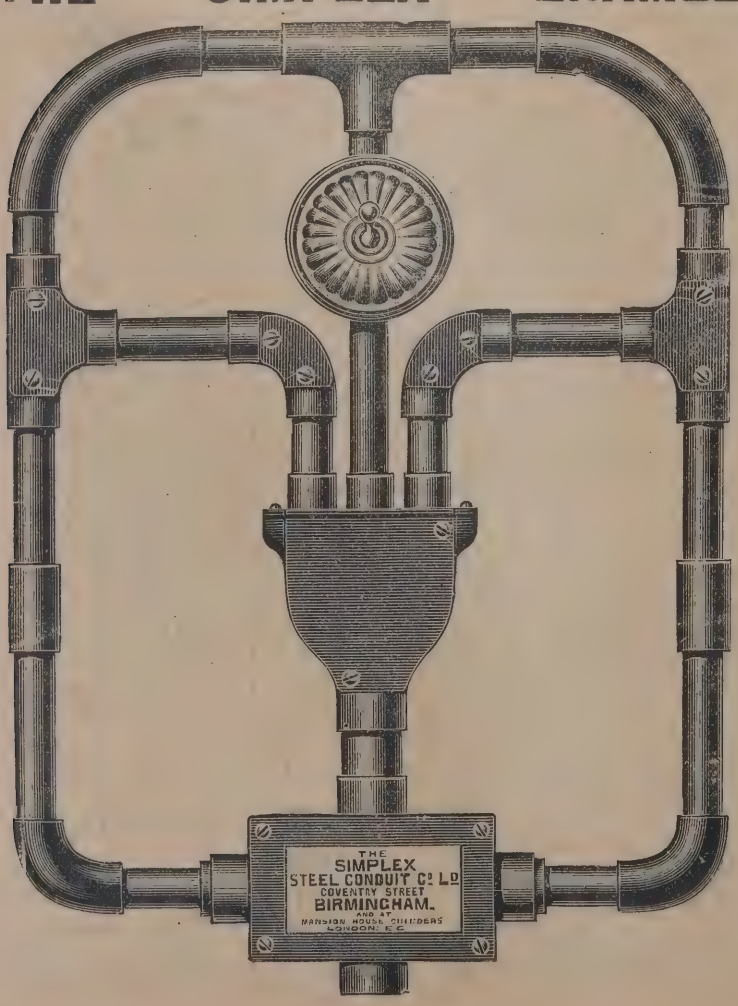
Sir Edward Lawson may well be satisfied with the successful début made by the *Sunday Daily Telegraph* Whether regarded from a literary or from a business point of view, the new Sunday paper is an admirable example of what can be accomplished by liberality and well-directed energy, and it is a foregone conclusion that the new paper has come to stay.

Midford Castle, near Bath, where the sale this week of the effects of the late Marchesa di Sant Agata takes place, was built about 200 years ago. The castle is of singular construction, being triangular and in the form of the ace of clubs, the angles being rounded off and embattled. A Mr. Roebuck, a great gambler, is said to have built the mansion with the proceeds of a night's gambling, and by backing the run of luck of the club suit. It came into the possession of the old Catholic Conolly family 120 years ago, one of whom married Louis Brancaccio, the late owner.

The agricultural and horticultural committee of the Glasgow International Exhibition have accepted proposed plans and specifications from Messrs Spiers & Sons, engineers and builders, West Regent Street, for the erection within the grounds of the forthcoming exposition of a model farm-steading upon the latest and most approved principles. The plans show a pretty little place laid out in rustic style. There will be shown all manner of dairy work, and bee-keeping will also be practically illustrated. To the farmhouse proper it is proposed to attach a modern poultry farm, in which the different breeds of poultry and so forth will find a place. In addition to the usual dairy work—butter and cheese making—there are to be byres fitted up in the latest way, implement sheds, stables, harness-rooms and probably a model farm dwelling-house. Should the latter be found to be impracticable, a farm labourer's house will probably be substituted.

The annual meeting of the Worcester Architectural and Archæological Society was held on Monday at the Guildhall, Worcester, the Rev. J. B. Wilson presiding. The balance-sheet presented by the treasurer (Mr. J. Jeffrey) showed that the balance in hand of 55*l.* 14*s.* 3*d.* with which the year was commenced had been reduced to 52*l.* 1*s.* 5*d.* The balance-sheet was adopted, and the forty-third annual report, giving a *résumé* of the year's work, was read by the Rev. J. K. Floyer, joint hon. secretary with the Rev. H. Kingsford, and was duly adopted. The hon. secretaries, hon. treasurer and committee were re-elected. The Rev. R. R. Duke and the Rev. H. Kingsford were appointed delegates to the congress of archæological societies, and on the suggestion of the former gentleman, the Revs. R. R. Duke and J. K. Floyer, Professor Littledale and Mr. Jeffrey, were appointed a committee to conduct the work of restoring wayside crosses, which work has been very effectually commenced at Eckington. The summer excursions of the Society will this year be to Huddington and

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Sudley and Wynchcombe. Earl Beauchamp wrote thanking Society for their congratulations and good wishes on his ointment.

Mr. Chas. Morton has certainly got together a splendid ipany for his matinée in aid of the National Lifeboat urday Fund, which will take place at the Palace Theatre on irsday, the 27th inst. It includes such popular favourites Mesdames Kate Rorke, Mary Rorke, Edna May, Ada ve, Marie Dainton, Ethel Haydon and Edith Courtney; Messrs. James Fernandez, Arthur Roberts, Herbert npbell, Eugene Stratton, Sydney Brooks, Fred Russell, rry Paulton, and others, and the programme promises to be ost attractive one.

BUILDING AND BUILDERS.

CASHIRE master builders, according to an official report, preparing for a general lock-out of their men to bring the ent plasterers' dispute to a settlement. In this action they supported by the Engineering Employers' Federation.

THE foundation-stone was laid on the 8th inst. of the Glade Club, Church Road, Tranmere, Cheshire. The club will ide a billiard-room with three tables, a large hall accomating 500 people, and at the rear a bowling-green, which be the largest in the district, measuring 51 yards by ards.

THE directors of the Glasgow and Renfrew District Rail- at a private meeting on the 6th inst., considered the ers that had been received for the different portions of their osed new line to Renfrew, and decided to place the con- for the construction of that portion of the railway begin- at Shieldhall, Govan, and terminating at Renfrew, with William Kennedy, contractor, Merkland Street, Partick.

THE master plasterers, who up to the present have been nised only by being federated through the Master Builders' ciation, have decided to have a national association of own, which while continuing to work in conjunction with the ers' organisation will pay attention to the interests of erers in particular. This decision was arrived at on the inst, at a meeting of about 100 delegates from all parts of ountry, held at Bradford. Mr. J. W. Sugden, of Bradford, elected first president. The present strike was subsetly discussed, and a communication forwarded to the onal Builders' Association.

A large derrick used in the construction of a bridge over the Harlem river, in 132nd Street, New York, overturned on Tuesday afternoon the workmen on it being thrown off. Three of them were killed outright and nine injured, while several others were drowned. Trustworthy reports place their number at ten, though the estimates vary from six to twelve.

Before Provost Stewart at Kirkintilloch Burgh Police Court on Monday a case of considerable interest to Scots builders was heard. Mr. Charles Murrie, joiner, was charged at the instance of the public prosecutor, under section 180 of the Burgh Police Act, with having, between March 18 and 28, permitted six dwelling-houses to be occupied before they had been certified as fit for habitation. The case occupied over two hours. For the defence it was sought to be proved that Mr. Murrie was not the person who should have been charged, as in the month of January he sold the houses to Mr. Charles Goodwin, who issued the permits granting entrance at March 1. The prosecutor held that, as Murrie had submitted the plans as proprietor, and notified the completion of the houses with a view to their being examined by the burgh surveyor, he was the party liable. The Provost found the charge proven, but in the circumstances, and in view of the scarcity of house accommodation in the burgh, he did not feel disposed to inflict a penalty, although he hoped the case would be taken as a warning by others. Mr. John Stevenson, on behalf of accused, intimated an appeal on the ground that he was not the person responsible for the letting of the houses.

NEW CATALOGUES.

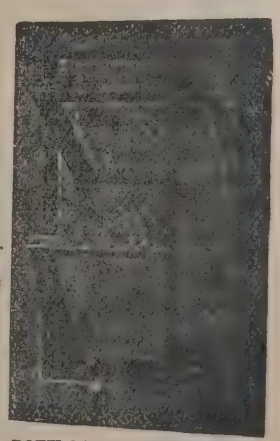
We have just received from Messrs. Fleming, Birkby & Goodall, Limited, Halifax, a useful catalogue of their various manufactures, which include leather and indiarubber beltings, belt-fasteners, driving bands, driving ropes, belt plates and bolts, pickers and buffers, leathers and leather goods, fire fittings, suction and hydraulic hose, tubings and various rubber goods, telegraph and telephone appliances, &c. The book is tastefully got up, admirably printed on excellent paper, and is issued in an attractive cover.

A catalogue and samples are also to hand from the Patent Wood Carving Company, of Ilkeston Junction, Notts. The catalogue gives a large number of the designs in which the company produce mouldings, panels, &c., which can be supplied in oak, mahogany, satin wood, walnut, &c., and the

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samples show that these designs work up sharply and produce an effective decoration, such as, if one may judge by the recent Furnishing Trades Exhibition, is now greatly in vogue.

MESSRS. NEWTON, CHAMBERS & CO., LIMITED, of Thorncliffe Ironworks, Sheffield, are issuing a revised catalogue and price list of stable fittings, cowhouse fittings, and farm and garden requisites. They have been brought thoroughly up to date, and the former is confined exclusively to well executed illustrations of all the various fittings and appliances which go to the making of a thoroughly well constructed and perfectly appointed stable. The reputation of the firm is such that it is needless to enlarge upon the excellence of the goods supplied by them, while sticklers for "the latest thing out" have only to turn over the numerous pages of this catalogue in order to find the newest and most recently improved models in the various goods carefully delineated.

MESSRS. COUSLAND & MACKAY'S (of Clyde Place, Glasgow) catalogue will be found a very useful epitome of their latest forms of ventilating appliances, many of which are figured in well-drawn and clearly printed illustrations. Among these sketches we may mention a section showing the method of applying the firm's various specialties to a building; the recent "Mackay" patent improvements on the invisible roof ventilator and ridge ventilators; specially designed ventilators for prevention of down-draught; patent valve-box for the same purpose, with removable valve-trays; a recently introduced specialty in ceiling extractors, in which the "underfloor" ventilator fits in between the ceiling and the floor above, between parallel joists, providing an efficient and inexpensive means of ventilator. These ventilators are fitted with specially designed patent valves to insure protection against an inrush of cold air. Messrs. Cousland & Mackay have also produced a number of new and artistic designs at moderately low prices in turret, louvre and ridge ventilators, as well as in other specialties.

WORKMEN'S COMPENSATION ACT.

AT Southwark County Court, on the 11th inst., before Judge Addison, Q.C., William Robert Brown, a bricklayer's labourer, sued Mr. H. W. Brown, a builder and contractor, of Albert Road, Dalston, to recover 200*l.*, under the Workmen's Compensation Act, for injuries sustained. Mr. W. M. Thompson, barrister, who appeared for the plaintiff, said that on November 14 last his client, who was at work for the defendant, was ordered by a foreman to place a board in front of a steam exhaust pipe. After he had done so plaintiff was about to descend from the roof, when he became enveloped in steam, with the result that he stepped through an unguarded skylight. He fell a distance of 24 feet and injured both legs in such a manner that one would probably have to be amputated. Mr. Thompson contended that the accident happened as the result of a negligent order by the foreman. His Honour gave judgment for the plaintiff for 100*l.* and costs.

GLASS BLOCKS FOR PAVEMENTS AND WALLS.

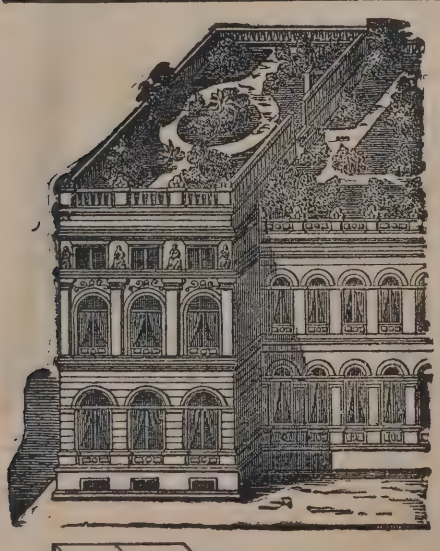
THE United States Consul at Lyons has sent to the American Bureau of Foreign Commerce a report on new uses of glass. He says:—

Early in October 1898 a paving company of this city began laying on the Rue de la République a piece of pavement of ceramo-crystal, ceramic stone or devitrified glass. During the months of November and December of 1898, and thus far in January 1899 this pavement has been driven over during all hours of the day and night. It has stood as hard usage as any pavement could be subjected to during that time, and is still in an admirable state of preservation.

The glass or ceramic stone pavement is laid in the form of blocks, 8 inches square, each block containing sixteen parts in the form of checkers. These blocks are so closely fitted together that water cannot pass between them, and the whole pavement looks like one large checkerboard. Like all thoroughfares in France, the roadbed slopes gently to the walk on each side. Some of the edges of the checkers have been broken during their three months' service. I counted twenty of the blocks that have been slightly chipped on the edges. It is contended, and I think with justice, that this does not argue against the value of the material as a pavement, and that any kind of stone would have suffered just as much or more in the same time.

I visited the Ceramo-Crystal Manufacturing Company's works yesterday, at the suburban village of Demi-Lune, about six miles from Lyons. The factories cover nearly 8,000 square yards of ground. Work is now stopped in them while additions are being made to the buildings in the shape of second stories. In the yards are many tons of broken bottles, which the superintendent told me was their "raw material." On the fa

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s of a large brick smoke-stack are specimens of ceramo-
tal for buildings and interior decoration, some of the pieces
mooth as highly-polished marble, others being rough, like
stone, and still others having a surface like common brick.
The advantages attributed to this ceramo-crystal by the
ufacturers are—as a pavement, it has a greater resistance
n stone; it is a poor conductor of cold, and ice will not
n upon it readily; dirt will not accumulate upon it as easily
pon stone, and it will not retain microbes; it is more
ble than stone and just as cheap.
The Central Architectural Society of France made a report
ntly on this ceramic stone, of which I give a brief synopsis.
officer of the society reported that he had examined a
re, suitable as a pavement or floor for a stable, a court-
or factory; a block imitating polished marble; a block
ting mosaic; and a panel with moulding or ornamenta-
He said:—
rom the various forms in which this material is presented
se can be readily determined for both practical and decora-
purposes. On careful examination it is found that the
hey ceramic stone is nothing but glass brought to a
al molecular condition. In a certain sense it constitutes
v substance, which resembles flagstone, granite or marble.
manufacturer assures us that with this material he can
any model that is presented.
his new product is obtained from broken glass heated to a
erature of 1,250 degrees and compressed in matrices by
ulic force. The physical transformation of glass is due
vitrification under the Garchey process. The phenomenon
vitrification produces a sort of dissolution more apparent
real; for, upon chemical analysis, the devitrified glass
rves the identical composition of natural glass.
may be said, then, that devitrified glass possesses all the
sic qualities (physical and chemical) of glass except the
parency, while taking on an entirely different aspect.
ermore, glass treated under this new method is made to
crushing, frost and heavy shocks, and to stand usage.
his subject is being discussed in the press, and is receiving
al consideration. An elaborate and exhaustive article in
Revue des Deux Mondes for November treated the
ion under the heading "A Glass House," the writer
ing that a large house constructed entirely of glass would
attractive feature of the coming World's Exposition in
He said that glass could be used for tubes, pipes, vats,
smoke-stacks for factories and for buildings. Double
glass walls in a house would admit of the circulation between them of cold or warm air, thus regulating the temperature. "As to the resistance of such a structure, it would certainly be equal to that of the most solid houses of the day . . . and it is lighter and less expensive than brick. The Garchey glass-stone had hardly come into existence before a method of using it, both simple and inexpensive, was revealed by the device of the American inventor Golding."

The glass house, or the luminous palace, which it has been decided to build on the grounds of the 1900 Exposition, parts of which are now being constructed, is thus described by the writer last quoted:—

The principal façade, in the form of an immense portico, its roof surmounted with spires and with a winged statue representing Light, will be supported by heavy columns. The ground floor, reached by a double flight of stairs, will be used as a great exposition-room. To the right and left will be large glass basins, overhung by grottos of glass. In the interior of the hall will be five large openings, in which will be represented the five divisions of the globe.

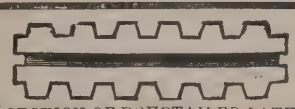
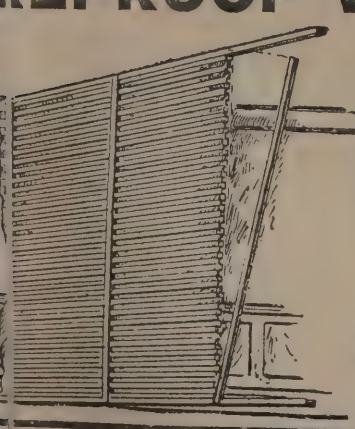
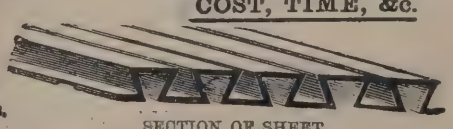
ILLICIT COMMISSIONS.

THE subject of the discussion after the monthly dinner of the London Chamber of Commerce, on the 11th inst., was "Secret Commissions, Rings and Corners." Sir Edward Fry presided, and in the course of his address said:—

I pass from corners and rings to the subject of secret commissions. There, I think, we are all agreed, because the report which was presented by the committee on the subject appointed by your Chamber of Commerce has, as I understand, received the sanction of the council of the Chamber. Therefore it appears to be the judgment, the conclusion, of the body of men in this City most competent of all others to express an opinion upon this most important subject. Now what is the conclusion expressed by that most competent body of men on this subject? It is that secret, and therefore I will say corrupt, commissions in various forms are prevalent in almost all trades and professions, that in some of them they have increased and are increasing, and that the existence of this system of secret commissions is prejudicial to the community. That is a most important point. It is one which, as far as I have been able to observe, has passed unchallenged. I do not observe that any

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SECTION OF SHEET.

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one has come forward to say that the conclusion of the Chamber of Commerce or the evidence on which they have come to that conclusion is inaccurate or in any way open to challenge. I therefore take it that we have the judgment of the commercial community of the City of London upon that most important question concerning the existence of this great evil.

The Misery Caused by the System.

I have had a very considerable correspondence on the subject, and I must say that one aspect of it impresses me very much; it is the misery which this system causes to a great many people. I am not speaking of the way this evil undermines the security which man ought to feel in dealing with man or of the way in which it interferes with honest trade and honest enterprise, but of the misery which it causes to individual men, who, perhaps brought up in awe of anything that is dishonest, find themselves in an atmosphere where such prejudices are common, and where they feel almost compelled to follow the example. I have in my possession letters from people telling me of their experiences—letters of the most affecting description. I therefore appeal to you to bestir yourselves in this matter, not only on the ground of the vast injury it entails on commerce, but on the ground of the misery it causes to honest and honourable men.

The Proposed Legislation.

As you are aware, the Lord Chief Justice is about to bring into the House of Lords a Bill upon this subject, of which I will only say this—that you will find that the lines of that Bill follow the lines laid down in the report presented to you by your committee. I am very anxious to impress this point on you—that it is highly important that we should not rely too much upon that Bill by itself. I am by no means one of those who agree with the observation that you cannot make people honest by Act of Parliament. In one sense that observation is true, but it is generally used in an untrue sense. It is not true that you cannot help men to be honest by Act of Parliament. It is not true that laws have no influence on the morals of men. It is quite true that you may have an Act of Parliament which falls into desuetude and is worthless, but it is equally true that we owe a great deal to the admirable character of our legislation. I do not for a moment deprecate the value of statutory enactments on this subject. It appears to me that there is a branch of legislation which can encourage us in this respect—I refer to the legislation addressed to the subject of corruption in electoral matters. I think no one whose recollection goes ba can doubt that there is a vast improvement in that respect that corruption in electoral proceedings and elections, bo municipal and Parliamentary, was viewed with much great leniency some years ago than it is now. I think it is impo sible to doubt that the improved condition in that respect h been due to the legislation which has taken place, and we ha perhaps in that legislation as nearly a parallel case to this pr posed legislation against corrupt commissions and bribes as w can expect. While I would have you support the Lord Ch Justice in his proposed measure, what I am very anxious impress upon you is that it should not be supposed for o moment that, even if the Bill passed into an Act, the whc work is done. In order that the legislation may be effectiv it must be supported by your zealous concurrence.

What may be done without Legislation.

If that Bill never becomes an Act, there is much that y can do without it. You may apply yourselves to informi those in your employment, watching those specially subject the temptation of these bribes, keeping a more vigilant e where these bribes are administered, and also impressing o those you employ when you engage them the necessity abstaining from taking such bribes. Therefore quite ind pendently of legislation much may be done, but without yo help legislation will do little. Therefore I say that, wheth the Bill passes or does not pass, much may be done by t community, especially the commercial community, of Engla in checking the great abuse which has been pointed out. will only say further that I think it is highly important th some vigorous action should now be taken. It seems to r that you can never be in the same position that you were before. Before there was a general but vague impression th these bribes existed. Some people knew with more exactitu than others of their existence. Some did not know abo them—like my friend on my left (Mr. Margetts). But y have investigated the subject, and have found the existence the evil and the greatness, and therefore you can never be the same position that you were in before. You are like a s man whose physician has diagnosed his disease and told h of it, and you must therefore make an effort to get well, continue to languish as a miserable and hopeless invalid.

The Report of the Chamber of Commerce.

I say, therefore, that this report of your Chamber puts matter of illicit commissions on a new standpoint, and

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The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent") having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

Beg to call the attention of the Profession to the following fact:—

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requires now more than ever that a zealous effort should be made by this great community of London to stop this evil. You have taken the lead; you have had a report which certainly confirms the suspicions of those who had suspicions before. You acknowledge the evil, and I venture to say that it is your duty to try and crush it. I repeat that it appears to me that we must not trust too much to legislation. I am very glad that this should be the subject of legislation, but you know what it is when legislation stands alone—when it is not supported by those whose duty it is to zealously support it. The law then falls dead, and the question which is so often asked would again have to be answered in an unfortunate way if you were not to avail yourselves of this opportunity to put an end to it.

IMPROVEMENTS AND WORKS IN THE CITY.

The City engineer (Mr. D. J. Ross), in his annual report to the Corporation, states that the length of new sewers constructed during the year was 137 feet, and the number of houses drained 176. Negotiations had been continued to acquire the various interests in the premises required for the widening of the southern side of Fleet Street. Several claims had been settled, and one frontage set back to the new line. The remaining claims were ready for settlement. The premises, 19 and 20 Fleet Street, nearly opposite St. Dunstan's Church, being about to be rebuilt, a favourable opportunity occurred for widening Fleet Street at its western end, and the London County Council had agreed to contribute 20,000*l.* towards the cost, which the Corporation had accepted. The improvement at the western end of Cheapside had occupied attention, and many interests had been acquired. All remaining claims were under negotiation. Preparations had been made for completing the Basinghall Street improvement, commenced as far back as 1861. With regard to the widening of Lower Thames Street, between Fish Street Hill and Monument Street, for which an application was made in 1897 to the London County Council for a contribution towards the cost, no reply had yet been received. The question of making an improvement by opening a passage-way between Drapers' Gardens and Copthall Buildings had been before the court for a considerable time, but owing to legal difficulties no progress had been made, and until those difficulties had been removed the matter remained in abeyance. The London County Council had declined to contribute to the widening of London Wall on the ground that as the land in Finsbury Circus, &c., having realised a higher price than it would have otherwise fetched owing to the intended widening, the Corporation were not entitled to compensation. With regard to the large area destroyed by the great fire in Cripplegate, when 3½ acres were demolished, the Corporation gave great attention to the question of effecting improvements. Many schemes and estimates for widening the existing thoroughfares and for forming new streets were prepared, but the London County Council had declined to contribute towards any of them. Failing in obtaining any contribution from the London County Council, the Corporation, considering that any improvement, if carried out, would be of a metropolitan and not a local nature, did not feel justified in proceeding by themselves. The result had been that the properties on the site had been rebuilt on the old lines of frontage, and no improvement effected. An arrangement had been made for widening Lothbury off the south side between Princes Street and the Old Jewry. The London County Council had agreed to contribute one-third of the cost of making the street 50 feet wide. The Corporation were forming a new street between Fenchurch Street and Crutched Friars, 40 feet wide, the owner of the land paying 6,000*l.* towards the cost, and on the invitation of the London County Council were contributing one-half the cost of widening Mansell Street, one of the direct approaches to the Tower Bridge. The price paid to the Gas Light and Coke Company for public lighting had been 2*s.* 3*d.* per 1,000 cubic feet. As regarded the electric light, 502 arc lamps were being used, but the question of lighting the side streets by electricity was still under consideration. The number of defective lamps observed was 886, for which the company was fined in each case. The cost of the water for flushing sewers, street watering and other public purposes was 3,736*l.* Beneath the City streets were 2,392 yards of subways. The lengths of gas, water and hydraulic mains, and telegraph, pneumatic tubes, and electric-lighting conduits laid in them amounted to nearly 10½ miles. The electric-light and telegraph conduits contained about 440 miles of wires and cables. The work of the Corporation in regard to street cleansing was important, conceiving that over a million people and nearly 100,000 carriages entered and left the City, and over 300,000 passed the day within the City. The quantity of water used for washing the streets was 26,000,000 gallons. The refuse removed amounted to 73,705 van loads. At the City Cemetery, at Ilford, 4,752 interments



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took place. The fire hydrants in the City were 831 in number, and were in proper working order. On the application of the Drinking Fountain Association, the whole of the cattle troughs and drinking fountains belonging to them within the City were transferred to the Corporation, who had undertaken to maintain them.

PROPOSED ZOOLOGICAL GARDEN FOR EDINBURGH.

A REPORT has been prepared by the committee appointed at a recent meeting to examine sites for the proposed zoological garden for Edinburgh. The committee have visited and carefully examined a number of sites in and near Edinburgh which they considered might be found suitable for a zoological garden. The following is a list of these, with the approximate feu-duties which the committee were informed would be demanded:—

1. *Redbraes Nurseries.*—This ground belongs to the Corporation of Edinburgh, and is situated in the Broughton Road, and adjoins the refuse destructor. It consists of about 10 acres, and includes a small mansion house and a pond. The committee was unable to obtain definite information as to the feu-duty, but even if this were very moderate, it is thought that the ground would be entirely unsuitable for the object in view. A large number of public works are in close proximity, and the health of the animals would be sure to suffer from the vitiated atmosphere. It would take a very large sum to put the grounds in order.

2. *Ground at the Dean.*—The Corporation possesses a large number of acres of ground on the north side of the Queensferry Road. This ground, while in close proximity to the city, slopes towards the north, and is quite bare of trees. The committee could not get definite information as to the rate of feu-duty, but from the fact that the Corporation recently refused 90*l.* per acre per annum for ground in the vicinity, it is probable that the feu-duty expected would be so high as to be prohibitive.

3. *Ground at Warriston.*—There are about 15 acres of fine ground situated to the north of Warriston Cemetery, belonging to George Heriot's Trust. This area is in close proximity to the car line running to Goldenacre. The nearest railway station at present is on the Caledonian line at Granton Road. This ground was offered to the Warriston Cemetery Company some time ago at a feu-duty of 65*l.* per annum, but was refused.

4. *Ground at Betlevue.*—This ground also belongs to the Heriot Trust, and is situated near the spot where the old zoological garden existed. It extends to only a few acres, and the smallest feu-duty which has been charged for ground here is 120*l.* per acre per annum.

5. *Hawkhill Recreation Grounds.*—This ground is situated in Lochend Road, Leith, and extends to about 13 acres. The price expected is not less than 16,000*l.*

6. *Grounds of Restalrig House.*—These grounds enter from the Restalrig Road, and are abundantly supplied with trees. There is also a large mansion-house. They are somewhat inaccessible to Edinburgh people, and can only be approached by the car to Portobello and from Piershill station on the Portobello line. The price would probably be much the same as Hawkhill.

7. *Joppa.*—There is a large number of acres of ground at the east end of Joppa, and within easy reach of both Joppa station and the tramway. The ground is much exposed, but is in very close proximity to the sea, and would thus be valuable for a marine biological station and aquarium. There are a large number of holiday visitors to Portobello and Joppa from Glasgow and other cities, in addition to those from Edinburgh. The feu-duty would probably be about 35*l.* per acre per annum.

8. *Comiston Estate.*—Sir James Forrest, of Comiston, is agreeable to feu 10 to 15 acres for a zoological garden at a feu-duty of 35*l.* per acre per annum. The ground seems fairly suitable, and the Braid Burn which runs through the ground would be of great advantage for watering the animals.

9. *Barton Estate.*—The proprietrix of this estate is willing to feu 15 or 16 acres of ground for the proposed garden at the rate of 12*l.* per acre per annum. The sub-committee visited the estate, and were generally much impressed with the suitability of the ground which was pointed out to them. It lies a little to the north of the Queensferry Road, and is bounded on the north by the Caledonian Railway to Barnton. Barnton Gate station is within a few minutes walk of the site. The main drawback to this ground is its distance from the city.

The sub-committee also made inquiries as to ground at Craiglockhart, Prestonfield and the Hermitage of Braid, but it was found that the proprietors of these estates were disinclined to feu for a zoological garden, principally on the ground that, as they think, the amenity would be injured. The sub-committee were not satisfied with the entire suitableness of any of these areas of ground. The three requisites most to be

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desired are proximity to population, amenity for an attractive garden and price. The ground at Barnton is, in the opinion of some members, by far the most desirable; it possesses great amenity and is reasonable in price, but the committee hesitate to recommend the formation of a zoological garden at a distance of three miles from the city, even although the railway facilities would be excellent. So far your sub-committee have exhausted their remit. Wherever the proposal for a zoological garden has been discussed it has been welcomed in the most cordial way as a real municipal and national gain, a much-felt want, and a scheme to be encouraged by public support. It appears to some of the sub-committee that the most feasible of all the sites would be a portion of the Arboretum, and they submit it might be worth consideration whether or not a movement should be made to acquire from the Government, on terms and conditions which could surely be adjusted, a sufficient area at Inverleith, and this would possess all the qualifications to make the garden a success.

THE PLASTERERS' DISPUTE.

A CONFERENCE between the National Association of Master Builders and the National Association of Operative Plasterers has been held at the offices, Bedford Street, Strand. The employers were represented by Mr. W. Houldsworth (Huddersfield), who presided; Mr. R. Neill (Manchester), Mr. T. F. Rider (London), Mr. B. J. Greenwood (London), Mr. J. Bowen (Birmingham), Mr. W. Symonds (Cardiff), Mr. W. Lowry (Newcastle-on-Tyne), Mr. W. Nicholson (Leeds), Mr. J. Higson (Manchester), Mr. W. Blake (Plymouth), Mr. G. Nicholls (Leicester), and Mr. John Rule (Sunderland). The points to be discussed were set forth in the masters' circular of February 1 last. In this the masters said that it was quite obvious that unless the master builders were prepared to surrender their right to direct and control their own business, prompt and effective measures must be taken to check the increasingly aggressive policy of the operative plasterers. The operative plasterers had assumed an attitude towards the masters beyond endurance, and it was, therefore, proposed that the master builders' associations throughout the kingdom should simultaneously require from the National Association of Operative Plasterers an official assurance that the following objectionable practices should cease forthwith:—(*a*) The present attempt to coerce foremen of plasterers or superintendents of plasterers' work into the membership of the National Association of Operative Plasterers; also (*b*) the threat to withdraw all members from the building firms employing such foremen or superintendents; (*c*) the practice of boycotting certain building firms and employers of plasterers, in spite of the fact that such firms adhere to the rules agreed between the Master Builders' Association and the National Association of Operative Plasterers; (*d*) the practice of printing and circulating amongst the members of the National Association of Operative Plasterers a list of such firms for whom they are forbidden, under penalty, to work; (*e*) the refusal to work on buildings where some of the workmen employed may not belong to a trades union; (*f*) the refusal to accept the decision of the employers as to which workmen shall do certain work in cases where the plasterers dispute with other trades as to their right to do such work; (*g*) the practice of withdrawing all their members when such work may not be placed in the plasterers' hands; (*h*) the objection to submit all trade disputes to discussion at a conference between employers and employed, with a view to arrive at an amicable settlement prior to any strike or withdrawal of workmen. The masters added that none of these demands were in any way antagonistic to the legitimate action of trades unions, and that they involved nothing but that to which employers of labour were reasonably entitled. After considerable correspondence the masters wrote asking the men to say definitely whether they persisted in coercing any men into their union, and, if so, what men. To this Mr. Deller, on behalf of the men, replied:—"We have not any desire, neither have we ever had any desire, to coerce anyone into our association. We claim the right and privilege to persuade any plasterer working at the trade to become a member."

The conference was held with closed doors. The delegates assembled at 2.30, and after some considerable discussion, as there appeared to be a deadlock, the masters retired, and agreed to put four questions to the men in writing, to which answers were also to be given in writing. The questions and answers are as follows:—

1. Are you properly authorised to definitely agree to and sign any agreement we may arrive at with reference to the employers' circular of February 1?—Yes.

2. It must be understood that an agreement shall be applicable to the whole of the country?—Agreed.

3. Are you prepared to enter into a monetary guarantee on

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both sides for the faithful observance of any agreement arrived at?—We cannot agree to a monetary guarantee.

4. In your letter of March 24 you state that you have no desire to coerce anyone into your association, and claim the right to persuade only. Do you confirm or withdraw that statement?—We wish to be honest with you, therefore withdraw the word persuade only, as we could not guarantee that our members would agree to such action on our part.

This is the official statement as supplied to the Press:—With reference to the last answer, which appears ambiguous, the secretary to the masters stated that it was understood that the men withdrew the word "persuade," but refuse to withdraw the right to coerce.

The masters and men then reassembled, and discussed the matter for another hour. The conference having lasted two-and-a-half hours the delegates left the room, and the secretary handed the following official statement to the Press:—"A general discussion took place with reference to the various objectionable practices set forth in the masters' manifesto, but virtually no progress was made, for on the first point, *re* coercion of foremen plasterers, the men's representatives not only refused to abandon the practice, but deliberately withdrew the assurance given in their letter of March 24 that they had no desire to coerce anyone into their association, but claimed the right to persuade only." After further discussion the employers then explained that it was the assurance in the plasterers' letter of March 24 that induced them to accede to the men's request for a conference, and that as that assurance had been withdrawn the employers must decline to continue the conference.

As the masters have declined to confer with the men until this point is cleared up it consequently remains for the men to make the next move.

Mr. Deller, the secretary of the Plasterers' Union, when seen by a reporter, said:—"The conference broke down simply because we refused to give a guarantee to coerce our members to work with non-unionist plasterers. The question put to us was whether we would be prepared to coerce our members to work with non-union men. We refused because we cannot bind any member to work with a non-union man if he is not willing."

One of the employers said to the same reporter, "The fact of the matter is the men are not ready for a conference. The time won't be ripe for a conference until they feel our (the masters') power."

SOCIETY OF ENGINEERS.

At a meeting of the Society of Engineers, held at the Roy United Service Institution, Whitehall, on Monday evenir April 10, Mr. John C. Fell, president, in the chair, a pap was read on "Machine Tools," by Mr. Ewart C. Am M.I.Mech.E. In his opening remarks the author pointed c the importance of engineers being well acquainted with t most modern practice in regard to the construction of machi tools. He further added that, owing to the important part n played by machinery in the world, the progress of this coun in relation to others would be largely determined by capacity to turn out the best and most improved tools. T author then referred to the distinctive features of modern too directing particular attention to the fact that it had n become the practice to substitute for one machine doing great variety of work a number of machines, each dealing w one class of article. Modern practice also called for grea accuracy and more automatic machinery.

He observed that ball thrust, hollow spindles, cut-tooth gear and other refinements had now become very general, a resulted in the production of better work at less cost. He th divided his subject into a series of headings, which includ amongst others lathes, drilling, boring, milling, planir shaping, slotting, keyway-cutting, punching and shearing, pla bending, metal sawing and forging, and welding machine Under the lathe section, descriptions were given of son powerful machines by Sir William Armstrong, Whitworth Co., Limited, including a 20-foot faceplate break lathe weighir 178 tons, also a special lathe for boring out and chambering gun The author also devoted considerable space to a description various forms of capstan lathes with wire feeds and chasin apparatus, pointing out what an important tool this ha become. Of drilling machines several useful types we described and illustrated, including a semi-radial drill American design, which is of entirely novel construction. T author's reference to milling machines indicated the impor ance he attaches to this class of tool, which is now in so mu demand in all well-appointed shops, and is made in such variety of shapes. A number of other tools under the headin enumerated were also described, and in most cases illustrate

The author then described several hydraulic power machine and under another heading gave a description of a class of to now coming very much to the front, viz. the pneumatic. Son useful information was given as to their advantages ar



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conomy. Some figures and data given in this connection owed that in drilling four times as much could be done as mpared with hand drilling, and that they effected a saving some 50*l.* to 75*l.* per annum per tool, even in a comparavely small drill. A working size pneumatic hammer was chibited. The last two divisions, viz. British *v.* American ols and good *v.* cheap tools, were as interesting as any, and forded considerable scope for the discussion which followed e reading of the paper.

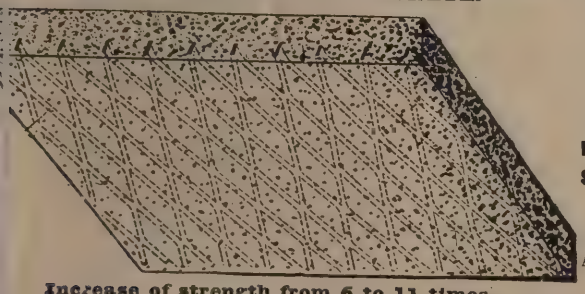
Under the British *v.* American heading the author closely mpared the two makes, and whilst he said he felt bound to ve considerable credit to American manufacturers for their genious and well-thought-out designs and well-finished achines, he also considered that the home products would obably excel them if our manufacturers could see their way discard some of their old patterns. The author concluded is section by pointing out that although our markets were ready encroached upon by the American makers, yet the ospect of a largely increased demand for machinery in the ar future would tend to provide business for makers of both untries, securing at the same time a healthy competition. nder the heading of cheap *v.* good tools the author expressed mself very strongly in favour of good tools, and showed that ey were, in the long run, cheaper than the so-called cheap ols, although higher in the first cost.

THE NEW GLASGOW BRIDGE.

OR more than three years, says the *Scotsman*, operations ve been going on in connection with the rebuilding of asgow Bridge, and as it is now approaching completion it ay be of some interest to give a general description of the rk. There has been a bridge over the Clyde at the oomielaw for some centuries, but the oldest one of which y authentic drawings exist is one which was removed about 35 to make way for the bridge which was built at that time m the designs of Telford. That old bridge was one of six ne arches of unequal spans, with a steep incline from both nks towards the centre of the river. As originally built it s only about 22 feet wide, but this was subsequently increased about 35 feet by the erection of cast-iron girders outside the asonry arches. Telford's bridge, which was an immense provement on the old bridge, consisted of seven stone ches, the spans increasing from 52 feet at the abutments to 59 feet at the centre. The width between the parapets was 58 feet, and the approaches were on a much easier gradient than those of the bridge which it superseded. It is the common belief that Telford's bridge was constructed of granite, but as a matter of fact it had only two granite faces, and the whole of the rest of the bridge was of sandstone. Sixty years was a short life for such a structure, but Telford had but little idea of the enterprise of the Clyde Trustees. When he built the bridge it was almost possible to wade across the Clyde at the Broomielaw at very low water, and when he put in his foundations about 9 feet below low water, on a timber platform supported on piles, he no doubt thought that he was quite safe for at least 100 years, if not for all time. The operations of the Clyde Trust during the last thirty years have, however, changed all this, and for many years the foundations of the piers were practically condemned, and had to be protected with mounds of rubble and concrete, which formed an insecure protection at the best, and seriously impeded the navigation of the upper reaches of the river. Although not much subsidence could be observed in the structure of the bridge, the arches were seriously rent, and it became quite apparent some years ago that Telford's bridge was doomed. The Town Council of Glasgow took up the matter in earnest in 1892, when they obtained an Act of Parliament to enable them to remove the bridge and to erect a new one in its place, but much had to be done before the scheme could be carried out. A temporary bridge had to be erected to carry the enormous traffic which passes over the river at the place, and this was done at the cost of about 13,000*l.*, the piers being of piles strongly bound together, and the spans being formed of steel girders, bound with two layers of planking, on which the causeway and tramways were laid. This temporary bridge was of the same width as the old bridge, and has answered its purpose admirably for the past six years.

For various reasons it was resolved to build the new bridge practically with the same elevation as the old bridge, one reason being that the granite piers could be redressed and replaced on the new bridge, but as a matter of fact the whole of the new bridge is of granite, the arches being of granite throughout and the piers faced with the same stone. The most difficult and most expensive part of the work was in obtaining a proper foundation, and as all the piers and the abutments have been carried down to a depth of about 60 feet below low-water level, and from 20 to 30 feet below the founda-

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tions of the quay walls along the Clyde, one can hardly imagine that any possible future operations of the Clyde Trustees will in any way interfere with the stability of the new bridge. The foundations were sunk under pneumatic pressure by means of steel cylinders, having an air-tight chamber at the bottom, in which the workmen dug out the excavations, while the cylinders were sunk by being gradually filled up with concrete, the superincumbent weight forcing the cylinders down as the excavations were removed. Each pier is supported by four cylinders, each 15 feet diameter, these being connected with each other at low-water level by semicircular granite arches, on which are built the solid piers which support the main arches. The abutments and wings are also supported by cylinders, those for the abutments being similar to those for the piers, but those for the wings being considerably smaller and being built of brickwork instead of steel and concrete. One of the main features of the new bridge will undoubtedly be the parapets, which are of polished granite throughout. The old parapets were of rather a handsome design, consisting of moulded balusters supporting a moulded cope. Although these were all of grey Aberdeenshire granite they had, in course of time, become so ingrained with dirt as to be quite black, and it was almost impossible to recognise the nature of the stone of which they were made. Almost the whole of these balusters and copestones were found to be perfectly sound, and now that they are redressed and polished they add a most imposing feature to the structure, while they can be kept perfectly clean for all time by a judicious application of an ordinary street hose. The pediments surmounting the piers of the old bridge were rather insignificant, and served merely as bases for gas lamps. These have been superseded by elaborate moulded and polished granite pediments rising considerably above the level of the parapets of the arches. No provision has been made on them for lamps, as the whole lighting of the bridge is to be carried out by means of a row of electric lamps placed along the centre of the carriageway. The new bridge is 80 feet wide between the parapets. The footpaths on either side are 15 feet wide and the carriageway 50 feet. A double line of tramway occupies the centre, and there is on each side ample room for a double line of ordinary street traffic between the tramway rails and the kerb. Provision has been made on the bridge for a large number of pipes, including two 27-inch water-pipes, two 24-inch gas-pipes and a whole array of smaller pipes connected with the hydraulic pressure, electric lighting, electric traction, telegraphs and telephones. The bridge will be opened for traffic during the summer, but the precise date has not yet been fixed. The engineers of the bridge are Messrs. Blyth & Westland, M.M.Inst.C.E., Edinburgh, the contractors are Messrs. Morrison & Mason, Glasgow, and the whole of the new granite has been supplied by Mr. John Fyfe, Aberdeen. It may be of interest to mention that the granite in the old bridge also came from Aberdeen, the builders of it being Messrs. John Gibb & Son, who were the lessees of the Rubislaw Granite Quarries there.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS

6568. Alfred Julius Boult, for "An improved window-sash and blind balance."

6611. Alexander Drew, for "Improvements in fireproof flooring."

6613. Hans Echberg and Harry Kitchin, for "An improved method of and apparatus for the ventilation of mines, public buildings, holds of ships and the like."

6664. Henry Harper Wood, for "Improvements in rising bottom grates for fireplaces."

6686. Thomas Curran, for "Improvements in studding or supports for partition walls."

6770. Johannes Stumpf, for "Improvements in windows."

6774. Albert Victor Edward Greensides, for "Improvements in or connected with moulds for forming the cornices of walls or ceilings."

6874. Thomas Evans, for "An improved method of portable glazing on wood or any kind of metal rafter for structures covered with glass."

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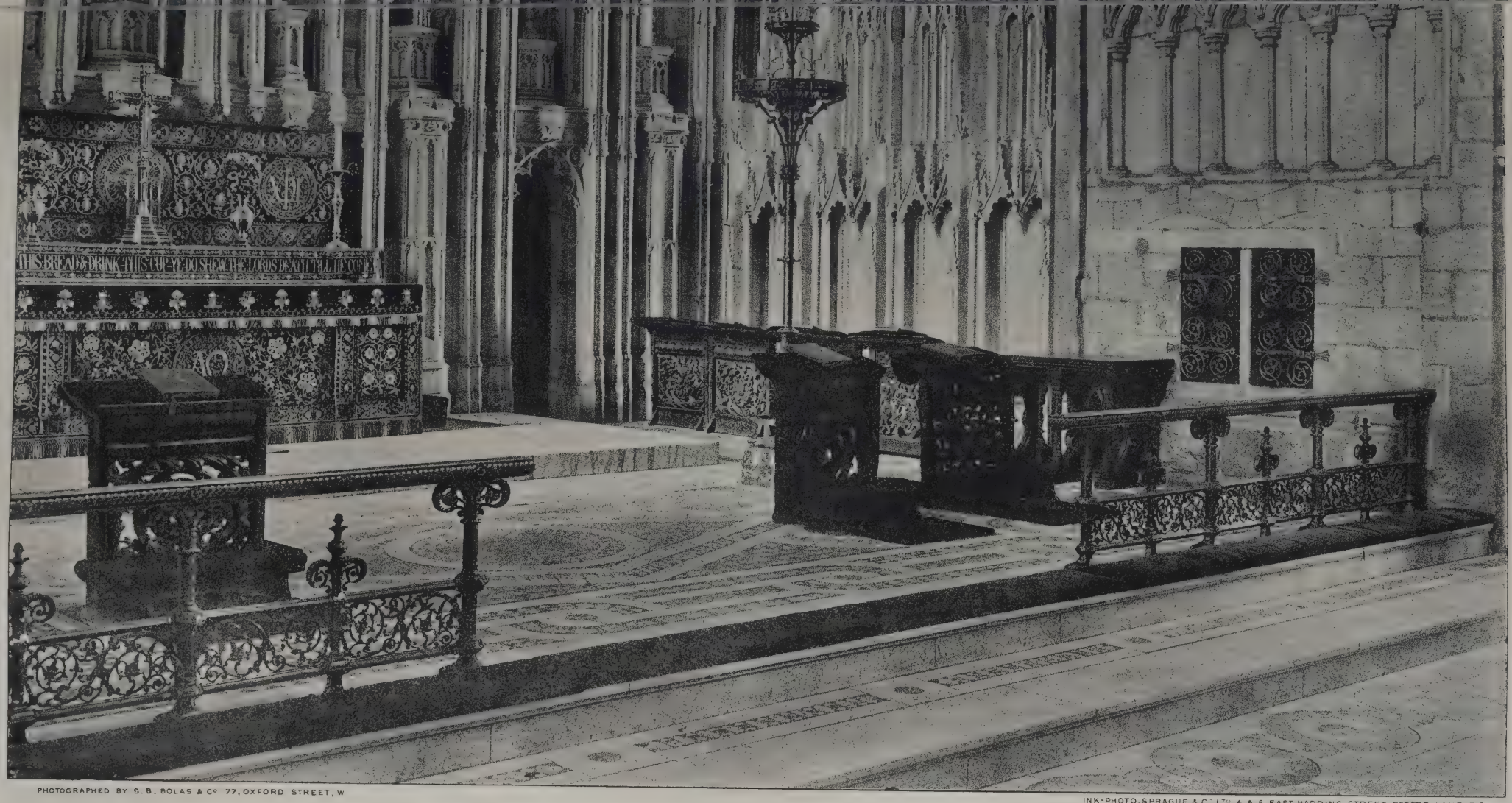
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tect.

The Architect.

THE WEEK.

HERE have been many more alarming fires in London ıan was witnessed on Monday morning at Hyde Park ourt, the colossal building at Knightsbridge which puts 'erything in the neighbourhood out of scale. The money ss is not supposed to be more than 17,000*l.*, and that sum ɔes not appal insurance offices transacting business in the :etropolis. But the circumstances were dramatic, and ɜre therefore adapted for imparting extraordinary im-ɪrtance to the fire. In the first place, there was no real nger to any of the inmates. Some got excited and shed to the spots where there was less chance of safety. lady's maid who possessed self-control, and who tried to part her quietude to the hysterical creatures rushing ɔund, told a reporter how "every one seemed to lose his ɪses, and paid no heed to the assurances of the autho-ies of the hotel that the fire-escapes would soon arrive. any who leaped from the windows could have escaped m the place as I did, by keeping cool and following one the porters, who acted admirably throughout, along a ridor to a staircase which led to the rear of the building." at is a picture of a common scene at most fires, and, atever means of safety are devised, we fear there will be ays people who at the first alarm give themselves up for t, and will involuntarily seek death instead of avoiding There was a special staircase in the Court to meet such ergencies, but nobody used it. At Knightsbridge part of building collapsed, but it was as much from the weight water with which it was deluged as from failure of erials. Firemen in such cases cannot be discriminating. ɜ property which was destroyed testifies to the energy of fire brigade and the abundant supply of water rather ɪ to the strength and universality of the flames.

WE recorded a few weeks back the results of the petition for the prizes to be awarded for the most tive of modern façades in Paris, and mentioned the ıouses selected. The next question was the degree of t. It has been unanimously decided to award the place to No. 104 Rue de Grenelle, which was designed M. MARQUET and constructed by M. BARRAUD for MARCHAND. Visitors to Paris will therefore be likely ek out the house before examining the others. The nd place was gained by a house in the Rue du Roi-de-ɜ, designed by M. DEBRIE; the third by the Castel nger, Rue La Fontaine, by M. GUIMARD. The latter been subjected to more criticism than the rest of the lings, and although it is supposed to be an effort to ıcipate Parisians from English ideas about houses, it ves general approbation. The remaining buildings house in Avenue d'Anton, MM. BUNEL & DUPUIS, itects; house on Boulevard La Villette, M. RABIER, tect; and house in Rue Croix-des-Petits-Champs, ɜREFFENDILHE, architect.

.N interesting experiment is now in progress at Orrell, ɜ parish of Sefton, near Liverpool. Alderman JONES, ɪmber of the Bootle Corporation, has erected about ɔlwellings for the workmen who are employed in various ɪtries in the district. There are three classes of dwell-s viz. small, medium and large. The rent charged for ur-roomed cottage is 5*s.* per week, for the five-roomed ıd for the largest size, which has five rooms and a room, 8*s.* a week. Oil lamps used to supply the light, ɜe electric light has been introduced. Two lights of ıle-power are given to the small houses, three to the e-class houses, and four to the large. The tenants l., 6*d.* and 9*d.* per week for the new light respectively. reets are lighted at the owner's cost. In each street will be three incandescent lamps, each of 16 candle-at every 40 or 50 yards. The current is switched on k, and remains lighted till midnight in the houses l dawn in the streets. During the winter months the houses will receive the light from five o'clock in the morning till dawn. The electric plant that has been laid down is capable of supplying between 2,000 and 3,000 8 candle-power and 16 candle-power lights. The dynamo is of the Clayton type, and the motive power will be obtained from TANGYE'S high-speed vertical engines. The main cables are carried overhead on insulators from the generating station not far distant from the houses. In each house there will be one main switch-board, volt meter, watt meter, and automatic cut-outs.

DEAN GREGORY has long possessed a reputation for prudence. It is to be regretted that so venerable a dignitary should at so late a period of his life create doubts about the truth of the opinion relating to himself. The Dean in theory bears most of the burthen of the responsibility for the freaks from which St. Paul's suffers, and the sternest critic would be disposed to let him off lightly. But Dean GREGORY will insist on making the affair ridiculous by appearing to lay down the doctrine that St. Paul's has ceased to be national or diocesan property, and that only those who subscribe to the degradation fund have a right to take an interest in the operations. On Saturday he was more reasonable, for he went so far as to say to the architects who waited on him that the stencil ornament which has been applied to parts of the building is largely experimental. He might have added a few other adjectives expressive of its quality, but we suppose we ought to be thankful for the least concession to common sense. It was also said that the drum was to be adorned with glass mosaics. Although Mr. BALFOUR a few nights ago again stated that the Government were without any control over the cathedral, Lord WEMYSS intends on to-morrow to make inquiries in the House of Lords on the subject, but a satisfactory result is not anticipated.

ON Wednesday a meeting of the Master Builders' Association was held at Derby under the presidency of Alderman HOULDSWORTH, of Bradford. After a very long consideration, a resolution was adopted to the effect that it was quite impossible to conduct business with the existing restrictions and disputes on trivial matters, and that decisive measures must be taken to settle the matters in difference on a permanent basis. It was further resolved that, unless the plasterers agreed to resume work on reasonable conditions at once, a general lock-out of all the men in the building trades be ordered. The resolutions were carried unanimously, and it was agreed to submit them to the Council of the Association at a meeting to be held in Birmingham on Thursday next, the 27th inst. In connection with the plasterers' strike, it is stated that during the first three weeks of the lock-out the funds of the National Association of Operative Plasterers were reduced by about 25 per cent., and this in spite of the fact that, in addition to the special levy, the members paid in during this time about 1,000*l.* in ordinary contributions for sick benefit and superannuation purposes. Some of the members of the Association, who have been bound to the Association by the anticipation of sick or superannuation benefit, are said to have already recognised that any such prospect is rapidly vanishing. They are consequently refusing to make any further purposeless sacrifice, and are leaving the Association.

A SCHOOL in Aix-la-Chapelle, which was founded by CHARLEMAGNE and has been carried on continuously from his time, is about to be suppressed. The education was mainly theological, and therefore was not affected by the advances in secular knowledge. In the Middle Ages the reputation of the school stood high. The old revenues were applied from time to time to other uses, and of late years all that was to be obtained was a sum of about 300*l* a year, which was inadequate to support the Höhere Stiftsschule on its ancient footing. When NAPOLEON held possession of the city at the beginning of the century he decreed that the school should be laicised, and his arrangements were subsequently upheld by the Prussian Government.

GIORGIO BARBARELLI, OR GIORGIONE.*

VASARI expressed the belief among artists in his day when he said, "Giorgione, having seen some of Leonardo's pictures, which were painted with wonderful softness and expressed relief by the unusual darkness of the shadows, was so impressed by them, ever afterwards he continued to imitate the treatment, and succeeded in his oil-paintings to approach the excellence of the originals." The indebtedness of the young Venetian to Da Vinci has been doubted, but it must be allowed there was a great similarity in their lives. Both came into the world irregularly or illegitimately; they were both of fine physique, and their accomplishments made them favourites. According to Vasari, Leonardo's conversation was so pleasing as to win all hearts, and the radiance of his beautiful countenance compelled the most melancholy to become cheerful. He sang to the lute most divinely, improvising verses and music with equal ease. Giorgione likewise "played and sang with the most exquisite perfection, insomuch that he was for this cause frequently invited to musical assemblies and festivals by the most distinguished persons." We are told also by Vasari that from the character of his person and the exaltation of his mind he was called Giorgione, which Mr. Ruskin interprets as Stout George or George of Georges.

There were also differences between the two partly caused by racial peculiarities. Giorgione was happy in the contemplation and creation of beautiful forms. All the more eminent artists believed, says Vasari, that "he was born to infuse spirit into the forms of painting, and acknowledged that he copied the freshness of the living form more exactly than any other painter, not only of Venice, but of all other places." The same authority tells us how much less simple was Leonardo's delight as a painter in beauty, for "it appeared to him that the hand could never give its due perfection to the object or purpose which he had in his thoughts or beheld in his imagination." Giorgione was satisfied with the superficial aspect. Leonardo's mental vision went beyond outward form; he sought the causes of the effects. In fact, his life was a continuous searching. To paint a monster, he lived among putrid bodies, as if ideas could be excited by stenches no less than terrible forms. To paint shadows he produced a black of an intensity more deep than any known to painters. His anatomical drawings are so painstaking they were admired by William Hunter. But to a Greek of the days of Phidias the restless, unsatisfied longing of Da Vinci would appear to be less becoming in an artist than the ardour of Giorgione, who "gave his whole heart to the beauties of nature, and would not attempt to represent anything for which he had not found a living model."

Time has, however, treated the two men with equal severity. Where are Da Vinci's works? His *Last Supper* was so often repainted, it is no longer in a state for which he could be held responsible, and he would be likely to disown it. His cartoons have vanished, including one showing a landscape with which Vasari was acquainted, and which in spite of his prejudice against the artist he considered so beautiful, "there is no genius in the world, however god-like, who could produce similar objects with equal truth." Among the works attributed to Leonardo, the unfinished *Mona Lisa* alone is generally accepted as authentic. Luini, Salaino and other pupils now receive credit for works which once were ascribed to the master.

Giorgione is no less unfortunate. At one time his works were considered essential in all galleries of any note. Modern criticism has reduced the number to a surprising extent. Crowe and Cavalcaselle maintain there is only one genuine work by Giorgione, viz. the *Concert* in the Pitti Palace, Florence. In the latest "Kugler" it is described as an early picture by Titian. The altar-piece in the church of Castelfranco, the painter's birthplace, and long ascribed to him, has probability in its favour; but it is only tradition which supports the belief of Giorgione being a native of the town. Herr Mundler, however, says, "Only one picture is quite certain and authenticated by documents, the altar-piece of the principal church at Castelfranco." The *Concert Champêtre*, of which we publish an illustration, according to Crowe and Cavalcaselle, is by an imitator of Sebastian del Piombo, who was a pupil of Giorgione. Signor Morelli, who has devoted much pains to the study of the painter's works, says it is a genuine example of the master, and that "the introduction of nude female figures contrasted with the rich dresses of the two musicians gives a measure of Giorgione's power." The Signor believes that twelve pictures exist which can be accepted confidently as productions of the painter. They are the *Ordeal by Fire* and the *Judgment of Solomon*, with the *Knight of Malta* in the Uffizii; a *Christ Carrying the Cross* at Vicenza, the altar-piece at Castelfranco, *Giorgione's Family* (a gipsy woman and child and a soldier separated by a stream) in Venice, the *Madonna with SS. Roch and Antony* in the Madrid Gallery, a cassone picture in the Seminario, Venice; the *Three Stages of Life* in the Pitti, a fragment in the Esterhazy Gallery, Pesth; the *Three Philosophers* in the Vienna Gallery, the *Sleeping Venus*, formerly ascribed to Titian, in the Dresden Gallery. By many experts this list will be considered extremely lax, but it will be observed that although he has widened the bounds Signor Morelli is unable to admit a single picture in an English collection.

There is so much uncertainty on the subject, Raphael Mengs was not to be blamed for having in the last century declined to believe that Giorgione was the inventor of the deep and glowing style of colour associated with his name. Tradition ought, however, to count in such cases, and the Italian connoisseurs may be right in their eulogies of Giorgione, and in crediting him with an influence upon the early works of Titian and Sebastian del Piombo.

In his frescoes Giorgione has been as unlucky as in his easel pictures. Time, or rather the salt spray of Venice, has operated on them in merciless fashion. Artists and owners may have anticipated that result, but it could not be avoided. So much of Venetian life was passed in the open air, the beauty of buildings was not confined to interiors. It was considered a duty to expend wealth on the outsides of palaces and public buildings. In a like spirit frescoes were commissioned to adorn parts which could be seen by all who passed. In that way Giorgione came to paint a façade near Sta Maria Zobenico, a second near S. Vitale, and two others in the same neighbourhood, the Casa Sorenzo near S. Paolo, his own house near S. Silvestro, and the Casa Grimani near S. Ermacora. He and Titian painted the façades of the Fondaco dei Tedeschi, but of their work only a single figure remains and its authorship cannot be determined. Vasari says Giorgione's part, and owned he was unable to understand the meaning of the figures, nor could he discover any one who was able to instruct him. Evidently there were many single figures, some with symbols, and, in spite of the obscurity, Vasari testifies to their fidelity to nature and their originality. Although destined to be evanescent, the frescoes exercised much influence on the Venetian style. As Eastlake says:—

The Venetian painters, as compared with those of the schools of Lombardy and the Netherlands, appear, with few exceptions, to have systematically avoided a preponderance of deep shade. This must be understood as meaning no more than that their treatment of light and shade was calculated for works of large dimensions. From the first the great Venetian colourists were accustomed to execute frescoes in the open air, and sometimes in situations where the distance at which their paintings could be viewed was far greater than their size required. The elements of distinctness and breadth were thus familiar to them, and, it must be confessed, were sometimes transferred to works which, admitting of near inspection, might have suggested a different treatment. "Venetian shadow, which, notwithstanding the occasional darings of Tintoret in more capricious directions, is characteristic of the school, and which the praise of Agostino Carracci has rendered proverbial, is the worthy auxiliary of composition on an extensive scale, and is fitted, by combining distinctness with breadth, to convey the uncertainty which arises from distance or want of light. It is calculated to give place and meaning to form, to display remembered attributes of colour, and, while it renders forcible local hues indispensable, to combine solidity with clearness. The view which the Venetian artists took of nature was consistent with the ordinary destination of their works. They appear in most cases to have assumed that the objects to be represented were seen by the diffused light of the atmosphere, as opposed to the case where the light is derived from a particular source. The practical result of this is that in

* See Illustration.

shadow is smaller in quantity, and that the picture is chiefly composed of gradations of half and reflected light; brightness thus marking projection, and obscurity depth. It has often been said that in Venetian pictures (more constantly than in those of other schools) the foreground objects are, relatively to their lines, the lightest, the retiring ones being lower in tone. The diminution of the force of shade in remoter masses, the introduction of accidental cast shadows, of dark hues near, and bright objects, buildings or sky in the background and distance, may conceal without altering the artifice. This system of effect in Venetian pictures corresponds with that of nature, and, like that, is too familiar to be remarked; but its apparent simplicity conceals a scale of gradation the fulness of which may be more difficult to compass than the pronounced effects of confused light. Hence the unaffected character of "Venetian shade;" and hence, at the same time, its power in marking the essentials of form, while it leaves the general idea of colour unimpaired.

Owing to its relation with external fresco-painting, Venetian painting could not fail to assume a decorative character. In that way we also see its affinity to Eastern work. But the Venetian artists were not disposed like their Byzantine predecessors to formal arrangements. VASARI, as we have seen, was nonplussed before the fresco of GIORGIONE because there was "neither arrangement of events in consecutive order, nor even single representations depicting the history of known or distinguished persons, whether ancient or modern." The Florentine, we suppose, expected to see the Fondaco de' Tedeschi covered with scenes like those which MICHEL ANGELO and LEONARDO DA VINCI designed in rivalry, or a series of biblical scenes resembling those of the gates of the Baptistery. The disregard for precedent shown by GIORGIONE could not be approved by VASARI. He should have known that decoration in Venice was designed on principles which differed from those adopted in Florence. It would, perhaps, have been better if some universal principles were adopted. But the Renaissance signified liberty, and each of the schools wished to be distinguished by qualities which could be considered as characteristic. The Venetians could not have laid definite rules to separate decorative from ordinary easel pictures. In both the artists were inspired by the spirit of the time and place. Comely figures which usually appear to be portraits, rich costumes, noble architecture, figure the elements of the pictures. Then there was uncommonly animation which appeared to be bustle, and recalled the scenes of daily life. The wealth and vigour of the inhabitants are recalled by scriptural scenes, and consequently artists like TINTORET and VERONESE were bound to be popular.

But in human nature there is always a tendency to reaction. Many men and women in Venice must have been wearied by the constant activity they saw everywhere, and were eagerly sought to escape from it. ALFRED DE MUSSET expressed a natural instinct when, in his story "Le Fils du Titien," he represented the son of the great painter as trying to forget what he owed to his name and his ability. The daughter of one of the senators wishes to see him recognised as the successor of his father, but he realises that much labour is indispensable, and he considers that is of too brief a tenure not to be enjoyed. To the last he was faithful to idleness and to his fair counsellor. In the *Concert Champêtre* we can see the expression of a like mood. Mr. PATER at least interprets the picture in that way:—

"In the school of Giorgione you drink water, perfume, music, in receptive humour thus for ever, and the satisfying moment is assured. . . . Life itself is conceived as a sort of dreaming—listening to music, to the reading of Bandello's tales, to the sound of water, to time as it flies. Often such moments are really our moments of play, and we are surprised by the unexpected blessedness of what may seem our least important part of time; not merely because play is in many instances that to which people really apply their own best powers, but also because at such times, the stress of our servile, everyday attentiveness being relaxed, the happier powers in us without us are permitted free passage, and have their will with us. And so, from music, the school of Giorgione loves often to play which is like music; to those masques in which men avowedly do but play at real life, like children dressing up" disguised in the strange old Italian dresses, richly coloured or fantastic with purfling and furs, of which the painter was so curious a designer, and which, above all the rich dress white linen at wrist and throat he painted so dexterously.

And when people are happy in this thirsty land water will not be far off; and in the school of Giorgione the presence of water—the well or marble-rimmed pool, the drawing or pouring of water, as the woman pours it from a pitcher with her jewelled hand in the *Fête Champêtre*, listening perhaps to the cool sound as it falls, blent with the music of the pipes—is as characteristic and almost as suggestive as that of music itself. And the landscape feels and is glad of it also—a landscape full of clearness, of the effects of water, of fresh rain newly passed through the air and collected into its grassy channels; the air, too, in the school of Giorgione, being as vivid as the souls which breathe it and literally empyrean, its impurities burnt out of it, no taint, no trace or floating particle of aught but its own clear elements allowed to subsist within it. The scenery is such as in England we call "park scenery," with some undefined refinement felt about the rustic buildings, the choice grass, the grouped trees, the undulations deftly economised for graceful effect.

It may seem unaccountable why there should be such a mixture of nude and draped figures as we see in GIORGIONE'S picture. In the sixteenth century there was less strangeness about the contrast. Pictures were to be seen even in churches which were composed in a like manner. Groups in which the figure of St. SEBASTIAN was an element were familiar. MASACCIO'S *Recovery of the King's Son* has one naked figure in the centre of a crowd. Two are seen in BOTTICELLI'S *Calumny*. The incongruity when seen in the *Concert* and in TITIAN'S so-called *Sacred and Profane Love* imparted interest to the work. It became a riddle for which many solutions could be offered. Modern realism does not see any absurdity in the contrast, for in M. ZOLA'S "L'Œuvre," the unfortunate hero endeavours to gain a footing among artists by attempting a similar work, not merely out of rivalry to GIORGIONE, but because he was inspired by a love of symbolism, and he imagines the public will gladly try to give a solution of what he attempted. There was unquestionably such a picture exhibited, and those who remember it will be disposed to conclude that GIORGIONE is unapproachable.

PONTOISE.

By JOHN A. RANDOLPH.

ON the Oise (from which the town takes its name), a tributary of the Seine, at about 25 kilometres north-west of Paris, lies this town. It is a strange architectural medley and full of irregularly-formed streets, some in the lower town on level ground, and some on the stupendous church-crowned hill which overlooks a fine broad street leading to the station, and whence the country round is visible for miles, the lay of the land being very flat about the approaches to Paris on that side.

Few people think of breaking their journey between charming Dieppe and Paris otherwhere than at Rouen, and they therefore, as a rule, leave Dieppe by the boat train as if that were the only way thence to Paris. However, the route to Pontoise, by Gisors (whose church is well worth a visit), is preferable, from a mere landscape point of view, to that from Dieppe to Paris by the boat line, and many of the churches en route are picturesque, to say the least.

On leaving the station towards the town, a few paces down the broad avenue of trees bring us to a cross-road, and on the right over the bridge is an excellent hotel, and from there, through irregular streets and over some very fine specimens of cobbles, an otherwise easy road leads us to the Place by the church of St. Maclou.

The fifteenth-century west front is not unlike that of St. Jacques at Dieppe, at first sight. The north-west chapel is due to the design of PIERRE LEMERCIER, who also designed the church of St. Eustache at Paris. He was born here, and died after 1560. JACQUES LEMERCIER, Cardinal RICHELIEU'S architect, also a native of Pontoise, worshipped in this church, which dates from the twelfth century. The west door is under a rich canopy, which cuts through a Flamboyant cusped and panelled balustrade near the top, and has a graceful circle in its apex. Slightly receding is the gable, with a beautiful and elaborate rose-window under a pointed arch, with a rich be-crocketted dripstone, its finial serving as a carved bracket for a statue over, but that idea was not carried out, and the crocketted gable has a tiny traceried circlet instead.

On either side of the door are richly niched and pinnacled buttresses, also statueless like the arch of the door. The base of the tower has an elegant window and door, almost a replica of the side door of the west front of St. Maclou at Rouen.

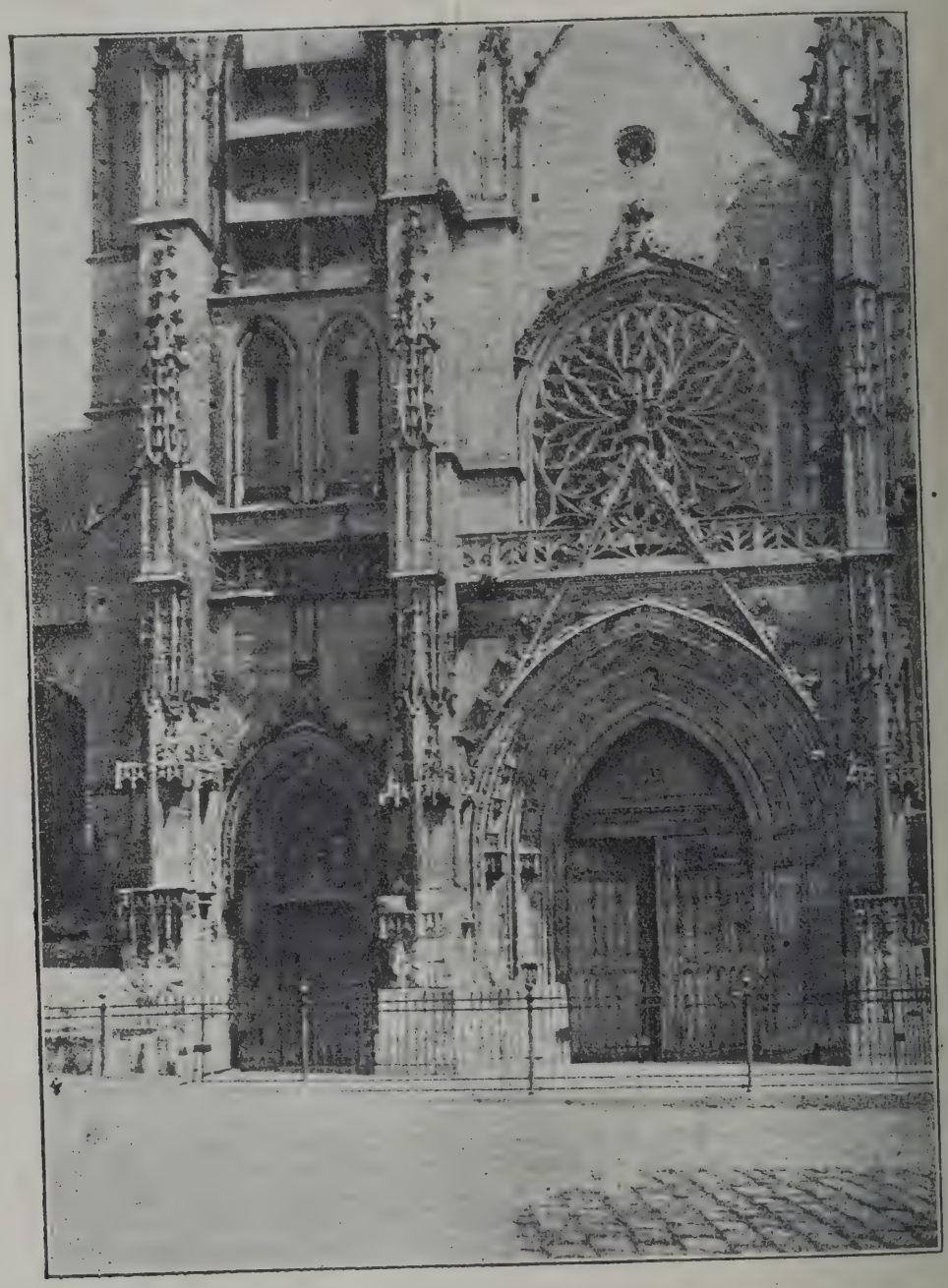
The balustrade pattern crosses the tower front, and above it are comparatively plain shafted lancets without capitals. The top of the tower, though picturesque, is Renaissance, the structure not having been completed in Gothic times.

The church, which is fine inside, with good glass of the ixteenth century, has a most curious "Entombment" of hat period, with eight figures grotesquely carved in stone.

reach the church of Notre-Dame—a low structure with very late Gothic tracery, the church being, generally speaking, Renaissance. It contains the twelfth-century tomb of St. Gautier, with quatrefoils on each of its sides and bearing his statue. The arrangement of the church is a trifle out of the ordinary, with a votive chapel in the thickness of the west front and close to the door, whence there are a few steps down to the floor of the nave.

The chapel of the Hôtel-Dieu contains a painting by Philippe de Champaigne, who painted the portraits of Cardinal Richelieu which are now in the (inter-) National Gallery.

Among the well known names of history Pontoise can



Pontoise, St. Maclou.

Underneath the group are six others, representing the "Resurrection." There is also a fine Madonna in stone and some funeral monuments, and Jouvenet's picture of the "Descent from the Cross."

Walking round the church, one comes to the parapet overlooking the wonderful flight of steps which lead down to the main road to the station. The view from the parapet is striking. It is said that this great feat of construction was necessary in order to save the church. Near by is Jacques Lemercier's house, which, we believe, is not but should be a "monument historique."

Descending the staircase and proceeding along the road to the station we branch off to the right in a line where we made for the hotel on arrival; after a few minutes' walk we

lay claim to the following natives:—Philippe le Har (1342-1404), Pierre and Jacques Lemercier, Gene Leclerc (brother-in-law of Napoleon); while the Depa ment itself boasts of, among others, Philip-Augus (1165-1223), king of France; St. Louis (born at Poiss Henri II. and Charles IX.; Bullant (one of the great French architects of the Renaissance); Duplessis-Morn (the Huguenot Pope); the Duc de Sully; Louis XI Philippe V., king of Spain; Louis XV. and XVI.; Phili d'Orléans, Philippe-Egalité, the Abbé de l'Ep Louis XVIII., Geoffroy St. Hilaire, Daguerre (inventor of the Daguerreotype), Dantan and Ferdina de Lesseps.

Pontoise being within easy reach of Paris (St. Laza

passengers from Dieppe preferring to go straight on to the capital first can visit Pontoise in the morning after café au lait, and have déjeuner there, do Mantes in the afternoon, and be back at Paris for the table-d'hôte. Several interesting day tours can be got in from Paris on the same plan.

"THE DRUIDS ELECT."

WAGNER'S howlings and trumpetings and drummings have overcome the sweetest music ever associated with archæology. Norma and Oroveso the arch-priest, Pollio and Adelgisa have vanished, and their melodious recriminations no longer move us. With them the Druids have ceased to have a footing on the British stage, and those who are ambitious to be initiated into the ancient rites and mysteries must go through a novitiate in the "grove" of some humble public house. We are therefore grateful to Messrs. G. B. Carvill and Gervase Bailey, the authors of the Architectural Association's play at St. George's Hall, for reanimating those ancient and renowned Britons who in the possession of all knowledge, including architecture, deserve respect, and who have bequeathed to us in Stonehenge a bewildering puzzle which can never be made out and a structure which no painter, wax-coater or stenciller would dare to improve. But the dramatists have not fully risen to the height of the great argument with which they were inspired. Instead of endeavouring to fathom the profundities of Druidism, and in that way to discover the mechanical and other power employed in raising the temples, the geological skill seen in the selection of stones from unknown quarries, and the mastery of principles which must have been exhibited in covering the enclosure in days when waterproofs and umbrellas were unknown, they have allowed themselves to be effeminately vanished. Instead of a poetic elucidation of statical problems, we have a love story. What is more terrible, they have dared to rhyme disrespectfully not only about the Northern gods but their ministers, who are supposed to express themselves in the following frivolous style:—

When Thor has turned his face in wrath, his pity must be wooed
With a couple of fat oxen—and beef is very good;
And when we're getting tired of beef and want a change of diet,
Then Woden asks for chicken, which is given to keep him quiet;
And Friga's fond of sausages, and Saturn's keen on veal.
Oh! 'tis thus the gods reward us for our piety and zeal.
Benedicite.

Whether the poets have caught that sort of language from the chorus-girls, or the reverse, we cannot decide. All we know is that those young people appear to exercise far more influence than is consistent with the safety of a State like Druidic Britain. The time, too, is momentous. Fifteen years before, Julius Cæsar had landed in order to send the historic telegram *Veni, Vidi, Vici*, and then departed, arriving in Rome prior to the delivery of the message. An exploring party from Rome had just arrived when the play opens, in order to establish civilisation among us, with its school boards, county councils and strikes. The leader was Rodesius, the chairman of the Roman Chartered Company of Great Britain, Limited. This is and the company's aims are explained by another explorer, Rougepot, who, although he has risen to be arch-druid—and a very arch one he is—we suppose was not an ancestor of the renowned traveller who enlightened the British Association at Bristol. Architecture is not excluded from the purview, for the company has representatives in a street which recalls the other financier who conquered at Blenheim. Says, or rather sings, Rougepot about the unlimited capacity for receiving commissions to be found there:—

If to planning you aspire
And would gain your heart's desire
With a site that is distinctly limited;
And you need to cut it fine
In eighteen ninety-nine,
When the length of the British purse is limited;
Say a fifteen-frontage plot
To accommodate the lot,
You'll grant that that is just a little limited.
Just call at Marlborough Street,
The boys will do the feat
With varieties clever and unlimited.

Chorus.

With varieties clever and unlimited,
Though the trials to contend with are unlimited.
But with Voysey on the night
You bet it goes all right,
For the student's keenness is unlimited.

For the moment Rougepot's own designs are for abstracting a part of the wealth of Ashlar and Rubble, architects, but not in partnership, who are rivals for a seat on the Council of the Druids, vacated by the death of the eminent and lamented Stucco. Rubble holds that services should be rewarded, and pays his gold pieces like a believer in illicit commissions, but Ashlar holds with Lord Russell of Killowen. The Arch-druid accordingly manœuvres and demands that whoever wins must surrender his greatest treasure. For Ashlar it is his daughter Blodwen.

The young British damsels therefore resolve to seek some happy region where "the sun of freedom shines undimmed by the dark clouds of priestcraft and tyranny, where the rights of women are respected, where men will grant us the honours that are due, will acknowledge our superiority in intellect, insight and wisdom, and will finally lay at our feet the government of the world." Their resolve becomes known to Rougepot and Rubble, who, like respectable members of society, are resolved to endeavour to avert the impending calamity and save the thoughtless creatures. They have a sympathiser in Superfinus, who, although a Roman lieutenant, is a weak being, prone to sing sentimental songs, and who admires Blodwen, who also expresses her troubles in a tuneful manner. Ashlar, by force of circumstances, is not only willing to offer that young person as the victim, but adds, he would willingly sacrifice a hundred daughters to Art, which in this case, we suppose, means the advantages of being on the Council. For a new temple is to be raised, and a lady is a more economical offering than coins of the realm and a collection of newspapers.

The preparations for laying the foundation-stone show the familiarity of the dramatists with such proceedings. As on such occasions there is conversation among the witnesses, and Rodesius describes the Institute he once founded for the promotion of elementary knowledge among architects, in which fees are obligatory, although the candidates never pass. His revelations anticipate the practice in another institute where the wind is raised by the aid of a succession of dupes:—

The students went in one by one to the Institute at Rome;
The students went in one by one to the Institute at Rome;
The students went in one by one, and some were in earnest and some in fun,
But we took all their fees and said, "Let 'em all come
To the Institute at Rome."

The students went in two by two; when told to describe a pargetted blue,
Said, "A hole where the smoke is supposed to go through"
At the Institute at Rome.

The students went in three by three; they designed with a pencil bold and free;
The result was something for Barnum to see
At the Institute at Rome.

The students went in four by four; when asked to describe a fireproof floor,
Said, "A thing that falls down on the salvage corps
At the Institute at Rome."

The students went in five by five; to answer our questions they'd honestly strive,
But they left the room more dead than alive
At the Institute at Rome.

The students went in six by six; when asked the process of burning bricks
They said, "Oh, that's one of the builder's tricks
At the Institute at Rome."

The students went in seven by seven; when told to design a mansion in Heaven
They asked if the site was sold or given
To the Institute at Rome.

The students went in eight by eight; the husbands described a "Ladies' Slate"
As "A thing that you got when you came home late
From the Institute at Rome."

The students went in nine by nine; when told to define a building line,
Said, "A thing invented to spoil design
At the Institute at Rome."

The students went in ten by ten; to the question, "By whom was Rome built and when?"
Said, "In 1900 by Christopher Wren
For the Institute at Rome."

The students went in eleven by eleven; to make up a rhyme I have
painfully striven,
But I can't get anything different from seven
For the Institute at Rome.

The students went in twelve by twelve; we packed all their papers in
rows on a shelf;
If you want any more you can read 'em yourself
At the Institute at Rome.

But the sacrifice of Blodwen is not to take place. Rodesius, as becomes a company promoter, has an admiration for simplicity; and Superfinus, if he were only possessed of money, would be sure to believe in a prospectus which promised an enormous dividend. So he resolves to help the lieutenant, and meanwhile he moralises on simplicity as it appears in some modern forms, and particularly in modern architectural practice :—

To the arty-crafty genius who wishes to be known,
It's simple—oh, so simple;
He nurses up a theory till it's very fully blown;
He's simple—oh, so simple.
And if it is a subject for which no one cares a jot,
To the editors he'll cotton till they publish all his rot,
You cannot check his ardour, he's possessed of such a lot;
He's simple—oh, so simple.
Oh, it's really very simple if you want to climb to fame
By a little gentle puffing just to advertise your name;
But there's a little maxim—remember it, I beg—
"It's not the hen that cackles most that lays the largest egg."
The art of modern architects is tending towards the plain
And simple—yes, the simple;
We build for Truth and Beauty, and not for worldly gain;
We're simple—oh, so simple.
If you want to build a house that will the mouths of critics stop,
Put four bare walls with windows, like a warehouse or a shop,
And a fat unwieldy drain-pipe from the bottom to the top;
That's simple—oh, so simple.
Oh, the simple simplo-maniac has got us in his claws,
He'll soon dispense with windows, and he'll do away with doors;
We'll return to what we were before the dawn of history's page,
And we'll play the noble savage in the Neolithic Age.

All is arranged satisfactorily and there is a general emigration to Rome, for, as is said :—

As far as architecture goes this country is a frost,
I agree with Mr. Aitchison, poor Britain's art is lost.

We ought to say more about the neglect of an opportunity for a disquisition on the Druids, their works and their philosophy. We are, however, afraid it would be labour in vain. Messrs. Carvill and Bailey are too impressionable to do justice to a subject that is archæological and scientific. It was pardonable to suppose that Ashlar was possessed of a fair daughter, but having once evoked her presence they were unable to restrain themselves from spending time which could be so well employed for the Association classes in listening to her singing such strains as the following, and which express Druidic magic :—

Last night the blood-red sun sank down in the crimson-clouded west,
And the shadows crept when the forest slept and the flow'rets had sunk
to rest,
The peace of Night held land and sea and every heart but mine;
For black-robed Fear came stealing near and looked—but made no sign.

The night wind sighed till the echoes died in the nightingale's low
refrain,
And the rustling trees like far-off seas murmured of grief and pain;
The sad-eyed stars looked down and wept for the sorrow that is to be;
Oh! the gods are great who weave our fate—but their wrath is poured
on me.

But as I gazed one star alone stooped from the skies above,
And the heavens grew light and the earth grew bright as it whispered
to me of love,
Whispered of love and of patient hope and of faith that sees afar;
Joy in sorrow, hope for the morrow—Night and the Morning Star.

All who heard Miss Sophie Tyler interpret the words and Mr. Butler's music, on Wednesday, would, we suppose, be willing to condone the authors' disregard of technical subjects. Mr. G. B. Carvill as Rubble and Mr. Gervase Bailey as Pennialinus did ample justice to their own composition. Mr. Herbert Passmore as Rougepot and Mr. F. D. Clapham as Rodesius were excellent. The voice of Mr. Constanduros rendered justice to the serenade of Superfinus. The whole performance upheld the reputation of the Association for amateur acting.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. G. H. Fellowes-Prynne, president, in the chair.

The Chairman, who announced the commencement of Mr. Weedon's water-colour class, said he could not advocate too strongly the many advantages which this class offered to the student.

The house list as nominated for the ensuing session was read, the name of Mr. G. H. Fellowes-Prynne again appearing as president, Messrs. E. Howley Sim and H. T. Hare, vice-presidents.

Mr. F. W. Pomeroy, Royal Academy Gold Medallist for Sculpture and instructor of the Association's Modelling Class, gave an illustrated lecture on

Carving and Modelling as Applied to Architecture.

Mr. Pomeroy said it would be presumptuous on his part to take up so important a subject, which had been treated exhaustively by many distinguished authors, and attempt to unfold it within the compass of a lecture. He intended to supplement his own want of originality and literary skill by cribbing boldly from a paper by Professor E. A. Gardner, who had devoted much time and thought to the study of early Greek carvings, and whose conclusions were approved by many sculptors. In order to exemplify the subject, photographic slides of typical works would be presented. In starting, it would be well to remember that, like all things, sculpture was ruled by laws, and its history was a story of evolution rather than of creation. When the art ripened in one place germs were carried elsewhere, which took root, and coming under new influences, the flower exhibited corresponding differences. There was a connection between art and government, which when settled was favourable to development, but conquest and internal decay led to the decline of art. In cities especially the handicrafts flourished, such as those of builders, stone-cutters and carpenters, and out of the tribes of artisans the artists came forth as architects, sculptors and painters. It was not enough to provide habitations for the living, tombs and temples were likewise required, and all were connected with art. In primitive times artistic needs were easily satisfied. A heap of stones served as a memorial with the Israelites, and the simple terminus with the archaic Greeks. But when the beauty of ornament became recognised it was employed to adorn the temple, as the worthiest structure. Massive stones were considered insufficient so long as they were plain. Ornament, according to Mr. Ruskin, was eloquence, and with its aid the truths of religion were expressed from the roof and walls and capitals of temples. In tombs there was no less dependence on art. The effigy of the occupant and the story of his life on reliefs were considered to be records for the benefit of posterity. Architecture might thus be considered as a stem from which the other arts sprang. At first imitation was in the ascendant, and the early Egyptian and Greek sculptors spared no trouble to reproduce in granite and hard marble their copies of floral or human forms. But the superiority of conventionalised forms could not long be concealed. Various interpretations of that process have been given. To a Frenchman the conventional was allied to the trite or commonplace. The word should be taken to express artistic feeling, or the power of the artist to select from an infinite variety of qualities whatever was most characteristic and adapted to his purpose. The Egyptian realised that with porphyry, basalt and granite simplicity of treatment was indispensable, and he took care to avoid whatever was not in keeping with his material. Possessing a less obstinate and more even textured material in his marble, the Greek could allow himself greater subtlety in execution, but it never exceeded the true sculptural limits. He invariably worked from a normal front plane, cutting inwards, but keeping the plane free from projecting proportions. An example is found in the Lion Gate at Mycenæ, where the masonic expression is retained, the outline of the animals being cut in square, while little or no surface carving was attempted. Although archaic work, yet its composition and dramatic force cannot be surpassed.

An unfinished work was often more suggestive of the manner of production than one that was complete. A statue of the archaic Apollo type, about two-thirds life-size, found in Naxos and now in the museum at Athens, served as a revelation of practice. In the first place, we observe the extreme flatness of the surface, front, back and sides. There was a marked curve in the back if tested vertically, but a rule laid horizontally against the back at any height would be found to touch every point from shoulder to shoulder or from side to side. Almost the same sort of treatment was to be observed in front. At the side there was a similar flatness of the breadth of the arm, the outline of the arm had been cut-in parallel to the back and front planes from the side and parallel to the side planes from the front, so that almost rectangular pieces were cut out. If we imagined the statue to be cut through horizontally at almost

any height the section would be contained by lines parallel to the back and front of the statue, and other lines at right-angles to them parallel to the sides. Taken across most parts of the body the section presented a rectangular parallelogram, with a smaller rectangle attached at each side for arms. The corners were not of course quite sharp, but they were not worked off enough to obscure the rectangular form. It was evident the vertical outline of the figure from the front or side must have been drawn freely, while the horizontal section at any point was dependant for its outline on two parallel systems of lines at right-angles to one another. The ancient process was the same as that now employed whenever a sculptor set to work on a rectangular block of marble and began to hew a statue out of it. But how far were the results derived from the Naxos Apollo applicable? There was no doubt that many archaic figures were square on a horizontal section, and especially those which belonged to the Ionic and Island schools. Among the examples might be cited the Brachidæ figures in the British Museum; the archaic statue of a woman dedicated to Artemis by Nicandra, found at Delos by Homolle; the winged figure by Archermos from Delos; the Apollo of Thera, some of the female statues found on the Acropolis at Athens. Other figures showed round horizontal section, particularly at the waist, such as the Hera of Samos, the early figures of Apollo from Bœotia, the Apollo Orchomenus, the Apollo Ptous. The inference could, therefore, be drawn that they were produced similarly to the unfinished figure from Naxos.

Another example of an unfinished statue dated from a later period, probably the fourth century B.C., or Phidian era. It was one of a group of sepulchral memorials from Rheneia, and was also less instructive about modes of execution. Over the brow in a part of the marble that was to be removed after completion of the figure are three small drilled holes. Between the feet was a similar projection with another hole, and a third was outside the left foot. They must have served for fixing a rod or line that was intended to aid the artist in dealing with the front plane. We also find that the block was still in its original untouched state at the back up to the shoulders, while it was roughly chipped from the feet to the middle of the shins. From the shins to the junction of legs with the body there was still more chiselling, and the limbs were consequently indicated. In another part irregular round holes were found evidently produced by a rounded chisel or gauge, and which were sunk preparatory to the removal of the intervening layer of marble. In another part the marble was worked sufficiently to give an approximation of what was contemplated. In the upper part of the chest and arms, neck, head and drapery there was evidence of the use of a running drill and of a fine claw chisel. It was not, however, clear how the fine detail and play of surface was to be rendered. It was important to know that there was no indication of the employment of a finished clay or plaster model from which, as in modern practice, points were taken mechanically. The Roman sculptors possessed "puntelli," and in an earlier time possibly such aids were known. Whether clay models were used was disputed. But it seemed incredible that Phidias could have had so large a quantity of sculpture executed as existed at the Parthenon unless with the co-operation of craftsmen who worked from models.

Modelling in clay was familiar from an early period. The Egyptians represented their god Num as a clay-worker or potter. The Greeks used terra-cotta extensively, not only for buildings, but as statues and, on a small scale, as votive figures. Some of the clay figures were of a toreutic nature, having parts formed of other materials. The Greek sculptors also employed gypsum or plaster for their figures. They were masters in moulding, and for statues which were too large for that process they used cores of wood and covered them with metal plates. Sometimes wood was employed without a metallic covering. In the British Museum was a cast of a figure of a charioteer which was presented by the French Ambassador. It was taken from a work in bronze, but the peculiarities of sculpture in wood were manifest in the long straight lines of the draperies. The head, arms and feet suggested a different treatment and texture, and originally must have been modelled in wax or clay.

Modelling in clay or soft wax was a system of building up forms by the addition of pieces of the material, until such a surface as the sculptor desired was obtained. The material was worked with boxwood or ivory tools and wire, but the fingers and thumb were the modeller's tools *par excellence*, and since the old legend of the "potter's thumb" French artists attained in their modelling a very high level, it may be at the loss of that monumental dignity and repose which is essential in all architectural work. Modelling could be employed for many purposes in connection with architecture, such as preparing details for ornament whether in stone, wood or plaster. One of its best uses was in the production of small scale models for portions or the whole of a building. There was no better means of arriving at the general effect of light and shade in a building than by preparing a rough model of about two inches to a foot, and for the architectural sculptor it would be invaluable.

The subjects selected for illustration ranged from Assyrian sculpture to modern works. They included bas-reliefs from the Palace of Assur-Nasir Pal, the Pediment of the Parthenon, with metopes and portions of the frieze, the *Venus of Melos*, the Castellani Head of Venus, Mexican sculpture, Roman portraits by Greek sculptors, Indian sculpture, Renaissance altar or shrine from Padua, *St. George* (Florence), Ghiberti's Gates, Cellini's *Perseus*, Verocchio's *Colleoni*, Michel Angelo's works, Donatello's *Madonna*, Della Robbia's *Madonna*, Jean Goujon's reliefs, ceiling from Bromley Palace and other buildings, carving from Paul Pindar's house, &c., Fremiet's *Jean d'Arc*, Foyatier's *Spartacus*, group by Barrias, *Gloria Victis* by Mercie, *St. John* by Rodin, *Mirabeau* by Dalou, *General Outram* by Foley, group from Wellington Monument by Alfred Stevens.

The Chairman said it was hard to realise why students put off the study of modelling in their architectural work, but he regretted that modelling was ignored by many young architects. It seemed the truer part of their craft, and if a student wished to understand the orders in architecture he (the chairman) thought there was no better way than by modelling their forms instead of hanging over a drawing-board.

Mr. Stirling Lee, who proposed a vote of thanks, said the lecturer had ably brought before them the problems which came into a sculptor's work. Perhaps the range of a sculptor's art was so large that it could be easily understood that many difficulties did arise in the work, but he (the speaker) thought a capital of a column could afford all those problems which did exist in sculpture. When dealing with the embellishment of a building the sculptor was controlled by the line of the building, the relief of his work being governed by the light and shade of the architect's mouldings.

Mr. W. H. Seth Smith seconded the vote, which was supported by Messrs. A. W. Hart and E. Howley Sim.

Mr. Pomeroy briefly returned thanks, and, in answer to a question put to him as to the most effective depth of relief to work in, said the depth of relief depended on the exigencies of the design.

BRISTOL SOCIETY OF ARCHITECTS.

THE monthly meeting was held at the Fine Arts Academy, Clifton, on the 10th inst., Mr. W. L. Bernard, F.R.I.B.A. (president), in the chair. Mr. Edgar Singer, of Frome, read a very interesting paper on "Memorial Brasses and Enamels," and the lecture was illustrated by numerous rubbings of fine specimens of German, Flemish and English brasses. The different varieties of enamels were explained, and specimens of Limoges, cloisonné, &c., exhibited. The lecturer traced the evolution of these interesting links with the past from the simple inscribed cross of pre-Christian times to the elaborately chased and enamelled brasses found on the Continent in the Middle Ages, which so clearly portray the costume, armour and textile fabrics of that period. At the conclusion of the paper a very hearty vote of thanks was accorded to Mr. Singer, upon the proposition of Mr. G. H. Oatley, seconded by Mr. La Trobe.

The voting papers for the election of officers and Council for the ensuing session were then opened, Mr. W. L. Bernard being again re-elected president, Messrs. Joseph Wood and Frank Wills were elected vice-presidents, and the hon. secretary and treasurer (Mr. H. Dare Bryan) was unanimously re-elected to fill these offices, the members of the Council being Messrs. Bond, La Trobe, Oatley, W. S. Paul, Skinner and J. Foster Wood.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

THE annual meeting was held at the School of Art, Mr. R. W. Fowler in the chair. The following were elected members of the Society:—Mr. Henry Coverdale as fellow, Mr. W. T. Lancashire as an associate and Messrs. S. M. Gibson, B. H. Loukes and B. J. B. Marsden students. The treasurer's statement of accounts, which showed a balance in hand of over 124*l.*, was adopted. The annual report, which dealt chiefly with technical matters, was adopted. The total membership is 116. The following were elected officers and Council for the year 1899-1900:—President, Mr. J. Smith; vice-president, Mr. A. Smith Denton; hon. treasurer, Mr. Fred Fowler; hon. secretary, Mr. W. C. Fenton; council, the above and Messrs. E. M. Gibbs, C. Hadfield, C. J. Innocent, T. Winder, J. B. Mitchell Withers and J. R. Wigfull.

The Annual General Meeting of the Liverpool Architectural Society will be held at the Law Library, 41 Castle Street, on Monday, May 1, at 6 P.M.

NOTES AND COMMENTS.

IT is not everybody who has the "Parentalia" at hand, and consequently when the question is asked about WREN'S intentions for decorating St. Paul's an answer is not forthcoming. Mr. C. L. EASTLAKE has opportunely supplied an extract which explains WREN'S scheme for the dome. It is as follows:—"The judgment of the surveyor was originally, instead of painting in the manner it is now performed, to have beautified the inside of the cupola with the more durable ornament of mosaic-work, as is nobly executed in the cupola of St. Peter's in Rome, which strikes the eye of the beholder with a most magnificent and splendid appearance, and which, without the least decay of colour, is as lasting as marble or the building itself. For this purpose he had projected to have procured from Italy four of the most eminent artists in that profession; but as this art was a great novelty in England, and not generally apprehended, it did not receive the encouragement it deserved. It was imagined also that the expense would prove too great and the time very long in execution. But though these and all objections were fully answered, yet this excellent design was no further pursued." Economy prevailed, and contrary to WREN'S wishes, the decoration of the cupola was entrusted to Sir JAMES THORNHILL.

THE position of the Basilica Æmilia in the Forum Romanum has been one of the problems which have caused contests among archæologists. It was by some supposed to be near the Secretarium Senatus, where the decisions of the Senate were given, and the Tabernæ, where "a flesher on a block had laid his whittle down," which was caught up by VIRGINIUS and used to smite his daughter. To increase the difficulty a still more ancient Basilica Æmilia stood in that part of the Forum. The church of St. Adrian was by many archæologists taken as a successor to the Basilica, but the building is now considered to be not older than the fifth century. Opinion is now generally in favour of the theory that the building erected by L. ÆMILIUS PAULLUS was on the site of the so-called Fiori houses. In order to settle the question, Mr. LIONEL PHILLIPS has given 2,400*l.* for the purchase of the houses, on the condition that they are to be taken down and the site excavated within a reasonable time.

THE returns relating to the cost of the works for the completion of the harbour at Madras will probably be considered more amusing than instructive by engineers and contractors in this country. Indian workmen and labourers are sometimes said to resemble machines, but no machinery known to us could come so close to anticipated results. The deposit of rubble at the north was estimated to cost 24,378 rupees; the cost was $24,377\frac{9}{16}$ rupees. For setting blocks the cost agreed with the estimate, or 1,05,569 rupees. The north pier caisson cost about one-sixteenth of a rupee less than the estimate. At the south pier, for depositing ordinary rubble, there was no difference between estimate and outlay, and the like phenomenon was witnessed in the setting of blocks. The deposit of large rubble cost three-sixteenths of a rupee less than the estimate. In no case was there the smallest increase over estimate. The works committee of the London County Council may well ask themselves, "How was it done?" It is mysterious, but it puts to shame the blundering efforts at Spring Gardens to compel estimates and outlay-returns to agree. Why not send the committee and all their officers to Madras to discover a solution? It is at least certain that, however long they remained in India, they would not be missed in the Metropolis.

IT is believed that the Guildhall of Exeter contains parts which have existed since 1466. The very remarkable front is, however, Elizabethan, and is not older than 1593. Restoration of the front being considered necessary, the estates committee of the Council recommended that a contract should be entered into for the work. The proposal having come under the notice of the Society for the Protection of Ancient Buildings a protest against the arrangement was sent to the City Council. It was explained that contracting for a work of the class must necessarily result in great extravagance as well as destruction. It was only as the work proceeded that what was needed could be ascertained. Although the Society could not inform the Council what the cost of the repairs would be without a specification describing what was necessary, it was recommended that only such work as was needed should be done, and only what was done should be paid for. Contracts should be avoided in order to effect that arrangement. The inteference of the Society has in many places made public bodies more determined to carry out what was proposed, but in Exeter a better spirit prevailed. The wisdom of the suggestions was appreciated, and it was decided to adopt them.

WHEN A. W. PUGIN was appointed professor of architecture at Oscott College some half-century ago, he poured out all his scorn, and it was abundant, on the church of St. Mary's, Moorfields, which at the time was the most important of those belonging to Roman Catholics in London. He compared the front of the sanctuary to the proscenium of a theatre. PUGIN was anxious to convince the young ecclesiastics that Gothic alone was worth their attention, and no other style was to be adopted by them in the churches they would be called on to erect. He did not take into account the difficulties which had to be encountered in the erection of such a church in London at a time when the funds were mainly contributed by poor Irish labourers. What was then sought was a large building, and the immense painting behind the altar was more pleasing to the humble congregation than would be one of RAPHAEL'S works. The building of late was placed in a precarious condition by subterranean works of the city, and although an immense sum was expended on under-pinning, there were apprehensions about its endurance. The alterations in the district have driven the classes it used to accommodate to other localities. Although the church was a memorial of many sacrifices, and was rich in associations of a transition period in ecclesiastical affairs, it was wise to accept the inevitable by selling the building. The price, it is said, was over 200,000*l.* In such cases it is usual to expend the purchase-money on new buildings, and Catholic churches are required in several parts of the Metropolis. But there may be other calls which must take priority, and the sum available for building is not unlikely to be more modest than is expected.

ILLUSTRATIONS.

LE CONCERT CHAMPETRE.

THE picture we reproduce was at one time in the Collection of CHARLES I. The king had purchased it with other works belonging to the Dukes of MANTUA for 80,000*l.* The Mantuan Collection was considered to be the finest in Italy. On the death of the king it was decided to sell his pictures and other works of art. Among the largest purchasers was JABACH, a banker of Cologne, who at the time was living in Paris. He was rich, and could afford to pay liberally for any work that pleased him. JABACH was not more secure against reverses than other speculators. He was compelled, in consequence of losses, to sell his treasures. Most of the pictures which he derived from the collection of the English king were bought by Cardinal MAZARIN. On the death of the Minister LOUIS XIV purchased from his heirs no less than 546 pictures. Subsequently he acquired some other collections, and in this way the "Cabinet du Roi" was formed. Among these were eight works by GIORGIONE, but the Louvre now possesses only two, the most important being the *Concert Champêtre*.

CATHEDRAL SERIES.—DURHAM: NORTH AISLE, FROM CHAPEL OF NINE ALTARS.—WEST END OF NORTH AISLE.

ST. BARTHOLOMEW THE GREAT: THE PORCH.

ARKWRIGHT MANSIONS, FINCHLEY ROAD.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &C.

(*Continued from page* 243.)

XVIII.

Dijon.

[Y way back to Vespers at St. Benigne led me past a very extraordinary church, St. Jean. Desecrated until 1872, n it was reconsecrated after undergoing restoration and emshment, this church forms an important factor in the archiıral group viewed from the railway, and in many respects be looked upon as a model for a large town church, consistıs it does of a very wide nave without aisles, transepts, and ncated eastern limb flanked by square towers. An impresof great religiousness is created upon entering St. Jean ıe disposition of its windows, all of which are placed high ı their respective walls, leaving a great space, which has ented an advantageous field for polychromatic display w. It struck me that Mr. Bodley must have had St. Jean ijon in his mind when designing that noble town church of alvador at Dundee.

he tracery in the windows at St. Jean is early Flamboyant, ood. Two windows of three lights apiece, with a rose arly traceried above, serve for the west front; the principal of each transept is similarly fenestrated, but the windows ng the nave are simple lancets. Below these are very plain arches opening into separate chapels. A grand on roof covers nave, transepts and short chancel—this by the way, was reduced to its present dimensions in —and the roof at the crux meets in a great wooden corbel or ant. There is no east window, but the wall space above gh altar is frescoed with scenes from the lives of the two hns and a representation of the Eternal Father. Bossuet, p of Meaux (1681-1704), a native of Dijon, was baptized s church, which until its restoration to sacred purposes d the Marché du Midi. The adjacent St. Philibert, used ay store, is a fine example of Burgundian twelfth-century having that localism, the western narthex. The Romandoorway on its south side is a good specimen of the and the lofty octagonal tower and crocketed spire play a important part in the architectural ensemble of Dijon.

he bell of St. Benigne had ceased to toll, and the canons inging None in choir, when, shortly after three, I passed the western porch and pushed open the door, from which t flight of steps conducts to the nave of this Middle d cathedral.

e dimensions of St. Benigne are not vast. Originally ctual, it became, on the re-establishment of the hierarchy ance early in the present century, the Bishop's seat, the r cathedral having succumbed to revolutionary fury. Cruci n plan, it is distinctly Burgundian in its details. These are ally graceful in the transepts and short one-bayed apsidal n limb, in whose windows, by the way, we strongly deside painted glass. There is no procession path, but its side s open to apsidal chapels east of either transept. Of these uthern one is most gorgeously decorated with colour and d-glass, and contains a good modern Gothic altar. By y, the use of Benediction created—now some fifty years a revolution in the *instrumenta altaris*. Almost uniy in France, over the altars placed in restored chapels hedrals and churches, stands a closed tabernacle sured by an open baldachin, canopying over the mon, which again soars up into pinnacles and turrets, g to combine the movable monstrance and ciborium, anish metallic custodia, the German *Sakramenthaus*, and lian baldachin.

ometrical tracery prevails in all the windows of the choir ansepts of St. Benigne. Those in the lowest stage of e are of two lights apiece; the upper ones have three. ansept has a noble window similarly traceried, and placed gh up in its wall. From clusters of reed-like shafts, all xquisitely foliaged, spring the arches of the crux, not as at Notre-Dame, where it forms a lantern, but atly light and elegant.

I was much disappointed with the nave. It is later and very inferior in its workmanship, while the absence of cusps to the lights and of foliations to the circles composing the tracery of its clerestory windows, imparts an impoverished air to this part of the church, which is, however, enriched not only by the statues bracketed upon its pillars after the Belgian manner, but by the gallery and case of the western organ, which makes a very imposing show.

The external feature, *par excellence*, of St. Benigne, its tall needle-like spire of local celebrity and known to me by engravings, had disappeared, together with the whole of the nave roof, for purposes of "restoration." I trust, however, that this interesting and picturesque old spire will be replaced entirely on the old lines, and that no fanciful modern erection will supplant it, as was the case at Notre-Dame. A pair of octagonal towers with tiled pyramidal cappings flank the western façade. One of these low spires has had its old sober, time-coloured tiles replaced by new ones. Their flaunting green and red patterns are most offensive, and this, I suspect, is what is taking place with regard to the roofs of the cathedral generally.

The contrast between the roof of the tower which has been renewed and the one still retaining its old tiling is too striking to be overlooked. There is a very fine western narthex. The arch opening into it from the street has a single row of arcades above it similar to that at Notre-Dame, but very much later in style. A lean-to roof connects it with the west front, whose window, now bricked up, exhibits a curious sort of debased plate tracery devoid, like the clerestory, of foliation.

This spacious narthex afforded an admirable retreat from a very heavy storm which passed over Dijon during the afternoon offices. The afore-mentioned portly priest and his party of ladies were among the imprisoned here, and frantic were their efforts to invite the attention of the drivers of sundry "flies" which occasionally scudded by with their "fares" snugly boxed up inside. At last, however, they succeeded in securing an empty vehicle—a ramshackle-looking affair, by the way—into which they packed themselves, and drove off to the ducal palace, which, it appears—being on a visit to Dijon from some country fastness—they wished to lionise. Taking advantage of the contiguity of St. Benigne to the railway station, I fled thither as soon as the rain had somewhat abated, and got some food in the buffet. Here, while making inquiries respecting the departure of the evening train for Autun, I attracted the attention of an Englishman seated at an adjacent table. And now, positively for the first and only time during this tour, was I enabled to converse in the mother tongue. Learning my destination, my compatriot inquired whether I was bound to Autun for the races. No! my visit to Autun had quite a different object. Learning what this was, my newly-found friend called for writing materials, and thereupon indited for me a letter of introduction to the President of the Society of Antiquaries at Autun, which, although its addressee was away from that city at the time of my visit, proved exceedingly helpful in procuring admittance to places not ordinarily accessible.

By the time the repast and an agreeable chat was finished, courtesies and cards exchanged, and so on, the storm had passed over, and when I sallied forth for another hour's ramble about the city the sky was quite clear, and Dijon had assumed quite a different aspect. Haunted by Notre-Dame and the western façade of Saint Michael, I paid each another visit; peeped through a chink in the door of the desecrated St. Etienne—an eighteenth-century church built in admirable imitation of Romanesque; sat for a brief space in the cathedral, where a cough or the shutting of a door alone broke the silence; retraced my steps to the railway station, reclaimed my knapsack from the garçon of the buffet, and, knowing what French trains are on a Sunday night, wisely secured a seat in the corner of a third-class compartment.

The journey from Dijon to Autun passed through various phases, and was sufficiently picturesque and amusing. At first it lay *viâ* Beaune, whose church and ideal Hôtel Dieu I deeply regretted my inability to visit, through the vineyards district, along which the summer twilight began to steal, long after the last rich crimson glow of sunset had left the towers and square

spires of its thickly-set village churches cold and grey once more.

As far as Chagny—where carriages must be changed for Autun—the journey was pleasant enough. But at Epinac, where some military manœuvres had been taking place, there came an irruption, and the remainder of the ride was performed under such discomfort that, after a mental resolution never to travel on Sunday night in France again, I was relieved to hear vociferated along a dimly-lighted platform, "Autun! Autun! tout le monde descend!"

The crush getting out was fearful, but these perils overcome, I climbed to the box-seat of the omnibus belonging to the Hôtel des Négociants, my request as to whether I might do so having been met with a polite "Oui! oui! Monsieur; oui! oui! si vous voulez!" from Monsieur le Cocher.

As we drive through Autun its streets are as silent as the grave. The barking of watch-dogs behind the *porte-cochères* alone breaks the stillness; lights here and there in the upper windows of houses betoken that their inmates have sought the regions of the drowsy god; and the sweet smells wafted down from the thyme-clad hills under which the city nestles, mingling with that arising from the freshly-watered earth—for rain has been falling heavily here, as at Dijon—greet the olfactory nerves in a manner doubly welcome after the confinement of the railway carriage. A few people are sitting before the cafés in the great market square as, just upon the stroke of ten, the omnibus rumbles over its stones, presently depositing me at the bureau of the Hôtel des Négociants. This is a typical French house, with a most affable proprietress, "une vraie dame," as a more than ordinarily communicative *commis voyageur* remarked to me on the following morning while partaking of an early bowl of *café au lait* and bread and butter in the privacy of Madame's sanctum, the *salle à manger* being in the hands, or to speak strictly under the feet of, the *frotteurs*, and therefore not available on this occasion.

A Day at Autun.

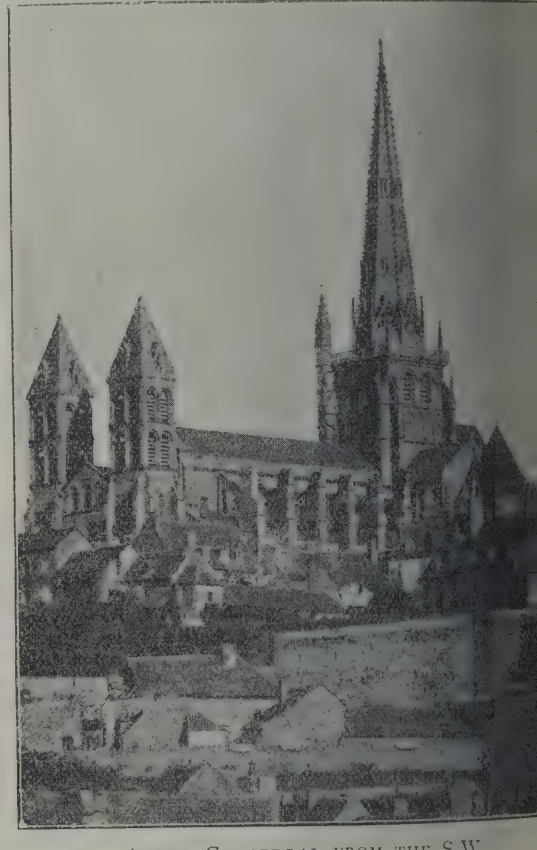
Roquette dans son temps, Talleyrand dans le nôtre,
Furent les évêques d'Autun.
Tartufe est le portrait de l'un:
Ah! si Molière eût connu l'autre!

Evidently an atmospheric depression is passing over the Autunois district of Burgundy, for when—shortly after seven on the morning of Monday, July 30—I throw back the jalousies of the bedroom window at the Hôtel des Négociants, the sky is gloomy and overcast. Arriving at dark on the previous evening, I had been unable to distinguish the environments of the inn; now I perceive that it lies somewhat removed from the market square, being approached therefrom by a *porte-cochère*; while from the fact of several droves of sheep passing beneath my window, I assume not only that it is market morning, but that the road is a public one, and forming, as I found later in the day while on a tour of inspection, a short cut from the market square to the upper part of the old city.

As I leave the hotel for an early ramble I encounter the *décrotteur* of the establishment—Jules, who, by the way, after ushering me to the bedroom with the regulation candlestick on the previous evening, quitted that apartment upon wishing me 'Bon soir" with one of the grandest dancing-masters' bows conceivable—I encounter Jules, I say, who, returning from executing some commission or other in the city, greets me with a pleasant "Bon jour, Monsieur! voilà! les moutons et les bœufs," as though sheep and oxen were animals perfectly beyond my most acute conjectures as to their anatomical construction.

The immense market square is a moving mass of sheep, who invade even the steps of a gaunt-looking church, which frowns with Classical severity upon the crocketed Gothic spire of the cathedral as though in reproof of its lightness. The oxen, noble-looking creatures with great mild eyes, are yoked together in a line, below a species of raised causeway common in the markets of this part of France; while underneath an avenue of trees, on the same side of the square as the hotel, are ranged stalls, upon which is heaped the *omnium gatherum* of domestic articles usually seen in such places. Above all this, rising with a background of gently undulating hills, is seen the iron-grey spire of Autun Cathedral, towards which, having exhausted the intoxicating pleasures of the market plac make my way. The streets are steep and cobbled—fe places to ascend on a hot day in tight boots. If, however, should have the misfortune to visit Autun *chaussured* thus will find a easy cut from the market square to the prin street *viâ* an avenue of shops—a forlorn-looking place, g one the idea, to take a home illustration, of the Lowther A when it shall have fallen on evil days. Like the celeb portico at Cambridge, how such a place got into Autun difficult to conceive. Not a quarter of the shops seemed tenanted. Up the winding streets you go until presentl emerge upon a roughly-paved and, if I remember rightly, g grown square, whose south side is occupied by this smal very interesting cathedral, its crocketed spire and Flamboy fenestrated aisles giving, at a first glance, the idea of a building, little preparing you for the simple, solemn sitional character of its interior.

Like many churches in this part of France, the cathed Autun is dedicated to St. Lazare, first Bishop of Mars Until early in the twelfth century, when it underwent exte structural changes, it had for its patron St. Nazaire—an of Lérins, near Cannes, in the fifth century, and said to been a disciple of St. Honoratus, afterwards Bishop of It is almost needless to say that the legend of Lazarus h been first Bishop of Marseilles has nothing but the gr credulity for its support. The cult, however, grew, and had its influence on the Gallican Church. Lazarus, M and Mary, the legend runs, came to Marseilles, driven fro Holy Land by the persecution of the Jews. Martha was b at Tarascon, Mary at Marseilles and Vézelay, and Lazar Autun. Thus it came about that, upon the rebuilding



Autun Cathedral from the S.W.

old basilican cathedral in the twelfth century, it was that the bones of Lazarus must be somewhere in its p whereupon it was rededicated, no longer to St. Nazair Lazarus who was raised from the dead.

And here are the three figures, Lazarus, Martha and the first in episcopal vestments and mitre, set up *d* fashion against the central pillar of the great wester which after the Burgundian manner is covered by a projecting porch with three open arches, very southe treatment. Above the narrower arch on either side ris severe-looking tower capped with a short square st (no alliteration is intended). The portal is situated at of a flight of steps formed within the porch, which, by

not be confused with the great narthexes or *porches des humènes* found at Vézelay and Tournus, and whilom at . This situation imparts to the west portal at Autun than ordinary grandeur and dignity, though unluckily the nity of houses to the west end of the cathedral does not a really satisfactory view of the whole composition to be

style this western portal of Autun is richest Romanesque. of its features, notably the three slender shafts from



AUTUN: WEST DOOR OF CATHEDRAL.

c the great arch springs, betray a very strong Byzantine i , like all southern French Romanesque; while in the e pilasters on which the lintel rests it is impossible to over- e influence which, as we shall see more distinctly when g inside the church, the architecture of existing Roman a is has had over this noble piece of twelfth-century work- a ip. Grand but wild is the composition in the tympanum. w s customary, this space is filled with a representation of

the Last Judgment, into which are introduced several devils of colossal proportions and of appalling aspect, who are seizing and tormenting the figures of the condemned. An equally exaggerated figure of St. Michael weighs a soul and protects it against the combined efforts of two of these demons, who endeavour to press close to the side of the bearer of the scales. These are to the left hand of our Saviour, Who is seated in an aureole with both arms extended. The head is gone, but the cruciform nimbus remains. To His right are the blessed. A row of small figures, in attitudes corresponding with the two divisions above, form a species of frieze in the lintel, and deserve study for the varied expressions which the sculptor, whoever he was, has thrown into them. During some miserable alterations which were inflicted upon the cathedral towards the close of the last century under the influence of the Maréchal de Richelieu, a friend of Voltaire, this rich sculpture was daubed over with plaster. This was so far fortunate, since the plaster

has all been scraped off, and the whole work, with the exception of the head of our Saviour, has come down to us in a marvellously complete and well-preserved manner.

I may mention, *en passant*, that I was lucky enough, though not without much search, to secure a photograph of this fine doorway at Autun. The lofty flight of steps inside the great porch is rendered necessary by the slope from east to west of the ground on which the cathedral is built, a natural cause which, while it contributes in no small degree to its great picturesqueness, assists in imparting to the mass an air of greater size, for in dimensions the cathedral of Autun is one of the smallest in France. Windows of very good Flamboyant character (1460-70) light the aisles ; heavy flying buttresses give importance to the untouched clerestory ; a fine but sculptureless Romanesque portal admits to the north transept, and a low, late Gothic tower with one large pinnacle at its north-west angle, and smaller ones rising from its enriched parapet, rises above the intersection. This is crowned by a tall crocketed spire, recalling Norwich, though the steeple in the mass is more suggestive of Lichfield. At Autun the spire rises from the middle of the "squat" tower without broaches or clustering pinnacles at its base, but the impoverished appearance of a spire in this position is in some degree redeemed here by the cusped and arcuated pediments, of which there is one on each side at its base.

There is a short eastern limb of two bays ; but, conformably to the Burgundian method, no circumambient aisle or radiating chapels. I shrewdly suspect, however, that neither the three-sided apse to the choir nor that terminating either aisle is original work, but an architectural forgery of the Flamboyant epoch, and this suspicion is confirmed when on passing into the interior I observe that modern Late Pointed glass of a very thin and jejune character has been inserted in the windows of each apsidal termination.

The similarity which the ensemble of the interior of Autun Cathedral bears to that of Langres—a later copy on a grander and broader scale—is too striking to be overlooked for an instant. The nave (c. 1130) is perhaps more *élancé* than that at Langres, and retains all its original features ; but the aisles have been greatly disturbed by the chapels thrown out from them during the Flamboyant epoch. Here are Pointed arches springing from fluted pilasters, and here is the same type of triforium stage, viz. three narrow round-headed arcades between Corinthian pilasters, the simple clerestory of one round-headed window to each bay, and the barrel-vaulted roof spanned at the interval of each bay by a broad unmoulded rib. Although some of the details of the interior of Autun Cathedral—notably the capitals of the nave pilasters—do not present so thoroughly Classical an appearance as those at Langres, it must be accepted, since the magnificent pile of Cluny Abbey fell a victim to private cupidity, as an excellent specimen of that peculiar type of Burgundian Gothic so often found in the Lyonnais district. Concerning this quaint admixture of the Classic element with the Transition of the twelfth century, I may just recall the attention of my readers to the fact that the remains of an earlier period have, at Autun as elsewhere in the Lyonnais, exercised a no inconsiderable influence on the growing Pointed style. "Some antiquaries," remarked one of our most eminent architectural critics, "have not hesitated to consider it a bad imitation of Gothic forms belonging to the fifteenth or sixteenth centuries. In fact, its fluted columns or pilasters, their Corinthian capitals and the whole arrangement are so eminently Classical as almost to justify the doubt in those who are not familiar with the history of the southern styles of France." There cannot, however, be a shadow of doubt that the peculiarities we observe in Autun Cathedral are traceable to the two noble Roman gateways still remaining in the lower part of the city near the railway station. I visited these remains in the evening, and the resemblance which the triforium range bears to the range of small arches alternating with pilasters in the upper part of the Porte d'Arroux—one of these gateways—is too striking for the theory to be doubted for a moment. In short, wherever these relics occur, as at Langres, Lyons, Arles, Nismes and Orange, there will be found in the churches in or contiguous to them some attempt at imitation, even in works belonging to a period in which the rules of the prevailing styles appear to have been definitely settled.

(*To be continued.*)

INTARSIA OR INLAYING.*

INTARSIA or inlays of wood, ivory, &c., one of the r interesting of the so-called "minor" arts, has prob suffered more both from its neglect and from its abuse any other method of decoration. At its best—kept w its proper limitations—no more delightful form of dec tion was ever devised. One must, however, be confronted a bad example in order to be able to realise how bad it become at its worst.

Probably every existing form of art or craftsmanship h some period of its development suffered through the t cleverness of its exponents. In painting at the present technique (especially in France) is worshipped for its own and what we think should be only regarded as a mea expression is set before the student as the end to be atta Intarsia, like every other art, is at its best when most i but except in the earliest periods of its development, its stu and makers were never able to resist the temptation to wa out of their proper limits in imitation of other arts. reason of the very earliest designers and craftsmen for kee simple and chaste in their designs and patterns did them credit, as they were probably purely mechanical reasons arose out of the dfficulty of producing elaborate work b only methods known to them at that time.

To a designer who has taken the thing up in the spirit, and who has gone to the trouble to make himself tolerably well acquainted with the resources of the cra would appear incredible that anyone should consider it n sary to go outside its proper limitations in order to imitate of the sister arts. The materials are so beautiful in themse so infinitely varied and so adaptable to his purpose, assuming him to possess even a small measure of ar instinct, his work is really half done to his hand befor draws or cuts a line. The decorative problems which pre themselves to the worker in intarsia for solution are fe compared with those of the painter or sculptor. For exa he has not to concern himself with surface technique Tone, harmony, and, in a limited degree, the sense of valu must certainly cultivate. He must also be able to draw or combination of lines which may be ingenious if you lik must be delicate and graceful ; vigorous withal, and in p relation to any masses which he may introduce into his d

He must thoroughly understand the value of contra line and surface form, but these matters, though a stum block to the amateur, are the opportunities of the com designer and craftsman—if by good hap the designer position to be the craftsman also. The most cha possibilities of broken colour lie ready to his hand merely selected by him, and introduced into his design yet, with these and other advantages peculiar to work i kind, the whole history of the art, so far as I can fol except in the earliest times, is a story of perverted inge the story of an art degraded more than any other b perverseness and want of taste of its votaries. Surely other art has the clever, sometimes exquisitely clever, man suffered so many things from the bad or perverted of the designer. Whether the craftsman has been his designer or has worked from the drawings of another one ; and it makes one marvel to find the most consum technical skill so frequently associated with that which is in taste and in composition.

I do not know the precise date at which the use of for furniture became general, but I have little doubt tha may be termed the "fatal facility" which this afforded craftsman must have suggested the over elaboration whi been practically impossible through the limitations impo the earlier methods. The earliest examples of inlaid viz. those in which the ground is cut away and the inserted into the solid wood will nearly always be found good of their kind. The work, from its nature, could done at the cost of much time and labour, and this, dou suggested to the executant the necessity for the elimina everything from the design which was not absolutely nec to the development of the motive, a condition of things always makes for good decorative art in any material.

I doubt not that the early workers in intarsia often w as the old builders are said to have sometimes builded, than they knew."

With the introductions of veneers or skins of wood complete change. The economical necessity for the re hitherto observed was removed, the smallest details be introduced into a design with comparatively little d or cost. Wooden pictures began to replace the former and appropriate decoration. All reserve was apparently aside, and the tarsatoir of the period revelled in the sentation of temples, gardens, figures in extravagant co with wooden bodies and sometimes ivory heads or face

* A paper read before the Applied Art Section of the Sc Arts, by Mr. Stephen Webb, on Tuesday, April 18.

riumph of craftsmanship and the decadence of design be followed through their various developments, in which rtist appears to have done his best (or worst) to outdo his cessor or contemporary worker in the extravagant use of s, proper only to the painter or picture maker, till it touched was perhaps its highest point of absurdity in the wooden sentation of whole towns, castles, &c., as we see it illus- l in the German work of the eighteenth century on panels chiefly for the interior decoration of cabinets.

he French work of the eighteenth century is every whit as vagant as that of Germany in another way. There is a table in the Jones collection at the South Kensington um, the top of which is decorated with Boule work (metal vory). In the plan of the decoration a band is used into n—and on which are introduced figures in the costume of eriod—curiously scalloped cloths, tassels, foliated forms, æ, caryatidæ — monkeys, squirrels, swags of flowers, ets of flowers, masks, birds (cranes), dogs, festoons ed of petals, cornucopiæ, and probably a few other rties more or less material to the scheme. If this of thing was ever worth doing (a matter about which I am y prepared to speak here), an excuse for it would surely be l in this table, which as a piece of craftsmanship, apart its design, is certainly one of the finest existing examples s kind of work.

ersonally I have never been able to get up any enthusiasm etal inlay for furniture. It is frequently very gorgeous, y always extravagant in design, seldom beautiful, and even has the fortune to get a beautiful design, it is generally lt to bring it into harmony with any colour scheme which have been adopted for the decoration of the room.

oreover, it is not easy to cut, though that is perhaps more tter of time than difficulty, and it is apt to leave the id when laid, which is a much more serious matter.

hese are only mechanical difficulties. The chief trouble, one which I confess I have never overcome to my own action, is in the selection of wood of a colour and texture shall at the same time contrast agreeably with the metal ces and harmonise both with the metal pattern and the ary colours used in the decoration of a modern room. I venture to recommend this problem to the notice of any y confrères who have the requisite leisure and experience empt its solution. The thing has never been done yet.

n studying French—and indeed all other marquetry work arly every period—the superiority of the workmanship to lesign is still constantly in evidence. In nearly every rtant example which remains it is plain that the executant, from being guided by the designer, has been led out of ay, the obvious result being a deplorable waste of skilful manship.

riously enough this want of taste shown in the selection ms suitable to the embellishment of furniture is some- , and indeed often, found combined, in the same cabinet, what one would fain believe to be evidence that the ner had the colour scheme perfectly, and could select the s suitable for his purpose, with the certainty of getting fect which he had in his mind. But the almost inevitable luction of these little bits of ivory again gives one pause, s one doubtful whether the harmony of colour in the s was not accidental, or the effect of time, as it would impossible that a designer, who had sufficient knowledge conditions necessary to produce so good a colour harmony e woods, could deliberately bring himself to introduce ing so obviously disturbing to the whole scheme as these bits of ivory always are.

is not until the close of the fourteenth, or beginning of fteenth, century that we find intarsia used for the decora- of large surfaces, nor, indeed, till then does it appear to been taken seriously into the consideration of artists or ssibilities recognised. Then we hear that Brunelleschi Paolo Vicello gave lessons in perspective and tarsia to tects and others, of which Masaccio, in his paintings, and detto da Majano, in his inlaid works, availed themselves. here are certainly to be found examples of the craft in the ivory boxes, ornamented with inlay of various coloured s, manufactured chiefly at Venice in the fourteenth ry.

cording to Vasari, one of the greatest names in the art is f Fra Giovanni da Verona, who, in place of the dark and woods of two or three tints only, used by the Majain, gave ial colours to his wood inlay by means of waters, coloured ons and penetrating oils. To obtain brilliant high lights s accustomed to use delicate slips of willow. F. Vincenzo Vache is mentioned by Marreli in his "Notizia" as excel- n such work, particularly in the church of San Bene- at Padua. Fra Rafaello da Brescia, of Monte to, ornamented the choir of San Michele. Sabba glioni, in his "Recordi Avvero Ammaccliamenti," in Digby Wyatt's essay on the subject, in "The trial Arts of the Nineteenth Century," mentioned egnaghi as good artists in this manner, and he speaks of the Dominican monk, Fra Damiano da Bergamo, the most celebrated of the sixteenth-century tarsatoii. "But above all, those who can obtain them decorate their mansions with the works, rather divine than human, of Fra Damiano, &c., who excelled not only in perspective, like those other worthy masters, Fra Giovanni and Legnaghi, but in landscapes, in backgrounds, and what is yet more—in figures, and who effected in wood as much as the great Apelles did with his pencil. I even think that the colours of these woods are more vivid, brilliant and beautiful than those used by painters, so that these excellent works may be considered as a new style of painting without colour, a thing much to be wondered at. And what adds to the marvel is that though these works are executed with inlaid pieces, the eye cannot, even by the greatest exertion, detect the joints." Thus the worthy Messer Sabba Castiglioni.

The colouring in this case was produced by chemical fluids, with the aid of burnt-in shadows. Damiano's best work, in which he was assisted by Fra Antonio Asinello, of the same monastic order, are not in colour, but are assisted in their effect by burnt shadows.

Other works of his are mentioned by Danzi, in the Dominican Church at Bergamo, and in San Pietro de' Casinensi, Perugia. Gian Francesco Capo da Ferro is spoken of as working also at Bergamo.

Other works in this manner are to be seen at the Certosa, Pavia, in the choir, executed by Bartolommeo de Pola in 1486; in the choir of the cathedral at Sienna, by Fra Giovanni da Verona; in the sacristies of San Miniato al Monte and Santa Croce at Florence, and in the Sala del Gambia at Perugia, the last being signed with the name of Marc Antonio Mercatelli. The tarsia work of artifically coloured woods which Sabba Castiglione so eulogises is not to to be found in any of the above-named works, and although the practice clearly originated in Italy it reached its ultimate development in France and Flanders.

Probably the inlay which in its character most nearly approaches that of the Damiano is the modern French work, so much of which is sent over to England in and for the decoration of pianofortes, &c.

It has nearly all the faults so conspicuous in Damiano, and where the modern Frenchman has missed any of the weaknesses apparent in the work of the Italian he has more than made up for it by those which he has invented for himself. Here is evident the same struggle to obtain the effect of painting, and an equal anxiety to conceal the joints which divide the various pieces of highly coloured woods introduced into the design. Indeed, the French critic of marquetry in these days makes this joining the test for good or bad work, and were a panel of intarsia submitted to his judgment in which the mark of a saw could be seen the work would be at once condemned as bad, though it exhibited all the finer qualities of design and cutting.

The experience of the writer is that the joinings of the various kinds of wood used in a design should not only not be concealed, but that they should be dealt with as frankly as possible, and that their utilisation in the design contributes almost more than anything else towards giving the work its character as intarsia or marquetry. It is true that the arrangement of the various pieces of veneer in a manner which will make the work of the cutter practicable and easy, and secure an artistic line for the joinings at the same time, calls for the exercise of some ingenuity, but this, though irksome and troublesome at first, soon becomes a habit with the designer for intarsia, or at least soon would do so if he understood its value. In nearly every example of modern work in which shading (generally produced by hot sand) has been resorted to, it has been abused. If the wood be properly selected shading is rarely necessary, and if it is done at all it should be done by an artist. It can never be safely left to a merely mechanical cutter of marquetry, even though he works from the most carefully finished drawing. In the hands of an artist very beautiful effects may be obtained by this process, the same kind of wood being made to yield quite a number of varying shades of colour of a low but rich tone, and that without any sacrifice of what, for lack of a better term, I must call the transparent quality so characteristic of all good marquetry work. Overstaining and the abuse of shading is destructive of this, one of the most valuable and distinctive qualities in inlays of wood.

Ivory has always been a favourite material with workers in tarsia, and, in the hands of an experienced designer, very charming things may be done with it. There is, however, no material suitable for tarsia which requires so much care and experience in its use. It is ineffective in light-coloured woods, and in the darker ordinary woods such as ebony, stained mahogany or rosewood, under polish, the contrast of colour is so great that the ivory must be used very sparingly; in other words, the designer must invent for his panel or border a pattern or design which, while containing very few elements, shall convey the idea of a satisfactory furnishing or filling (always a difficult problem for the designer to solve in any material).

In work intended for many other processes and materials, every artist has at times to consider the advisability of some such treatment as this, but it is seldom that he finds it so absolutely indispensable to the success of his work as in the application of design to the inlay of ivory for furniture. This kind of work is improved very much by age (the effect of light chiefly) even under polish. The ivory is sometimes stained in order to bring its colour more into harmony with a dark wood ground, but it is never quite satisfactory, and no one who had seen much old ivory in tarsia could be deceived by it.

There are conditions possible where—particularly in the decoration of furniture—the advantages are nearly all on the side of intarsia as compared with carving or modelling. The amount of time wasted, for instance, on very small carvings in dark-coloured woods intended to be used in furniture is incredible. The colour of wood, such as mahogany, walnut, &c., makes it impossible to see small carved detail in the various and varying conditions of light which usually obtain in a living room, and when, as so frequently happens, rosewood or some other strongly-marked wood is used for this purpose, the markings in the wood are so much stronger than the shadows by which the small carved forms are expressed that their effect is destroyed, and the result must always be confusion and waste of time.

Very small detail, especially in carvings, is introduced much more frequently than is necessary in furniture, as in architecture, and its introduction may usually be taken as indicative of some confusion in the mind of the designer or architect between smallness and delicacy. This idea, that scale or minuteness of detail must somehow be related to refinement or delicacy, absurd as it would appear to be to an artist, must really be very common to the designers of houses and furniture, or we should not see so much skilful labour and valuable time wasted in such useless productions. In this as in other matters it is only the thought or design in the thing which really counts; no amount of mere slavish though skilful labour undirected can possibly result in anything but disappointment, and there must be a very plentiful lack of direction in some of the places where modern furniture is decorated. If small carved details must be introduced into the external decoration of furniture they can only be certainly effective when plain and light-coloured wood is used, such as box, pear tree, &c., or quite black wood such as ebony (which has generally to be made black artificially), materials which have but little marking to disturb the surfaces and lines of the carving.

Undoubtedly the colour of these would render them in many cases unsuitable for the decoration of furniture, as they are apt to prove disturbing to the quiet colour effect generally associated with a living room.

It is here that inlay for the surface decorations can be made so useful in the solution of a difficult problem when it is done with judgment and taste. However quiet it may be kept in tone, and in good hands it is always quiet, however rich and varied in colour, it can always be seen, as it does not depend on the light for its due effect either in the same degree or in the same manner in which carving depends on it. I am not making general comparison between the advantages severally of carving and marquetry for the purposes of decoration, nor do I wish it to be for a moment supposed that I think marquetry can ever supersede carving for general purposes, even if the thing were desirable.

This is merely a protest against the grievous waste of time and of skilful, and frequently artistic, labour caused by architects and designers through their inability to grasp beforehand the idea of the modifications which will be brought about in the effect of their work by the conditions under which it will be seen. The decoration on small pilasters and capitals as applied to furniture and carved in these woods, is rarely seen at all, except on a rough and disturbed surface. Still more rarely can enough of the motive or details be made out to awaken any interest in it.

Assuming that about the same quantity of detail is introduced—which is usually the case—the carving on a pilaster 3 feet by 9 inches can be done as quickly and at no more, probably less, cost than the same design 1 foot 6 inches by 4½ inches, namely, half the size. There is no question of delicacy or refinement in this relation.

The inferior carver will inevitably give you a coarse and clumsy rendering of the small design, if you trust him with it. From an artist you will just as surely get a suggestion of refinement and delicacy pervading all the work in the large panel, though each man works from the same drawing or even the same model. Moreover, in the larger carving one is much more independent of the markings in the wood, by reason of the fact that the sinkings and shadows are deeper and stronger, and so in a measure, control the disturbing colour.

Apart from the question of cost which is always in favour of tarsia, there is this essential difference between the two methods, that while carving must always depend in a large measure on the direction of the light for its effect as carving (you can destroy the effect of carving which is in low relief at any time by a direct front light) the use of inlay makes direction from which the light enters the room a matter of moment, so long as the light reaches the object decorated.

I cannot close this paper without some reference to practice so prevalent among writers on art, and especi applied art, of comparing the conditions under which the was produced two or three hundred years past, with the ditions which obtain in our time. By no conceivable comb tion of circumstances can we ever get back to the condit under which those workers produced their work, and althe the productions of the writers above mentioned are freque pleasant reading they are rarely helpful, and indeed we artists or craftsmen, have but little concern with them must accept matters as we find them and do our best under changed conditions. Moreover it is so easy to write in way. The contrasts between the prevailing conditions those of the past are so sharp, the change so complete, th writer in this kind, possessed of only very ordinary ability, hardly fail to be at least picturesque. We are so freque told by poetical writers on art that a designer should, wher practicable, carry out his design himself in the materia which it is intended. No artist who has a design in whi really fine idea is embodied, need be told this; he would bably be but too glad of the opportunity to do this, assu that he had ever had the chance to obtain the requisite k ledge and skill in craftsmanship. His ideas are the childr his mind, born not without travail, and when it becc necessary to hand them over to strangers for their mat development, he does not part from them without a pang.

The modern designer, though he be really a master o own branch of art in all its details, must needs leave a g many of those details to other and more mechanical hands

SALISBURY CATHEDRAL.

A MEETING of subscribers to the Cathedral Tower Spire Fund was held lately at the Church H Salisbury, for the purpose of considering a proposal of committee that the balance of subscriptions remaining in hands after paying all expenses connected with the restor should be devoted to the required improvement of the c dral organ.

The Dean, who presided, said that after twenty years and tear the cathedral organ required to be thoroughly hauled and renovated, and it was very desirable that al modern improvements which had been invented during time the organ had been in use should be introduced int instrument. The work of overhauling the organ was o imperative necessity, and would involve a heavy outlay. Dean and Chapter would do as much as could be expect them with the funds at their disposal, and he could not thinking, when he remembered the interest taken in the c and the admirable results achieved with its aid at their c festivals, that many people would come forward and towards raising the necessary cost. He knew very well necessary it was for people to aid in efforts in this dire when so much was needed to be done to augment the Q Victoria Clergy Fund and promote other schemes for advancement of education and church building which we imperatively required in parts of that diocese; but still he h and trusted that they would ultimately be able to secure the object which they had in view. At a meeting held the pre week of the committee of the Tower and Spire Repair Fu was unanimously resolved to recommend the application balance remaining in hand on that fund to the renovatio improvement of the organ. In connection with the resto of the tower and spire of the cathedral, it would be imp for him to omit saying how very much the Cathedral Cl had been indebted to the exertions of their lay friends fro to last. The meetings of the committee had been adm attended, and most valuable assistance had been profer those lay friends. The perfect satisfaction which the had given was in great measure owing to their accomp and excellent architect, Sir Arthur Blomfield, and althou would have an opportunity at the approaching meeting Diocesan Synod of stating particulars of the way in whi money had been expended, it would be wrong of him not there, what he hoped might reach the public in some other, that he did not think it possible for any work of th serious as it was, to have been undertaken under more able circumstances. The amount of individual interest had been shown by all classes had been a very sur feature of the whole matter.

Archdeacon Lear said the cathedral organ had bee twenty-three years, and nothing but tuning had been d it for twenty years, during which period it had been in co use; therefore it was not to be wondered at that the inst required attention and renovation. The able builder organ, Mr. Willis, had been asked by the Dean and Cha

an estimate of what he thought ought to be done, and he divided his estimate into three parts. First, he thought an ıy of 400*l.* was necessary to effect needed repairs, 200*l.* e for the improvement of the choir organ on the south side e choir and bringing it up to date by providing the latest matic action, which was now applied to some of their t cathedral organs, especially St. Paul's and Lincoln, and her 400*l.* was required for the improvement of the organ ıe north side of the choir and fitting it with pneumatic n, making altogether a total of 1,000*l.* The committee assisted the Dean and Chapter in carrying out the great of restoring the tower and spire had happily 200*l.* at their)sal. It was really a sort of record that, after carrying out vork of restoration at a cost of 14,000*l.*, they had a credit ıce of 200*l.*, instead of a deficiency. The committee did eel justified in devoting that balance to the organ without ulting the subscribers, and therefore they had called that ing. The Dean and Chapter would be very glad if the cribers would say that day that they thought the balance, ctual amount of which was 210*l.* 10*s.* 3*d.*, might be applied e way the committee had suggested, and thus enable them ıcur the very considerable expense which Mr. Willis ght ought to be incurred.

recentor Carpenter mentioned that at a ruri-decanal ing of the Wilton Deanery held the previous day a ıtion approving of the proposal of the committee was ed unanimously.

r. Holgate then moved that the proposal of the committee vote the balance to the improvement of the organ should lopted, and, Mr. Morton seconding, the resolution was imously agreed to.

he following is an extract from a letter written by Mr. s to the cathedral organist, Mr. C. F. South, respecting the t:—

We have to commence this undertaking with a thorough ing and repairing its bellows (remaking some that have at work more than twenty years), and we have now to aul all its sound boards, replacing its springs, put new s and repair keys, at a cost of 400*l.*"

SHEFFIELD ART-CRAFTS GUILD.

NDER the auspices of the Sheffield Art-Crafts Guild an interesting lecture was given in the Howard Gallery on 2th inst. by Mr. S. Smith, chief librarian of Sheffield. ubject was "Craftsmen's Books on Ornament and Deco- Art." The master of the Guild, Mr. E. Tuck, presided, ı opening the proceedings said that a city like Sheffield ıded largely for its prosperity on the knowledge which its men had of the principles of art. The Guild had accom- d much, he believed, in improving the craftsmanship of ty, but they were yet only at the beginning of the work. were only just becoming appreciated by the "powers that If their work and objects were appreciated a little more, would see a great deal better technical work done in eld. They could only succeed by earnest effort, and he ıoping that under the wise guidance of Mr. Smith, the librarian, there would be added to the Free Library a er of volumes which would be of considerable use to men, and which would be perfectly free and open to them. Smith remarked at the outset that in a great commercial ınity like Sheffield, such a body as the Art-Crafts Guild ised a great influence for good in bringing about correct- of design, harmony of colour and accuracy of execution, in ıg craftsmen artists in the highest, and truest, and best sense word. It was a matter of the highest importance to crafts- hat they should have access to the best books dealing local arts and manufactures, and particularly those which, ason of their cost, would otherwise be quite out of the of the ordinary student. The provision of these at the al Library had been considered, and many both useful aluable works had been purchased. He was about to ask nsent of the library committee to publish a hand-list of ooks contained in the library to be sent to the members of uild and pupils of the School of Art, and if the publication at list drew attention to their wants and deficiencies it not be thrown away. Proceeding with his lecture, Mr. first spoke of general reference books, such as Owen s valuable "Grammar of Ornament." Subsequently he separately with works relating to costumes, ornamental work, furniture and woodwork, pottery and porcelain, and stained-glass, mosaic work, Japan and Japanese art, ecture and interior decoration, colour decoration, floral ation and design, figure drawing and sculpture, heraldry lumination, symbols and symbolism, book illustration and inding, &c. Under each head the lecturer dealt with ised works on the subject, giving a short bibliography of He referred to the plan adopted in Parisian libraries of iding works for the greater convenience of students, and ted that the "Selected Examples of Decorative Art" issued from South Kensington might be obtained for the library, and mounted separately to form a special collection to be loaned to craftsmen. He also suggested that it would be a good thing if an important body of working artists like the Guild should have direct representation on the libraries committee.

A cordial vote of thanks was passed to Mr. Smith for his lecture.

GLASGOW ARCHITECTURAL ASSOCIATION.

ON Tuesday evening, April 11, at eight o'clock, in the rooms, 187 Pitt Street, the president, Mr. Geo. S. Hill, A.R.I.B.A., in the chair, Mr. John Arthur, of Glasgow and Ayr, read a paper on "Feuing Plans and their Preparation." The essayist, in introducing his subject, referred to the fact that in cities this class of work was generally placed in the hands of civil engineers and surveyors to carry out, a state of things for which, he thought, architects themselves were largely to blame from their lack of interest and in many cases incompetency for the work. He submitted, however, that with regard to the plotting out of country estates for feuing purposes, the architect from his architectural training and experience was the one best qualified to judge how to take full advantage of their natural beauty and surroundings to give to their prospective roads and houses their highest degree of picturesque aspect and utility, and he exhorted those present to take a greater interest in this work, and to follow more closely in the footsteps of their country brother architect in this respect. The essayist then referred to surveying and levelling as being two necessary qualifications of the estate architect, and proceeded to show in detail by illustrations and demonstration how to survey and level a piece of land, and the use of the various instruments required for that purpose. This led up more particularly to the subject under review, and he went on to describe what steps were necessary to be taken with regard to the preparation of feuing plans for large estates, using Government ordnance maps as a basis for that purpose to show how and where to lay off new roads to best suit the arrangement and requirements of feus, how to take levels along the line of old and new roads, and how to reduce their levels to a common ordnance datum. The paper was fully illustrated by large scale drawings and examples of feuing plans. A vote of thanks to the essayist brought the meeting to a close.

TESSERÆ.

Difficult Sites.

ALL good artists welcome with pleasure what is called a difficult site. In truth there is no site so easy to deal with. It is when the site has no marked features of its own that the architect must make those of his own work prominent. The Acropolis of Athens and the Forum Romanum of Rome are in one sense difficult sites. That is, they are so picturesque, so irregular in their levels, that everything has to grow out of the necessities of its situation. There are no lessons more useful than those which we may learn from such examples as these. The Greek added one building to another in an almost picturesque confusion, and in a mode in which, if we believed some of our teachers of a few years back, it is impossible for any but the most erratic Gothic architect to take any pleasure. The Roman made a winding and irregular descent from the Capitol, with buildings of wholly dissimilar style on either hand as he descended, and then when he had passed through the arch of Septimius Severus, and found himself in face of a straight road for a short distance, he took care that it should be occupied by a succession of irregularly-placed and designed columns, monumental pedestals and buildings, whose beauty was that which came from the individual character of each, as well as from the gradual growth of the whole and the evidence it afforded of the historical continuity of the community and its arts. Nor when the Forum was left behind, and but a short distance separated the Roman from the Coliseum, was there any care to secure a straight road from one to the other. The paved roadway meandered on under the Arch of Titus, suiting itself to whatever conditions existed, in the easiest fashion possible, and without any thought whatever of those necessities for formal setting out of cities which are only reasonable when, as in many Transatlantic examples, there is no history whatever to be recorded, and a whole town is laid out at one time, and completed almost as soon as laid out. There are cases in which, however, the wise architect endeavours not only to build to suit his site, but to make the peculiarities of his site suit some sumptuous and scenic laying out of his whole building.

Hogarth's Accessories.

The lowest caricaturist is he who contents himself with the burlesque of feature, an offensive and ill-natured style. The next higher is the caricaturist of character; but the highest is the caricaturist of thought. This was Hogarth's superiority.

He threw on canvas or copper representations of all the eccentricities of mind. Sometimes tragic, as in his view of Bedlam; sometimes comic, as in the election print, where he exhibits popular folly under the image of a man cutting down the lamp-post on which he himself is sitting. Sometimes gravely satiric, as in the country church, where he exhibits the spider's web thickly drawn over the aperture of the parish poor-box, or in the picture of the nobleman's marriage with the rich citizen's daughter, where the gouty peer has the coronet upon his crutches, and the citizen's house is seen building, in defiance of all taste, with the Tuscan order above the Corinthian. But Hogarth's touches of nature and satiric dexterity are as numerous as his pictures. He loved common life, but its vulgarity is forgotten because his pencil was the most graphic, vigorous and true. One of his sources of superiority is the constant fulness of his background. Other artists have been content with the main action, thus leaving their performances naked, feeble, easily looked over and easily forgotten. But Hogarth crowded his canvas with accessories. Nothing was omitted that could assist the leading impression. He suffers no space to be unoccupied. Wherever there is room for an idea there an idea is fixed. In the *Marriage à la Mode* the profligate nobleman coming in from his night rambles might have been represented by a hundred artists in the exhausted plight in which he flings himself on the chair in his pompous drawing-room ; but how few would have thought of the tale told by the cap hanging from his pocket ; or in the picture of the miser's heir coming into possession, who else would have thought of the money dropping from the hoard in the wainscot? It was this unfailing fertility of invention, this richness of accompaniment, this heaping of image on image, that made Hogarth so powerful in his own day, and makes him so popular in our own. This was the result of study. Nothing permanent was ever done without long and anxious toil. And if Hogarth wrought rapidly there can be no stronger evidence than this peopling of his pictures with ideas that he thought with matchless industry.

Foliated Arches.

From the invention of the arch to the middle of the eleventh century no other form of it was used except the semicircular and segmental. About this period license was taken to alter the forms of arches: the pointed arch was introduced, and with it a variety of other forms, as ogees, horseshoes and ellipses. At the same time there came in the practice of foiling arches—that is, of uniting a series of three or more by their bases so as to form one, which is termed a trefoil, quatrefoil, cinquefoil, and so on, according to the number of its component arches or foils, as they may be termed. These foils may be either of the same or different forms, but are generally of an odd number, with one in the centre and the rest disposed in similar pairs on each side of it. They are often all circular or all pointed, and sometimes all ogees. An ogee or pointed between two circular foils is a very common arrangement; the lower pair are commonly imperfect semicircles, from their being continued downwards to form the sides of the arch, but in some of the earlier examples are made complete semicircles. The pointed arch, from its united strength and convenience, of course assumed the prominent place, and was used in all the larger and essential parts of the fabric, while the other forms were reserved for the decorative arcades, the galleries, doors and windows. These arches when at first introduced were treated in composition exactly in the same manner as the circular arches had been, and were mixed with them. The other characteristics of the Pointed style were invented before or after their introduction, and may be traced from their first imperfect germs to their final perfection entirely amongst European buildings, so that the notion of the Pointed style being introduced complete is at any rate erroneous.

Variations in Taste.

The cultivation of the eye is as necessary to art as of the ear to music. Art is not wanted for daily use in this bustling world, nor is poetry, nor any high reach of intellect. But the nerves of all our organs, our outward senses, do reach to the inner mind ; but the mind must by intellectual cultivation, or an intuitive and rare gift, be enabled to play upon these instruments. So that we are indeed wonderfully made, that we may never lay ourselves down and cover ourselves with the rust of idleness ; but, after we have exercised successfully the faculties necessary for our subsistence, those of highest power remain to be cultivated, and the means of enjoyment infinitely enlarged. Perfect taste is the enjoyment of perfected beings. We are afraid we are more than on the borders of dull truism, but we cannot come to the "why and wherefore" of things otherwise. Apply what has been said to our national taste and practice, as artists or admirers. What is the character of things exhibited? —here you have the aim of the artist. What is the character of the things admired, encouraged and purchased?—here you have the public taste. How far the one depends upon the other may be a question for philosophical inquiry, and not unw attention. It may be more than an object of curiosity to to causes facts in the history of taste, or, if you please, of we say taste because it comprehends the world to be pleas well as the artists who are to please—how it is that unvalued in their own age in a subsequent age are everyt how it is that the most valued become worthless. Are we that the present estimation of the works of other days, o great masters as they are called, is on a correct scale even here there is no steady certainty. Whoever lived twenty years in the world of art must noticed the variation of the scale, and then c a still more curious inquiry—are modern works received favour for and upon the same principles of taste which given their value to the old? or if not, can there be opp principles of taste? And then from what cause or happy bination of causes is it that in any age the genius of the the painter, maker, worker, shall have been in perfect and sympathy with the public requirement? Is there a an accordance between a people and the state of art a them? If so, how is it that the works of one age so admi suit another in which no such works originate? And as t present age, where the works which have been recognise the excellence of former days reproduced as originals a us, would they be acknowledged to be what they are? history of the world of events has been written, fabul and truly, with great learning and research, but the histo the world, intellectual and moral, of nations separate warfares and dynasties, is yet a desideratum—the histo taste.

Vitruvius and Mouldings.

Vitruvius has not written expressly upon mouldings merely names them when they occur in the course of description of other architectural members. But a name in this way be given to a moldings, either in the general s from the form of its section, as when he terms the hollo casement a scotia, from the shadow which it holds; o name may be assigned to the moulding only from the pec function which it performs, or from some form which it de from that function: as for example, the same scotia wh occurs in the base of a column is also termed in conjun with its fillets Trochilus, the pulley, for it exactly resemb pulley in this use of it, but not when it is straight. Now we attempt to pick out a nomenclature from this author, w often in a doubt whether a given term be a sectional name functional name, and this distinction has not been sufficie attended to. It will presently appear that the same funct name may be given to two different mouldings, if they are capable of performing the office to which the name alludes

GENERAL.

Professor Banister Fletcher lectures this evening "Sanitary Building Construction," at University Build Dublin.

Mr. G. F. Hill, of the British Museum, the Yates Lec in Archæology at University College, London, will deliv course of six lectures on the coinage of Britain, as illustra British history from the time of Julius Cæsar to the Nor Conquest. The lectures, which will be illustrated by the ele lantern, will be open to the public on presentation of visi cards. The first lecture will be delivered on Thursday, Apri at 5 P.M., in the botanical theatre of the college.

A Complete Set of the "Cries of London," afte Wheatley, R.A., finely printed in colours, with large mar and including the very scarce extra plate "Hot Spice Gi bread," engraved by Vendramini in duplicate, was so Messrs. Christie's on Wednesday. The set of fourteen was started at 150 guineas, and fell at Mr. A. B. Daniell's of 610 guineas. This is far higher than any price hitherto for a complete set of the "Cries," the previous highest am having been about 300*l.*

The South Kensington Museum in its enlarged will be called "The Victoria and Albert Museum." foundation-stone of the new buildings will be laid on May

Mr. Chamberlain, the Colonial Minister, has been el honorary member of the Royal Society of Painters in W Colours.

Mr. E. Tidman, F.S.I., has been selected an arc for the new schools which are to be erected by the S Board in the George Lane district, Woodford, and his have received the approval of the Education Depart Tenders will shortly be invited.

The Testing Station of the British Fire Preve Committee is already showing considerable activity, the in gations generally taking place on Wednesdays. Amon tests in hand are several with floors, and partitions ordinary description, as allowed by the Building Act, incl solid timber floors and floors with various aggregat concrete, all of which are, of course, not subject to any pa or the interests of any special firm.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must not necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

A great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. *on Thursdays.*

NEW READING CASE.

Librarians of the Public Libraries and Reading-Rooms.—A new handsome Reading Case can be supplied on receipt of nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITION OPEN.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Ltd, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ALNWICK.—April 24.—For erection of a farm-steading, consisting of four covered fold-yards, feeding-pens, food-stores and stables for seventy-eight head of cattle and horses, and three cottages at Low Buston. Mr. M. Temple Wilson, architect, Alnwick.

BARNSLEY.—May 1.—For erection of a new school, class-rooms and lecture hall in Racecommon Road. Messrs. Senior & Clegg, architects, 15 Regent Street, Barnsley.

BARROW-IN-FURNESS.—For erection of the proposed new Congregational Church. Mr. E. M. Young, architect, 90 Duke Street, Barrow-in-Furness.

BARROW-IN-FURNESS.—April 28.—For erection of a technical school, and alterations to existing building in Abbey Road. Messrs. Woodhouse & Willoughby, architects, 100 King Street, Manchester.

BARROW-IN-FURNESS.—May 1.—For erection of new Cookery Centres at Rawlinson Street and Holker Street schools. Mr. W. Hutchinson, School Board Offices, Town Hall.

BARTON-UPON-IRWELL.—May 2.—For execution of certain private street improvement works, in the township of Clifton, in two contracts—1. Eleven streets, containing a total length of 690 yards; 2. Twenty streets, containing a total length of 1,482 yards. Mr. J. W. Whitworth, clerk, Union Offices, Patricroft.

BOURNE.—April 24.—For alterations to house, North Street. Mr. F. G. Shilcock, architect, Bourne.

BREAMORE.—May 1.—For construction of brick, concrete, and stone pier abutments, approach walls, &c., for the sub-structure of a bridge over the River Avon. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

BRIGHTON.—May 2.—For erection and completion ready for occupation of twenty-eight five-roomed artisans' dwellings, at St. Helen's Road, Brighton. Mr. J. C. May, surveyor, Town Hall, Brighton.

CHESTER.—April 29.—For erection of public baths in Union Street. Messrs. Douglas & Minshull, architects, Abbey Square, Chester.

CREWE.—April 26.—For erection of new Liberal club. Messrs. William Sugden & Sons, architects, Leek.

DARLINGTON.—May 8.—For erection of electric-lighting station. The Borough Surveyor, Town Hall, Darlington.

DERBY.—May 2.—For construction of a bridge in the parish of Cubley, on the road leading from Marston Montgomery to Hungry Bentley. Mr. John Barker, surveyor, Cubley, Derby.

DEVON.—April 29.—For erection of a cottage at Widewell, Torcross. Mr. W. F. Tollit, architect, Gate House, Totnes.

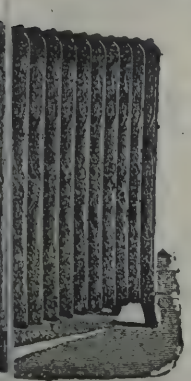
DUBLIN.—May 1.—For erection of an addition to the station building at Edward Street, Newry, comprising waiting-rooms, offices, &c., and a two-storey gatekeeper's cottage at Milltown siding, near Banbridge, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

FARNBOROUGH.—May 1.—For erection of stables at Farnborough for the horses of mounted police and for erection of police cottages and cells at Hartley Row. Mr. W. J. Taylor, surveyor, The Castle, Winchester.

FENTON.—May 2.—For erection of an infants' school, Grove Road, Fenton, Staffs. Messrs. R. Scrivener & Sons, architects, Hanley.

FLAMBOROUGH.—April 27.—For erection of farm buildings at Ocean View. Mr. J. Earnshaw, architect, Wellington Road, Bridlington Quay.

GATESHEAD.—May 1.—For erection of district police station in the Old Durham Road. Mr. J. Bower, borough engineer, Town Hall.



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Gloucester.—May 6.—For erection of a mixed and infants' school, caretaker's house, &c., in the Hatherley Road. Mr. Alfred J. Dunn, 31 St. Michael's Square, Gloucester.

Halifax.—May 6.—For erection of Board schools, formation of playgrounds, boundary walls, &c., Sunny Side, Haley Hill. Mr. W. Clement Williams, architect, 29 Southgate, Halifax.

Handsworth.—May 1.—For erection of a fire-engine station, engineer's cottage and hose tower, &c., adjoining the Council House, Handsworth. Mr. E. Kenworthy, engineer and surveyor to the Council, Council House, Handsworth, Staffs.

Hayton.—May 5.—For alterations and additions to a house at Hayton, near How Mills. Mr. A. W. Johnston, architect, 81 Castle Street, Carlisle.

Hereford.—For alterations to premises, Widemarsh Street. Mr. W. W. Robinson, architect, Hereford.

Hereford.—April 25.—For repairing various bridges in the Bredwardine, Ross, Hereford, Kington and Wigmore districts. Mr. A. Dryland, county surveyor, Shirehall, Hereford.

Hexham.—April 29.—For erection of a new bridge of two arches at Dyehouse, near Hexham, including taking down old work, and for street alterations in Hexham, including kerbing, channelling, flagging and laying cement footpaths. The County Surveyor, Moot Hall, Newcastle.

Holloway.—April 26.—For construction of corrugated iron shelters, erection of boundary walls, supplying and erecting iron railings, gates and wire fencing at the Public Garden and Recreation Ground in Market Road. Mr. J. Patten Barber, surveyor, Vestry Hall, Upper Street, Islington, N.

Horbury.—April 25.—For erection of a U.M.F.A. chapel and school. Mr. W. H. Dinsley, architect, Chorley, Lancashire.

Huddersfield.—April 25.—For erection of 16 dwelling-houses in May Street, Crosland Moor. Mr. Arthur Shaw, architect, Golcar.

Huddersfield.—May 1.—For erection of eight dwelling-houses at Greenside, Dalton. Mr. J. Berry, architect, 9 Queen Street, Huddersfield.

Ilkley.—April 26.—For erection of new stores at Ilkley. Mr. John W. Fawcett, 10 Albion Street, Leeds.

Ipswich.—May 3.—For erection of new rooms at museum and free library, St. George's Street. Mr. He Miller, 16 Museum Street, Ipswich.

Ireland.—For erection of bank premises at Ferm co. Cork. Messrs. Kaye, Parry & Ross, architects, Palat Chambers, 63 Dawson Street, Dublin.

Ireland.—May 1.—For erection of four dwelling-hou at Lisburn. Mr. Henry Hobart, architect, Dromore, cou Down.

Ireland.—May 1.—For extension of a timber goods s and the erection of an office inside same, at the Queen's Bri Goods Depot, Belfast, for the Great Northern Railway C pany (Ireland). Mr. T. Morrison, secretary, Amiens St Terminus, Dublin.

Ireland.—May 1.—For erection of boundary walls gullet at the new houses on Convent Road, Wicklow. Francis W. MacPhail, town clerk, Wicklow.

Kelling.—April 27.—For enlarging part of the sch premises at Kelling, near Holt. Mr. F. Andrews, clerk, H Norfolk.

Leeds.—April 25.—For erection of urinals at Burmant cemetery, the end of Roseville Road, at its junction Roundhay Road, and at Cross Flatts Park. The City Engin Municipal Buildings.

Leeds.—April 24.—For construction and erection, at New Wortley gasworks, of a cast-iron water cistern, 40 square by 6 feet deep. Mr. R. H. Townsley, general manag Gas Offices, Municipal Buildings, Leeds.

Lincoln.—For erection of Wesleyan chapel and scho Nettleham. Messrs. W. Mortimer & Son, architects, Linco

Liverpool.—April 25.—For alterations to the passen station, new platform roof and additional opening under Br ford Road at Low Moor, for the Lancashire and Yorksh Railway Company. Mr. C. W. Bayley, secretary, Ba Manchester.

Liverpool.—April 25.—For extension of the South D goods station and alterations to the warehouse in Caryl St for the Lancashire and Yorkshire Railway Company. C. W. Bayley, secretary, Hunt's Bank, Manchester.

Liverpool.—May 5.—For erection of Royal N Reserve buildings at Altcar, near Liverpool, consisting firing battery, magazine, messroom and latrines. Direct

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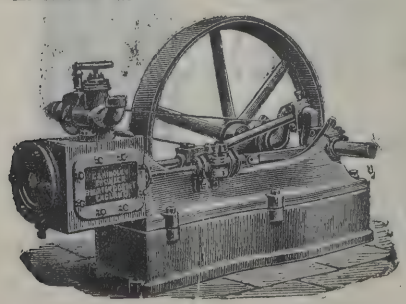
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orks Department, Admiralty, 21 Northumberland Avenue, ndon, W.C.

LONDON.—May 8.—For erection of the superstructures of d for painting new bandstands at Battersea Park and ctoria Embankment Gardens, for the London County uncil. Particulars at the Architect's Department, 13 Spring rdens, S.W.

LONDON.—April 24.—For erection of a public library in stow Hill, Upper Norwood. Mr. Edward Hazlehurst, hitect, 7A Laurence Pountney Hill, E.C.

LONDON.—May 8.—For supply and erection of boundary ings and gates, including stonework of coping, steps, &c., Nelson Recreation Ground, Kipling Street, S.E., for the ndon County Council. Particulars at the Architect's Depart-nt, 13 Spring Gardens, S.W.

LONDONDERRY.—April 26.—For erection of station houses works connected therewith, for the Donegal Railway Com-y. Mr. James Barton, Exchange Buildings, Dundalk.

LOW MOOR.—April 25.—For alterations to the passenger-ion, new platform-roof and additional opening under dford Road, for the Lancashire and Yorkshire Railway npany. Mr. C. W. Bayley, secretary, Hunt's Bank.

MANCHESTER.—April 25.—For erection of a new post-e at Hyde. Messrs. Lee & Son, architects, 35 Craven et, W.C.

NEW CROSS.—April 26.—For alterations to boiler and ine-house and the erection of chimney shaft at the South-tern Hospital, Hatfield Street. Mr. C. Stanley Peach, itect, 28 Victoria Street, Westminster, S.W.

OLDHAM.—April 25.—For erection of a retort-house, coal-l and chimney, &c., at the Higginshaw gas station. Mr. ur Andrews, Gas Offices, Graves Street.

POOLE.—April 26.—For alterations and repairs to the public s on the east shore. Mr. John Elford, borough surveyor, le.

PONTYPOOL.—May 3.—For pulling down portions of the ing workhouse buildings and erecting proposed extensions eto. Messrs. Lansdowne & Griggs, architects, Metropolitan k Chambers, Newport, Mon.

PRUDHOE.—April 29.—For erection of a police station at lhoe. Mr. John Cresswell, county architect, Moot Hall, castle-on-Tyne.

REDHILL.—May 1.—For erection of an isolation hospital, to include three ward blocks, administrative discharging, mortuary and laundry blocks, near White Bushes, off the Three Arch Road, Earlswood Common. Mr. W. H. Prescott, borough surveyor, Market Hall, Redhill.

RUNCORN.—April 24.—For erection of a shed, 21 feet long and 11 feet wide, at the workhouse, Dutton. Mr. John Ashton, clerk to the Guardians, Runcorn.

SCOTLAND.—May 12.—For additions to boys' school, Illogan. Mr. Sampson Hill, architect, Green Lane, Redruth.

SHEFFIELD.—April 29.—For raising and reroofing sulphate factory and raising water tower, at the Grimesthorpe chemical works, for the Sheffield United Gas Company. Mr. Hanbury Thomas, general manager and secretary, Commercial Street.

STOKE-ON-TRENT.—April 26.—For erection of the new Gordon Theatre, Stoke-on-Trent, Staffordshire. Messrs. Owen & Ward, architects, 71 Colmore Row, Birmingham.

TROWBRIDGE.—April 25.—For alterations and additions to Wingfield House. Mr. W. H. Stanley, architect, Market House Chambers, Trowbridge.

WALES.—April 27.—For erection of an infant school for about 200 children at Rhostyllen. Messrs. Harris & Lash, joint architects, Wrexham.

WALES.—April 27.—For erection of a new cottage hospital and dispensary, Hereford Road, Abergavenny. Mr. E. A. Johnson, Abergavenny.

WALES.—May 1.—For erection of two additional wings to the Gwbert Hotel at Gwbert-on-the-Sea. Mr. C. Morgan-Richardson, Cardigan.

WALES.—May 1.—For repair of the tower, &c., of Cascob Church, near Presteign. Mr. Ernest Collier, architect, Carmarthen.

WALES.—May 6.—For erection of a concrete wall, drainage and other works to support the landslip between the main road and the river Usk, near the village of Llangrwyne, Brecon. Mr. H. Edgar Thomas, clerk, County Hall, Brecon.

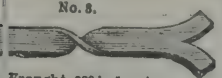
WALES.—May 8.—For repairs and alterations to the British School, Govilon, Abergavenny. Mr. Edward Edwards, The Cwm, Govilon.

WALLSEND.—April 25.—For erection of five self-contained houses. The Committee, Wallsend Industrial Co-operative Society, Limited.

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WHITEHAVEN.—May 3.—For alterations and additions to the Oddfellows' Hall property in Lowther Street and Queen Street. Mr. J. S. Moffat, architect, 53 Church Street, Whitehaven.

APROPOS of a notice *re* paving in Upper Street, which appeared in our last week's issue, Messrs. Woolliscroft writes us as follows:—"We thank you for notice on page 3 of your issue April 14, but beg to call your attention to a mistake, where it is stated that the bricks are of a hard *red* pressed variety. If you will kindly refer to circular sent you, you will find it should be *blue*. Referring to the last paragraph, statistics from America, where they have been mostly used, show that they are most suitable where the traffic is heaviest, as they enable horses to draw with ease loads which on other pavements they cannot move." We find that both *blue* and *red* bricks were laid in the section of the road referred to, and that the latter were manufactured by Mr. Joseph Hamblett, Piesey Brick Works, West Bromwich.

THIS week's issue of Sell "Commercial Intelligence" contains a important map of Egypt and the Soudan, showing all the latest treaty boundaries, &c. An important feature of the paper is entitled "Foreign Goods we Buy," which contains some suggestive paragraphs and interesting trade facts.

IT is proposed to erect a mission church to accommodate 700 worshippers at the junction of Walford Road and Golden Hillock Road, Sparkbrook, Birmingham, where a site has been secured through the generosity of the trustees of the Birmingham Churches' Fund. The architect, Mr. W. H. Lloyd, has prepared plans, the estimated cost being about 6,000*l*. It is proposed that the church shall be built chiefly of brick, but such stone as is used for window tracery, copings, &c., will be of the most durable description. The site being short from west to east, the church has been planned proportionally, somewhat wider than usual, and advantage has been taken of this to group the greater part of the seats within a short radius of the pulpit, and to reduce to a minimum the number from which the piers will obstruct the view. The church will be designed in the Decorated style, will give accommodation for 707, and will comprise a chancel 32 feet by 24 feet, and a chancel aisle, organ chamber and vestry; a nave 86 feet by 29 feet, a south aisle of 19 feet width and a north transept, two porches and an additional exit from the transept. It will be known as Christ Church.

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For alterations to dwelling-house, Fiddesbeg, Foveran; n kitchen, Pettymuick, Udny; new dwelling-house, Mo head, Dudwick, Ellon; and new offices, Little Brownh Dudwick, Ellon.

Accepted tenders.

Fiddesbeg.

J. Sim, Cultercullen, carpenter	£154 0
A. & R. Main, Hillhead, Smiddigburn, Belheline, mason	120 0
W. Seivwright, Ellon, plasterer	39 10
Moir & Scorgie, Aberdeen, slater	18 0

Pettymuick.

F. Buchan, Udny, carpenter	39 0
Paterson & Marshall, Udny, mason	19 17
W. Seivwright, plasterer	17 0
Moir & Scorgie, slater	11 19

Little Brownhill.

A. Simpson, Ellon, carpenter	67 6
W. Fyvie, Ellon, slater	53 8
A. Watson, Aberdeen, mason	51 0

Mosshead.

A. Simpson, carpenter	55 0
A. Watson, mason	52 9
W. Gall & Son, Newburgh, slater	21 0
W. Seivwright, plasterer	15 17

ACTON.

For re-erection of the Railway Hotel, Acton, for Mr. A. Savigear. Mr. EDWARD MONSON, architect, Act Vale, W., and 22 Buckingham Street, Adelphi, W.C.

Lascelles & Co.	£8,426 0
Patman & Fotheringham	8,251 0
W. Wallis	8,248 16
C. Ansell	8,181 0
Antill & Co.	8,000 0
Godson & Son	7,963 0
Beer & Gash	7,775 0
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Chessum & Son	7,458 0
T. NYE, Ealing Green, W. (*accepted*)	7,278 0
W. Blackburn	7,060 0

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ACTON GREEN.

ormation of new road on the Kingswood Park Estate to e called Bolton Road. Mr. EDWARD MONSON, architect, Acton Vale, W., and 22 Buckingham Street, Adelphi, W.C.
NOWELL & Co., Earl's Court (*accepted*) . £1,125 0 0

ASHTON-UNDER-LYNE.

erection of new branch store at Littlemoss, Waterloo Mr. A. J. HOWCROFT, architect, 12 Clegg Street, Oldham.
W. HURST, Droylsden, near Manchester (*accepted*).

ASHTON-UPON-MERSEY.

naking-up part of Carlton Road. Mr. JAMES DIGGLE, urveyor, Public Hall, Ashton-upon-Mersey.
G. BOZSON, Church Lane (*accepted*).

BARNSLEY.

rection of a school for infants at Staincross, near Barnsley. Iessrs. SENIOR & CLEGG, architects, 15 Regent Street, arnsley.

Accepted tenders.

lker & Blackburn, mason	£1,106 17 0
G. & L. England, carpenter and joiner	790 0 0
Dransfield, plumber and glazier	149 0 0
Fleming, slater	147 0 0
Fleming, plasterer	78 10 0
ieward & Co., Lancaster, heating apparatus	72 0 0
wden & Son, painter	33 0 0

BECCLES.

rming, metalling, and channelling and paving Alexandra oad.

W. Glenny	£355 0 0
OHNSON, Beccles (*accepted*)	333 0 0

BIDEFORD.

ntinuation on the river bank of the quay-wall from the rth end of the quay in a northerly direction to the pitching the river bank now completed, and for pitching and ps, &c. Mr. HENRY CHOWNS, borough surveyor.

Woolway	£280 0 0

Note.—Surveyor to carry out the work at £250.

BEDFORD.

For paving and roadmaking in Alexandra Road.

Victoria Stone Company	£414 13 0
R. BLACK, Bedford (*accepted*)	395 0 0

BISHOP AUCKLAND.

For providing and laying-down about 963 yards of 3-inch and 2-inch cast-iron water-mains and valves at Evenwood Mill and Thrushwood, and for providing and laying down about 56 yards of 6-inch sanitary pipes, with settling tank, &c., at Evenwood Gate. Mr. C. JOHNSTON, surveyor, 1 Cradock Street, Bishop Auckland.

Water-supply to Evenwood Mill and Thrushwood.

G. H. Bell	£178 12 6
G. Hetherington, Coundon	178 12 0
P. FRATER, Howden-le-Wear (*accepted*)	160 0 0

Tank at Evenwood Gate.

G. H. Bell	30 17 6
G. HETHERINGTON (*accepted*)	27 14 0
P. Frater	14 15 0

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J. Perkins	16,100 0 0
W. Cowlin & Son	15,859 0 0
Stephens, Bastow & Co., Limited	14,749 0 0
G. Humphreys	14,600 0 0
A. J. Beaven	14,200 0 0

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W. A. Stevenson	£7,595 0 0
G. Hodges	7,580 0 0
H. Edwards	7,570 0 0
G. H. Adams	7,400 0 0
A. Geary	7,392 0 0
T. LOWE & SONS (*accepted*)	7,380 0 0
R. Kershaw (*informal*)	7,333 7 0

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HOT WATER & STEAM HEAT.

BURY.

For alterations and additions to mill in Wash Lane. Messrs. James Sellers & Son, architects.
Smith Brothers, Manchester (*accepted*).

BURNLEY.

For new classrooms and other extensions to Baptist schools. Mr. Thos. Bell, architect, 14 Grimshawe Street, Burnley.
Accepted tenders.
C. Ashnorth, excavator and mason.
C. Lister, concreter.
A. Birtwistle, carpenter and joiner.
O. Whitaker, slater.

CASTLETON.

For construction of precipitation tanks, filtration works and about two miles of stoneware pipe sewers, together with the necessary manholes, lampholes, ventilators and other work connected therewith, in the parish of Castleton. Messrs. Sterling & Swann, engineers, Town Hall, Chapel-en-le-Frith.
Etheridge & Clark, Manchester (*accepted*). £2,908 14 0

COVENTRY.

For extension of the buildings of the electricity works, Sandy Lane. Mr. J. E. Swindlehurst, city engineer.

C. G. Hill	£2,793 3 1
C. Garlick	2,221 0 0
C. H. Barber	1,993 0 0
I. Isaac & Sons	1,941 1 5
Kelly & Sons, Foleshill, near Coventry (*accepted*)	1,843 7 6

DERBY.

For excavations, foundations, engine-bed and retaining wall in connection with extensions to the electric-lighting station. Mr. Arthur Eaton, architect, 6 St. James's Street, Derby.
H. Vernon, Derby (*accepted*).

DUKINFIELD.

For paving, draining, &c., the roadway from the bridge over the canal off Charles Street to the gasworks.
W. Underwood & Bro., Hope Street (*accepted*).

DURHAM.

For construction of 819 lineal yards of 9-inch and 12-inch pi sewers, with manholes, lampholes, &c., at Sunderla Bridge. Mr. George Gregson, surveyor.

J. Carrick	£353 9
F. C. Dixon	329 17
R. Oliver, Durham (*accepted*)	311 0

FLEETWOOD.

For construction of an underground convenience, with dra manhole, &c.

J. Kirkbride	£1,719 9
T. Riley, North Lancashire Steam Sawmills, Fleetwood (*accepted*)	1,693 16

FRASERBURGH.

For erection of a teacher's house, Rosehearty.
Accepted tenders.

G. Corbett, builder	£361 0
J. Taylor, carpenter	245 0
A. Wiseman, plasterer	41 15
J. Reid, slater	26 0
Ferguson & Co., plumber	24 0

FROME.

For erecting an additional 100-quarter malting at the Stati Maltings. Mr. Wm. George Brown, architect, Pa Road.

J. Long & Son	£5,143 0
Wort & Way	4,835 0
T. Lowe & Sons	4,610 0
C. Barnes, Long Ground, Frome (*accepted*)	4,487 0

HACKNEY.

For external and internal painting and repairs to be done Richmond Road, N.E., for Mrs. E. Grove. Mr. W. Potter, architect.
F. Dawes, Peckham Rye (*accepted*).

HORSHAM

For additions to the Queen's Head Hotel. Mr. C. Burstow, architect, 6 West Street, Horsham.

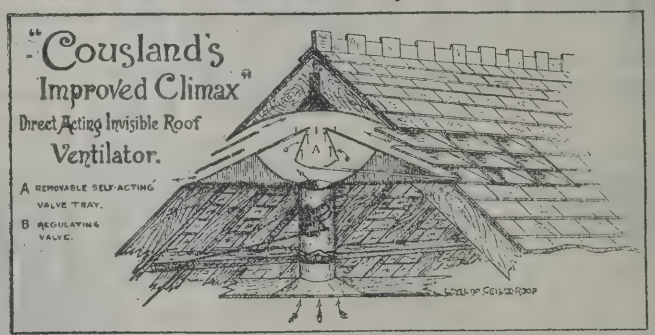
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Rowland Bros.	335 0
G. Potter, London Road (*accepted*)	320 0

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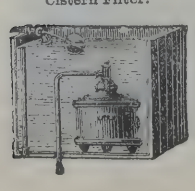






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HITCHIN.

erection of six cottages. Mr. J. SHILCOCK, architect.

uffield	£1,490 0 0
erredew & Wort	1,485 0 0
ennis	1,399 0 0
ilmott Bros.	1,352 0 0
Redhouse	1,220 0 0
NEWTON (*accepted*)	1,196 0 0
. Foster.	1,195 0 0

HUDDERSFIELD.

erection of Station Street Buildings. Messrs. ABBEY & HANSON, architects, 20 Ramsden Street, Huddersfield.

Accepted tenders.

. Brook, mason	£6,754 10 0
ichardson & Wilson, joiner	1,721 0 0
W. Crosland & Co., iron and steel	1,074 19 0
Marsden, plumber	715 0 0

erection of a circular brick chimney, 50 yards high, at Brigg Mills, Meltham. Mr. W. CARTER, architect, Meltham, near Huddersfield.

ILES & WARNER, 20 Sett Street, Stalybridge (*accepted*).

HULL.

whitewashing, papering and painting at the cottage homes, Hessle. Mr. T. BEECROFT ATKINSON, architect, 11 Trinity House Lane, Hull.

ghtowler & Son	£118 0 0
Habron	105 0 0
T. Torr & Sons	96 13 3
ll Painting and Decorating Co.	96 8 0
FELLOWS, Walton Street, Hull (*accepted*)	87 17 6

KING'S LYNN.

erection of classrooms and additional offices, &c., at All Saints schools. Mr. LOUIS F. EAGLETON, architect, Bank Chambers, King's Lynn.

rdell Bros.	£459 0 0
Dye	445 0 0
G. Rudrum	426 0 0
nant Bros.	416 0 0
. H. BROWN, Bridge Street (*accepted*)	416 0 0
ll & Horseley	384 16 0
Baker	373 10 0

LONDON.

For rebuilding stores at Holloway Road, N., for Messrs. Ind Coope & Co., Limited. Messrs. HARRINGTON & LEY architects, 108 Fenchurch Street, E.C.

G. COX, Holloway Road (*accepted*)	£225 0

For erection of a boundary fence at Brockley Grove, Brockley, for the St. Paul's, Deptford, Burial Board. Mr. JOHN JAS. DOWNES, architect, 199 Lewisham High Road, S.E.

T. D. Leng	£695 0 0
Simmonds & Son	689 10 0
J. & A. Oldman	685 0 0
Johnson	664 0 0
HALL BROS. (*accepted*)	649 0 0

MIDDLESBOROUGH.

For erection of an entrance lodge at the new cemetery, Linthorpe. Mr. FRANK BAKER, borough engineer.

J. Johnson	£650 0 0
McNaughton & Jones	528 11 6
Bastiman Bros.	521 10 9
S. LORD, 225 Newport Road (*accepted*)	496 18 4

NORFOLK.

For construction of roads and footpaths in Sherringham and Beeston Regis, consisting of about 2,800 feet run, with gullies, &c. Mr. ROBERT MANN, surveyor, Holt, Norfolk.

B. COOKE & Co., Battersea (*accepted*)	£2,402 0 0
G. Rackham	2,349 0 0

NORWICH.

For erection of a manual instruction room at the Angel Road school. Mr. C. J. BROWN, architect, Cathedral Offices, Norwich.

Chapman & Son	£449 0 0
Pye & Son	437 0 0
Tyrrell Bros.	430 0 0
Scarles Bros.	425 0 0
S. Sendall	388 0 0
R. M. LEVERIDGE, Dereham Road (*accepted*)	384 10 0

POPLAR.

For covering with zinc and copper the dome at the Board's offices, 117 High Street, and for execution of necessary repairs to the said dome.

R. Fox, Salmons Lane, Limehouse, zinc £128, copper £158.

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PORT TALBOT.

For erection of twenty-five cottages at the docks. Mr. FRANK B. SMITH, architect, Port Talbot.

J. Davies	£247 0 0
T. Jenkins	245 0 0
T. L. Morgan	166 19 0
W. LEVERTON BROS., Aberavon (*accepted for twelve*)	163 0 0
F. Thomas	160 0 0
J. H. OWENS, 47 Dogfield Street, Cardiff (*accepted for thirteen*)	160 0 0

QUEENSBURY.

For laying about 137 yards of 12-inch pipe sewer at Alma Street, and about 66 yards of 9-inch pipe sewer at Salem Street, Queensbury.

A. Ramsden	£119 5 0
J. Hainsworth & Son	105 0 0
T. Wade	102 19 6
T. Shackleton	100 19 0
BALMFORTH & INGHAM, Queensbury (*accepted*)	99 0 0

RINGSTEAD.

For erection of lattice girder bridge with the necessary masonry and one girder and cement bridge, in the parish of Ringstead, Northamptonshire.

Fasey & Co.	£1,950 0 0
FREEMAN & SONS, Denford, Thrapston (*accepted*)	1,069 0 0

ROMFORD.

For sinking well for new public baths in Mawneys Road, for the Romford Urban District Council. Messrs. HARRINGTON & LEY, architects, 108 Fenchurch Street, E.C.

T. BRUTY, Hornchurch (*accepted*) £385 0 0

RUSHDEN.

For sewer ventilators. Mr. W. B. MADIN, C.E., town surveyor.

Accepted tenders.

W. Macfarlane & Co., rectangular shafts.

McDowall, Steven & Co., six 6-inch steel columns with cast-iron base, each 30 feet above ground and 4 feet under ground.

ROTHWELL.

For erection of shoe factory, for Mr. C. W. Chamberlain. W. J. SMITH, architect, Market Harborough.

F. BARLOW (*accepted*) £1,362 10

SAFFRON WALDEN.

For supplying and laying about 3,213 square yards of granolithic paving, with York and granite setts and kerbs. A. H. FORBES, borough surveyor.

Paving only.

STUART'S GRANOLITHIC STONE COMPANY, Regent Dock, Limehouse (*accepted*)	£642 12
Imperial Stone Company	629 4
Geary, Walker & Co.	575 13

Kerbing, crossing, &c.

D. DIX, Saffron Walden (*accepted*) 679 6

Whole contract.

T. Adams	1,325 10
A. Walker & Co.	1,274 5
R. A. Bonnett & Co.	1,200 0

SEATHWAITE.

For erection of farm buildings at Turner Hall, Seathwaite, Lancs. Mr. J. BELL, architect, Coniston, R.S.O.

Accepted tenders.

J. Thackeray & Sons, Broughton-in-Furness, mason and slater	£459 10
J. Atkinson, Beckfoot, Broughton-in-Furness, joiner, carpenter, painter and plumber	163 0

WALES.

For erection of a school at Bryn to accommodate 250 children. Mr. FRANK B. SMITH, architect, Port Talbot.

E. Thomas	£3,649 0
E. & F. Gaen	3,640 0
J. Davies	3,625 0
T. JENKINS, Port-Talbot (*accepted*)	3,273 0

WALSALL.

For painting the outside of the chapels, lodge and outbuildings and the iron palisades at Ryecroft Cemetery. H. G. FRYER, Corporation Street (*accepted*).

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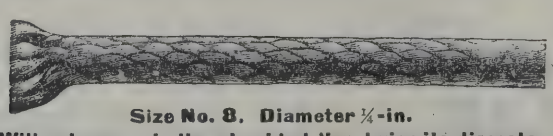
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WINCHESTER.

ır sinking a well for water at the Diamond Jubilee Hospital, Alresford Road.

C. Jewell, Winchester £50 up to 165 feet, 6*s.* per foot beyond that depth (*accepted*).

WOODHALL SPA.

ır erection of a villa and blacksmith's shop at Woodhall Spa.

C. Steadman (*accepted*).

TRADE NOTES.

ıe Hambledon schools, Henley-on-Thames, are being ıtilated by means of Shorland's patent exhaust roof-ventilators l special inlet panels by Messrs. E. H. Shorland and Brother, Manchester.

There is a very simple hand contrivance invented by Mr ırryweather for augmenting the pressure in water fire-mains. is well known that in London, among the higher buildings, water companies' pressure is very weak in daytime owing the great domestic calls made upon the services. This ɔliance, which is designated "Merryweather's Pressure gmentor," when worked by one man, will raise a jet to a ght of 40 feet from zero with sufficient force to extinguish a on the roof of the most lofty building in London. The nstitutional Club, Queen Anne's Mansions, the Hotel Cecil l many other equally tall buildings are fitted with this nirable piece of apparatus.

In the Chancery Division, on the 15th inst., Mr. Justice Byrne ivered his deferred judgment in an action brought by the lsbach Incandescent Company, of Birmingham, for an ınction restraining the Daylight Incandescent Company n infringing plaintiff's incandescent patents. His Lordship l the only issue was one of infringement, there being no stion of validity, and he was satisfied upon the evidence t the defendants did use a process or method of applying illuminant cerium, a rare earth, so as to effect substantially same permeation and incorporation of the mantle as was cted by the Welsbach method. He granted an injunction, ı costs as between solicitor and client, and directed an ıiry as to damages.

THE BUILDING TRADES EXHIBITION.

This year's Building Trades Exhibition, which opens on the 26th inst., and will remain open till Saturday, May 6, promises to be, thanks to the energy and excellent management of Mr. H. Greville Montgomery, the most comprehensive of its kind which has ever been held, in this country at any rate. It will be divided into three distinct sections, which will be located as follows:—The General Section, which will occupy the Great Hall, the floor and gallery space in which is all allotted; the Electrical Section, a new development which seems likely to attract a large share of attention, will be lodged in the Minor Hall, adjoining the Great Hall; and the King Edward's Hall will be devoted to the Smoke Abatement Section, in which we may expect to find many exhibits of an important and interesting nature. In this connection we may mention that the committee of the Coal Smoke Abatement Society (Sir W. Richmond, R.A., K.C.B., chairman) offer a gold, silver, and bronze medal, together with certificates of merit for the best domestic appliances for abating the smoke nuisance. The design for the medal will be drawn by Sir W. Richmond, R.A.

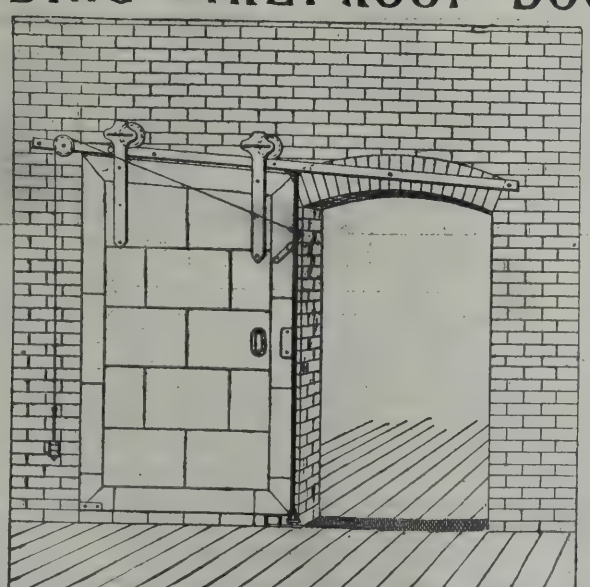
The exhibition will be opened at twelve noon on the date mentioned by Professor Aitchison, R A. (president), supported by the Duke of Westminster, K G., Lord Welby, G.C.B. (chairman London County Council), Sir William Richmond, R.A., K.C.B., Sir Arthur Blomfield, A.R.A, Sir Arthur Arnold, Sir Alfred Hickman, M.P., Sir William Arrol, M.P., Sir Edwin Galsworthy (chairman Metropolitan Asylums Board), Sir Alex. Binnie (engineer L.C.C), Mr. Robert Vigers (president Surveyors' Institution), Mr. G. F. Fellowes-Prynne (president Architectural Association), Mr. J. W. Swan, F.R.S. (president Institute of Electrical Engineers), Mr. W. H. Preece, C.B., F.R.S. (president Institute of Civil Engineers), Mr. O. Claude Robson, M.Inst.C.E. (president Incorporated Association of Municipal and County Engineers), Mr. Alfred Waterhouse, R.A., Mr. T. Blashill (ex-architect L.C.C.), Mr. G. F. Bodley, A.R.A., Mr. Charles Barry, F.S.A., Mr. J. T. Bailey (architect L.S.B.), Mr. W. Goscombe John, A R.A, Mr. Gilbert Wood, F.R.G.S., and the leading architects in London and the provinces.

Arrangements have been made for visits on different days from the following institutions:—Surveyors' Institution, Architectural Association, Society of Architects, Institute of Builders, Municipal and County Engineers, and Sanitary Inspectors' Association.

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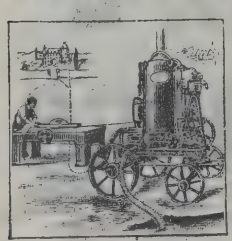
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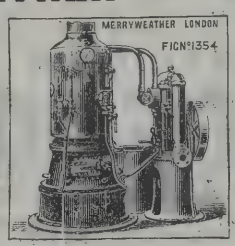
The list of exhibitors, which is unusually large, contains the names of the following firms:—Messrs. R. Becker & Co., Petrifite, Limited, Jno. Kaye & Son, E. Palmer, H. Hart, F. McNeill & Co., H. J. & C. Major, Limited, G. Tucker & Son, United Asbestos Company, H. Hermann, Limited, J. Broadbent & Co., Incandescent Gas Light Company, Limited, Wm. Sercombe & Co., Messer, Messer & Thorpe, Limmer Asphalte Paving Company, Shanks & Co., Farnley Iron Company, Limited, Allan Cockshott & Co., Jos. Wedgwood & Sons, Limited, Kerchner & Co., Robert Adams, J. Sagar & Co., A. B. Miller & Co., Wood Carving Company, Limited, Julius Hulsen & Co., Matthews & Yates, Jos. Sankey & Sons, Cranstone Engineering Works, Limited, Gibbs & Canning, Lewis Told, Skey & Co., Lytes Metallic S.T. Company, Limited, Somerset Trading Company, Limited, E. Holwill, J. Knowles & Co, Granite Silicon Plaster Company, Anaglypta Company, Limited, Mark Gentry, Randall Bros., John Rorke, T. Fewster & Sons, Limited, Dowson, Taylor & Co., Cluse, Limited, Oates & Green, Mitchell & Co., Stiff & Sons, J. Austin & Sons, Limited, Fireproof Partition Syndicate, Limited, Doulton & Sons, Limited, J. Woodward & Co., Hall & Boardman, Wm. Brown, Ewart & Son, Sissons Bros. & Co., A. Koppel, Yates, Haywood & Co., T. C. Fawcett, Limited, Ernest Smith, Patent Indurated Stone Company, Lowe's Patent Sanitary Pipe Joint Syndicate, J. S. White, John Burn, W. Parkinson & Co., Geo. Howson & Sons, Limited, Rigby, Battcock & Co., S. & E. Collier, E. Bastin, Candy & Co., John C. Moore, Crossley Bros., Wm. Johnson & Sons, Normanby Brick Company, Rowland Hodges, Lawrence Seager, D. Anderson & Son, Limited, Owen Stone Company, Charteris & Co., Fenlon & Son, Engraved Wood Company, Easily Cleaned Window Company, Nuneaton Engineering Company, W. G. & L. England, Thos. Ash & Co., Rochhill Bros., H. Blacknell, Richard Scholsfield, Mural Decorations Company, G. B. Davis, Mosaic Manufacturing Company, London Hoist and Chain Company, M. T. Medway, C. D. Moninger, Mansfield Patent Company, Limited, Ratner Safe Company, Limited, Towers & Williamson, Stanley Bros., Limited, C. H. Broodbank, Wood & Ivery, Limited, F. Jones & Co., A. C. Webb, Hooper & Co., H. H. Bayley, Jas. Gibbons, W. B. Hughes, Brilliant Sign Company, Limited, Crown Dale Stone, Limited, Moorwood Sons & Co., Limited, Aspinall's Enamel, Limited, Foy Morgan & Co., Beck's Door Check, Limited, Wade Disinfectant Syndicate, Valveless Syphon Company, N.A.P. Winde Company, Lim., Nottingham Patent Chimney Brick Compar W. J. Pearce, Limited, Bilbie, Hobson & Co., Blac stone & Co, Limited, Thos. Potterton, G. & F. Couze Jno. Tann, Wm. Jones & Son, W. P. Bonwick, J. B. Sto New Malden Potteries and Brick Works, Ames Cro Sanitary Engineering Company, Limited, Mejer Greenwood Sons, Limited, Moules Patent Earth Closet Company, Limit J. Hughes, junr., Josh Cliff & Sons, National Gas Engi Company, Limited, British Compo Board Company, C. Zadig & Co, Phipps & Weedon, G. B. Kent & Sons, Arth Lee & Bros., Limited, Ventura Syndicate, Limited, Wilson Co., A. C. W. Hobman & Co, Bath Cabinet Mak Company, Limited, Wm. Griffiths, R. W. Taylor & C Simplex Steel Conduit Company, Limited, W. K. Wel Electric Timber Seasoning Company, E. S. Hindl B. Hainsworth, Sanitary Lead Lining and Pipe Compa Limited, Southwark Manufacturing Company, Josh. Broo & Sons, British Non-flammable Wood Company, Limit Granite Paint Company, Thos. J. Syer & Co., H. C. Slingsb Horsham Engineering Works, Ashton & Green, Rutland Ir Company, Patent Vulcanite Roofs and Asphalte Compa Limited, Drake & Gorham, Jas. Buchanan & Son, More Marble Company, Colthurst, Symons & Co., Wightm & Co., Threlkeld Granite Company, Limited, Newm Wilkinson, H. Alexander & Co., Geo. Warren, Tubu Bath & Boiler Company, Richmond & Co., Limit London Warming and Ventilating Company, F. Ayres & Sons, Automatic Furnace Syndicate, Limit Domestic Grate Company, Limited, S. Clark & Co., Graham Biddle, H. E. Kershaw, C. Alstrom, D. Hurst, A. Remingt & Co., F. W. Potter & Co., E. E. Pither & Co., W. J. Bish & Co., British Luxfer Prism Syndicate, Limited, J. F. V Laverick, Jarradale Jarrah Forest and Railways, Limited, H. Eppen, Foxcroft & Duncan, Geo. Jennings, Incandesce Accessions and Maintenance Syndicate, Incandescent Fi Mantel and Stove Company, Limited, Archibald Ancell a many others.

Illustrated notices of the exhibits will appear in our editio of April 28 and May 5.

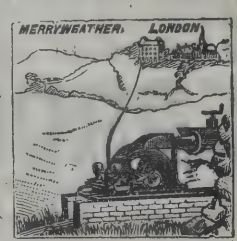
THE Baptist congregation at Farsley, Yorkshire, has d cided to erect new schools at a cost of 3,000*l.*

MERRYWEATHER on WATER SUPPLY TO COUNTRY MANSIONS,

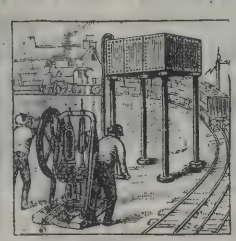

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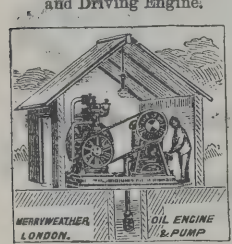
Water Wheel Pumps.


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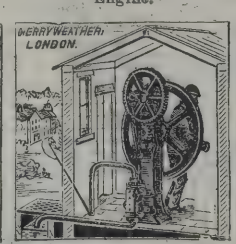
Oil Engine and Pump.



Estate Manual Force Pump.



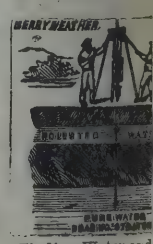
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BUILDING AND BUILDERS.

THE ceremony of laying the foundation-stones of the church being erected by the Primitive Methodists in Bucks Road, Douglas, was performed on the 13th inst.

CRAIGDAM church, Aberdeenshire, will shortly enter on the 150th year of its existence, and the congregation have agreed to celebrate the event by reconstructions and additions to the church edifice at the cost of between 600*l.* and 700*l.*

PLANS and specifications for new vestries, organ-chamber, &c., for Knowle Church, have been completed by Mr. Chatwin, and Messrs. Collins & Godfrey, of Tewkesbury, have sent in a tender to do the work for 770*l.* The necessary faculty has been signed, and the work of restoration will be shortly commenced.

THE Elland District Council have at present under consideration a scheme for providing the town with public baths, free library, market and electric-lighting plant, plans for which have been prepared. The site selected is a centrally-situated plot, belonging to the Council. It is contended that a united scheme would cost 2,000*l.* to 3,000*l.* less than if separate sites were purchased and the buildings erected at different times.

IT has been decided to erect at Chelmsford new headquarters for the Essex County Police. The buildings will be on part of a field of 6 acres at Faircross. They will stand back from the main Springfield Road and face the south, with entrance into the main road by a new road in Gaol Lane. They will cost 15,000*l.* to erect, and the site has cost 1,500*l.*

ELMBANK MILLS, Menstrie, N.B., which have been standing idle for a considerable time, are to be fitted up as a wood-carving factory. The mills have been purchased by a syndicate, of which Mr. Alexander M'Nab, of Middleton Kerse, Menstrie, is a member, and the intention is to have the new machinery fitted up immediately, so that work may commence in the course of the next three months. This will be the first factory of the kind in Scotland.

A LARGELY attended meeting of the Oldham members of the National Amalgamated Society of Operative House Painters and Decorators was held on the 11th inst. in the Unity Hall, Oldham, the business for consideration being an offer by the masters to concede an advance of ½*d.* an hour, from 8*d.* to 8½*d.*, from July 1 next. In the course of the afternoon, however, the masters had held a further meeting, and made an amended offer to concede the advance immediately, shops to be reopened at once. The painters, who have been on strike to the number of over 200 since April 1, unanimously agreed to accept the amended offer, the utmost satisfaction being expressed at the result.

AT a special meeting of Paisley Town Council on Friday last Mr. James Lee, Stanley Green Farm, Paisley, was elected to the vacant post of master of works by 13 votes to 10 for Mr. Stewart, Edinburgh, though at one stage the latter had a clear majority of the Council. Mr. Lee is thirty-five years of age, and for the past ten years has been employed in the Glasgow Gas Corporation department under Mr. William Foulis, C.E. He has acted as resident engineer for much of the best work carried out by the Gas Trust, and has had extensive experience in the preparation of plans and specifications, construction of roadways and railways, &c. The salary is 350*l.*

A DIFFICULTY has arisen with regard to the rebuilding of St. Luke's Church, Birmingham. The trustees under the Birmingham Churches Act have offered a grant of 4,000*l.*, with the expression of a desire that the new church shall be planned so as to accommodate a thousand worshippers. The present site would barely suffice for such a building, and a suggestion has been made that a piece of land in another situation should be taken, but it is difficult to find a site within the parish possessing equal advantages. Moreover, the Act under which the church was erected, while allowing its removal, gives no power to dispose of the consecrated ground on which it stands, so that to realise the value of the present site would require the passing of a private Act of Parliament at a cost of some hundreds of pounds. One way out of the difficulty would be to encroach upon the land at the rear now occupied by the schools, but the school premises are already cramped, and any further restriction probably would mean the closing or the removal of the day school. A number of suggestions have been made, but at present no plan appears sufficiently feasible to be the subject of a definite proposal.

AT the last meeting of Blantyre Parish Council the desirability of erecting new parish chambers was discussed, when it was agreed by a large majority to do so, the site fixed upon being the Council's own ground in Cemetery Walk. It is proposed to erect a council room, with a private and a public office, and also a registrar's office. With regard to the School Board, it was decided to ask that Board if they were willing to join with the Parish Council in having a board-room for them included in the new building, and were agreeable to pay a proportionate

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share of the expense. Mr. Gavin Paterson, architect, Hamilton, was appointed to draw up the draft plans.

MR. S. BRIGHOUSE, county coroner, held an inquest at St. Helens Town Hall on Monday last on the body of James Johnson, forty-two years of age, labourer, of Marshall's Cross Road, Sutton, who died in the Providence Hospital on Saturday from the effects of injuries received at Hardshaw Brook Chemical Works on the previous day. William Taylor, contractor, Helena Road, said his man had been engaged on the job at Hardshaw Brook Works for about two months, and deceased had been employed by him for about five weeks. On Friday afternoon they were hoisting a beam of wood, 24 feet long, and weighing about 4 cwt., and deceased was in the act of guiding one end of the beam when a link of the chain broke and deceased fell, sustaining the injuries from which he died. Witness said if they ever saw a flaw in the chain they did not use it. He considered that the chain was perfectly safe for the job that they were doing. James Monsey, in the employ of Mr. Taylor, said he examined the chain, ropes and hoisting arrangements at the works about ten days ago. Everything then appeared perfectly safe. He examined each link of the chain, and did not notice any flaw. The jury returned a verdict of accidental death.

A JOINT meeting of the ward committees of the town, presided over by Mr. Wallace Allan, was held in the Council Chambers, Ayr, on the 6th inst., to discuss the vexed question of the erection of a town hall. The proceedings were of a protracted and animated character, and a large number of different schemes were advocated by the various speakers, amongst whom were several ex-councillors. The chairman said the Council had been considering the matter for eighteen months, but had failed to come to a decision; and had, in fact, thrown up the sponge by proposing to take an optional plébiscite, which, in his opinion, would only be a further waste of public money. Eventually a motion by Mr. Hugh Wood, painter, in favour of the restoration of the old hall out of the Common Good fund, at a cost not exceeding 9,000*l.*, was carried.

IN the excavations of St. Michael Bassishaw distinct traces of three floors lower than the existing one have been discovered, showing that at least three churches have stood upon the site prior to the fire of London.

ILLUSTRATIONS.

LE CONCERT CHAMPETRE.

CATHEDRAL SERIES.—DURHAM: NORTH AISLE, FROM CHA OF NINE ALTARS.—WEST END OF NORTH AISLE.

ST. BARTHOLOMEW THE GREAT: THE PORCH.

ARKWRIGHT MANSIONS, FINCHLEY ROAD.

ELECTRIC NOTES.

THE Shrewsbury Corporation having purchased the elec lighting undertaking from the Shropshire Company, it is an pated that the demand for light and power by private c sumers will largely increase; and as the streets and pu buildings will also be lighted by it, a considerable extensio the works has become necessary, therefore the lighting c mittee have decided to spend 4,139*l.* for this purpose accordance with an estimate of the electrical engineer.

THE result is now approximately known of the second ye working of the electric light in Chester. After paying discounts, the committee have a sufficient balance to interest, sinking fund charges, to wipe off another third of preliminary expenses of the undertaking, and to add 1,000 the reserve fund. One-third of the preliminary expenses already been paid off, and last year 500*l.* was added to reserve fund. The committee have decided to reduce the p from 5*d.* per unit to 4½*d.* from March 25 last. During past year discount has been allowed on a graduated sc ranging from 5 per cent. to 20 per cent., so that for 1898 la consumers, with the cash discount of 5 per cent. allowed everybody, have had their current at the remarkably low cost of 3¾*d.* per unit. This is cheaper than the cost for with ordinary burners. The current year's price of 4½*d.* unit will be about equal to the cost of gas with ordi burners, but with the discounts which it is intended to give, large majority of consumers will have the satisfaction knowing that by using the electric light, instead of gas, t will be effecting a considerable saving. They have also deci to reduce the charge for motors.

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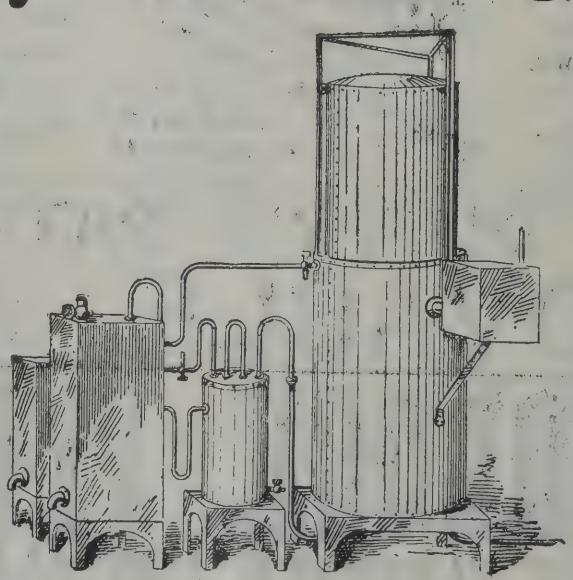
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THE use of electric light for public purposes has made such d strides during recent years, writes a correspondent of the *tingham Guardian*, that many local authorities have thought) apply to the Board of Trade for provisional orders for its)ly. "In not a few cases it has been no secret that the main ct of such applications for orders has been to prevent ate syndicates or outside authorities from coming into their ict, rather than any real intention of the local authorities iselves taking steps for the supply of the district with the ric light. I learn on good authority that the Board of le have just come to an important decision in regard to matter by stipulating that local authorities to whom pro- nal orders are granted in future will themselves have to out the work, though it might be considered more advan-)us to approach a neighbouring town or borough authority, e electricity is also being supplied, to extend the cables to de districts. In other words, once a local authority applies nd obtains a provisional order, no outside body, though istrict authority concerned might be wishful for it to do n supply that district. Having applied for the order it carry out the powers given thereby or remain *in statu quo.*'

VERY complete electric-light installation has just been lly inaugurated at the Mill Road Infirmary, West Derby,)st of which, including boilers and boiler-house, is about ., and although that capital sum must be paid back within years, careful calculations show that a substantial direct will be made by the adoption of electric lighting, while r economy will be experienced in a smaller cleaning bill. nstallation consists of 1,400 16 candle-power lamps run 10-volt circuit. The boilers are two in number, of the ck return tube type, each boiler being 7 feet 6 inches in ter by 13 feet long, and having two flues each 2 feet es in diameter, and wrought-iron tubes 3 inches in ter by 13 feet long. The steam-pressure is 125 lbs. per inch, and the boilers are manufactured by Messrs. tt, Preston & Co., Liverpool. For generating the for lighting purposes three quick-revolution steam- s by Mirrilees, Watson & Yarvan, of Glasgow, coupled to a shunt-wound Wilson Hartnell dynamo, e of giving 300 amperes at 110 volts, are used, or supplying current at night and during the time the s are not at work a battery of accumulators of 900 hours' capacity is provided, arrangements being made o charge the batteries through a "booster" or "pres- ising transformer" from off the lighting circuit or direct from any one dynamo. The wiring throughout the building is run in insulated steel conduits on the distribution board system, and every precaution has been adopted to make the installation as complete as possible and free from all danger of fire. The contractor is Mr. W. Hall, Christian Street, Liverpool. The buildings were designed by Mr. Chas. H. Lancaster, the architect to the board.

VARIETIES.

A NEW Primitive Methodist chapel was opened at Skegness on the 13th inst. The building is on the Roman Bank, and has been erected at a cost of 1,850*l.*

A NEW Wesleyan Methodist church has been opened at Bradfield, Yorks. It is intended to renovate the old chapel, with the view of converting it into a Sunday-school.

THE Bradford parish church was reopened last week after works of restoration, which have been in progress for about fourteen months.

THE church of St. James, at Dalton, near Richmond, Yorks., built as a memorial of the Queen's Diamond Jubilee and the quincentenary of the rebuilding of the parish church, was consecrated by the bishop of the diocese on Monday afternoon.

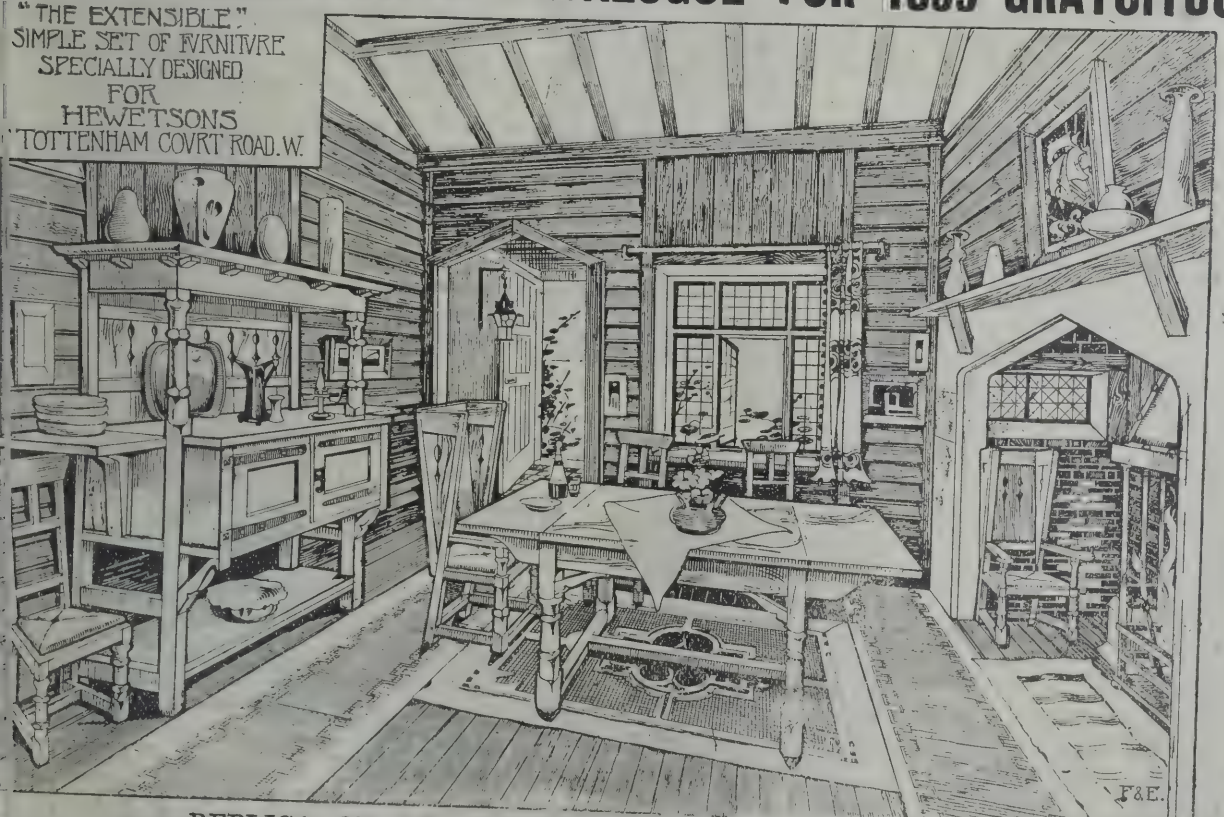
THE new Primitive Methodist school-chapel erected in Lower Camp Street, Higher Broughton, was opened on the 12th inst. Adjoining the new building, at the corner of Camp Street and Great Clowes Street, land has been reserved on which it is proposed to shortly erect a new church.

THE business of the late Mr. E. Egan, architect and surveyor, of Loughton, Essex, and 39 Lombard Street, London, will be carried on by Mr. Horace White (who was chief assistant for several years to the late Mr. Egan), in partnership with the widow, under the style of Egan & White.

THE Edinburgh Architectural Society met on the 12th inst. to hear a paper entitled "Minor Points in Practice," by Mr. J. Fairweather, of Glasgow. Mr. A. Greig, vice-president, was in the chair. The lecturer confined himself to practical points on materials and constructions, and dealt with true and false economy at some length.

AN interesting discovery has been made at Emmanuel College, Cambridge, upon the site of which a monastery stood some 300 years ago. The gardener, with some other men, were cleansing out one of the numerous ponds in the gardens on

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Wednesday when they came across some bones. Later on they lighted upon a larger quantity, and the whole upon examination proved to be human remains in a fair state of preservation.

A SCHOOL has been erected by the Pudsey School Board at Primrose Hill, Stanningley, from designs prepared by Mr. E. P. Peterson, architect, Bradford. It is built on the central hall principle as a mixed department for 389 scholars. There are three classrooms on the north and three on the east side of the central hall. The total cost of the buildings, including site, playground, fencing, fittings and furniture, is about 5,000*l.* The school was opened on the 10th inst.

THE youngest of assurance corporations, "The New Era," whose offices are at 68A Leadenhall Street, has just issued its first report and balance sheet, which are of a distinctly healthy nature, considering that practically, allowing for the time necessarily occupied in organisation, &c, only eight working months have elapsed. From them we gather that insurance business has been done, the annual income from which, in the way of premiums, amounts to upwards of 17,000*l*, and that branch offices in several of the principal midland and northern towns.

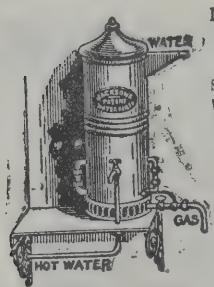
REOPENING services have been held at St. John's Church, Deansgate, Manchester. Considerable alterations have been made in the church. The old side galleries had to be taken down owing to the decayed state of the timber. They have been replaced by new narrow galleries of iron and concrete, which act as a support to the lofty side walls. Under the new gallery is a groined wood ceiling, arched over the lower windows. The church has been entirely redecorated and lighted throughout with electric light. The work has been carried out from Mr. Medland Taylor's design and under his superintendence by Mr. Scott.

FOR some years it has been felt that the accommodation for the increasing traffic over Tweed Bridge at Peebles was too limited and circumscribed, and frequently led to considerable inconvenience and even danger. The bridge was widened in 1834 to about 20 feet, but the Corporation have now resolved to widen it to 40 feet, and employed Messrs. M'Taggart, Cowan & Barker, engineers, Glasgow, to prepare plans and specification for the work and the probable cost of the extension. This has now been done, and tenders for the execution of the undertaking have been received, that of Messrs. Dickson & Clyde, builders, Peebles, having been accepted, their tender for the whole work amounting to 6,454*l.* 7*s.* 7*d.* This sum includes alterations on the roadway on each side of the bridge. The work is to be commenced immediately, and the contractor is bound to have it completed not later than December 31. This undertaking when completed will form one of the most important improvements among the many that have been effected during the past few years, and will very materially add to the amenity and attractiveness of the town.

A BAZAAR was opened on Thursday last by the Countess of Dartmouth in St. Jude's Schools, Wolverhampton, in aid of St. Jude's Vicarage Fund. The vicarage has been erected on a piece of land adjoining St. Jude's Church, Tettenhall, Wolverhampton, at a cost of 2,200*l.* The building is of ecclesiastical design; the walls are of red brick with stone dressings, and the roofs are tiled. On the ground floor there is a large entrance-hall and staircase, dining-room, drawing-room, study, two kitchens, china-pantry, larder, lavatory, staircase, &c., and on the chamber floor there are seven rooms, bath-room, water-closet, housemaid's closet, &c., with hot and cold water circulation throughout. The contractor for the work was Mr. James Herbert, and the architects are Messrs. John Weller & Sons, of King Street, Wolverhampton. The proceeds of the bazaar amounted to 312*l.* 4*s.* 6*d.*, which makes the total amount of the vicarage fund now raised 2,152*l.* 4

THE Earl of Derby has consented to lay the pol granite window panels of the new drill-hall, Ormskirk building, which is expected to be ready for opening e August, will not merely be an ornament to the town, but great use to the volunteers and many of the residents for purposes. The chief feature, of course, is the drill 87 feet by 45 feet—which, in addition to the ordinary u be admirably adapted for concerts and balls. At the fro be the officers'-rooms, and over these a large billiard-r being constructed. To the rear are the armoury, ser orderly and magazine-rooms, and over these a recreation The drill instructor's house will be included in the p the surrounding land will be laid out in rockery and shr

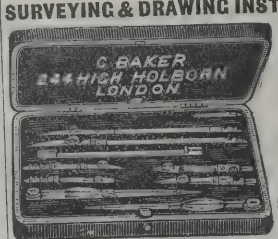
THE new fire-brigade station which has been ere Johnston Street, Paisley, was opened on the 13th inst. the Baronial style of architecture, is quadrilateral in fo covers about 40 poles of ground. Whilst its main fr measuring 97 feet, is in Johnston Street, the building i wise bounded by Prussia Street, Gordon's Lane, and th property in Johnston Square. It is three storeys in hei is surmounted by a tower. On the ground floor is the



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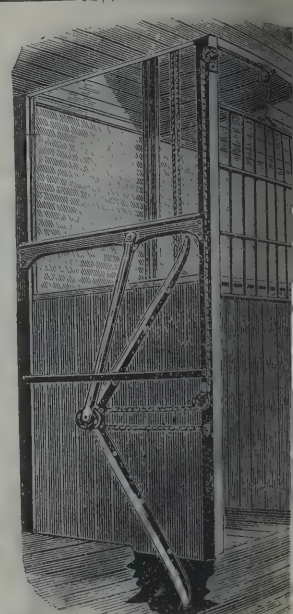
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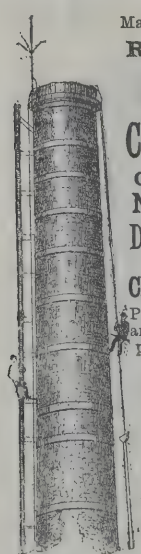
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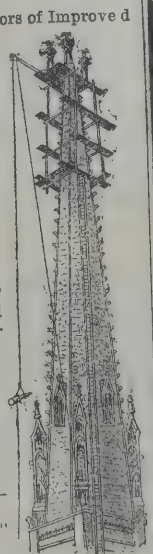
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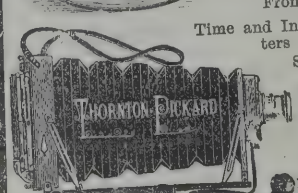


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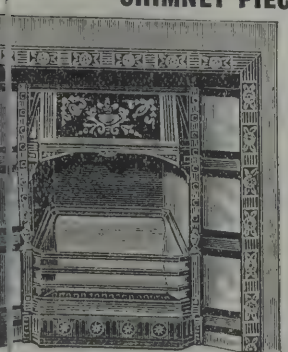
, which is 53 feet by 32 feet, with four run-out gateways to ston Street, and a four-stalled stable opens into the room dmit of the horses being promptly attached to the fire- nes. The watch-room, telephone exchange, superinten- s-room, recreation-room and bath-room are placed to the of the main entrance, and at the back of the station yard he stores and workshop, the latter being equipped with ce, travelling crane, and other accessories to permit of rs on the premises. The superintendent's house and es for the men are situate on the first and second floors. ne houses are connected electrically with a system of bells ned from the watch-room, and in the event of any alarm g the night time the switch that sends the current to the also turns on the electric light in all the houses, and still er to assist the firemen to turn out quickly, the various ases lead to a common exit which brings the men at once he engine-room. Ten members of the brigade reside on premises. The station is splendidly equipped with all rn appliances for the extinguishing of fires. The cost of ilding has been about 8,000*l.*

THE little church of St. Andrew, which has been erected charming spot on Cranleigh Common, Surrey, as a rial of Queen Victoria's long reign, was dedicated on the inst. by the Bishop of Winchester. The church is a e structure of red brick, the interior of the walls being with the same material. It consists of a nave 50 feet by t, chancel 24 feet by 18 feet, organ chamber, two porches west end, the font being placed in a line with the centre ge, and has a baptistery behind it, in addition to a roomy . Effect has been aimed at by giving the nave a greater than is usually found in buildings of the same size. All ndows are plain lancets of brick, and at the west end is a shingled bell turret. As far as possible local als have been used in the erection. Seating accommoda- afforded for about 230 persons, although for the dedica- ervice more chairs were put in. The fabric has cost 2,000*l.*, the enclosing of the site with an oak fence r 50*l.*, but as much of the church furniture has been pro- by the generosity of various friends, the total expendi- is not been less than 2,700*l.* The work has been carried Messrs. Mitchell Bros., of Shalford, who also made the oak chancel screen, the oak pulpit and the oak clergy all from designs by the architect. The chancel windows the well-known firm of Hardman & Co. The whole of rk has been carried out under the personal supervision of the architect, Mr. E. L. Lunn, of Guildford, to whom, and to the builders, great credit is due for the thorough manner in which it has been executed.

THE new accident hospital which has just been completed at Alloa, N.B., has been opened by the Earl of Mar and Kellie. It has been erected from plans by Mr. R. A. Bryden, architect, Glasgow, and is situated to the west of the old hospital in the Sunnyside district of Alloa. The main building consists of a central administrative block and two wings, one containing wards for males and the other for females. Each of the wings contains one ward for six beds, one ward for three beds, and two private wards for one bed each. All these wards face the south, and are flooded with light from large-sized windows. The wards are approached from the central part of the building by wide corridors. From these corridors the latrines enter at the back; ward sculleries are also provided, entering off the corridors. Observation windows are arranged in the wards, so that nurses can overlook more than one ward at the same time. The floor of the wards is of pitch pine, and all corners are rounded so as to reduce to a minimum the possibility of lodgment of dust. The lower walls of the corridors are lined with tiles, and each corridor has an exit porch for convalescent patients obtaining access to the grounds in rear of the buildings.

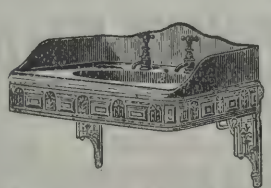
AT Northcorner, Devonport, the formal opening ceremony has taken place of a new building, which has been designed to afford more warehouse and waiting-room accommodation for traders and passengers, the need for which had become very pressing. More than ordinary care has been exercised in arranging the plan of the building in order to obtain within a limited area the necessary accommodation for the many and varied requirements which it is desired to meet. On the north-west side of the building is a spacious warehouse, two storeys high, having a floor space of 423 superficial feet. At the rear of the warehouse is a spacious store yard for casks, empties and perishable goods which up to the present have of necessity been left on the quay and landing-stage. Facing the Hamoaze is a general waiting-room, with vestibule, and a ladies' waiting-room with lavatory. On the Cornwall Street side is a pier-master's office and a smaller warehouse for lighter goods, parcels and fruit, the traffic in which is very heavy during the summer. The piermaster's quarters are conveniently arranged and comprise living rooms, scullery, two bedrooms, offices. The building is of a substantial character, the exterior being faced with red bricks and terra-cotta, relieved by Portland stone. The gables are finished in moulded stonework and sur-

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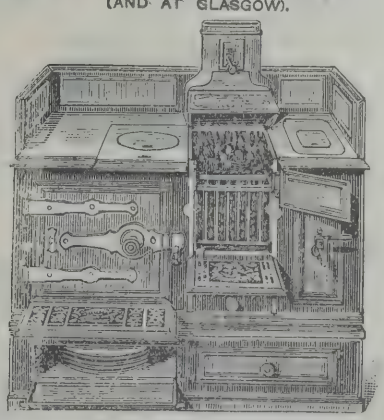


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mounted with shaped terminals. Over the waiting-room entrance is the Corporation motto in gilt letters on a stone pediment. The floors are laid with encaustic tiles and the walls of the ladies' lavatory finished and decorated with glazed tiles. Mr. H. E. Skinner, of Plymouth, was the contractor, the price being 1,492*l.*, and the work has been carried out under the supervision of Mr. J. F. Burns, borough surveyor.

A QUAINT Elizabethan mansion, with a wonderful old wooded garden and beautiful grounds transformed into an hotel in which modern luxury is to be obtained is unique, and for that reason Edinburgh should welcome in its vicinity, the commodious hotel to which the residence, formerly occupied by Mr. Charles Jenner, has been adapted, and which has been decorated, luxuriously furnished, and thrown open as the Queen's Bay Hotel, Joppa. Mr. Jenner was a lover of both art and science, and his rock garden of Alpine plants is world-famous, and remains as one of the numerous attractions of the hotel; which include many of the art treasures collected by him which, with the addition of handsome furniture and all the refinement and comfort which are expected in an up-to-date hotel, make the place entirely charming. Beautiful views of the Forth and Lomond Hills, the dark dense woods of Buccleuch, are obtainable; the garden and grounds are unusally charming, and the rooms are luxuriously furnished. The fine apartments of the old mansion have been embellished and adapted to the needs of an hotel in which all modern comforts should be found; the hall and lounge is a delightfully cosy feature, and the handsome drawing-room has been furnished in the Louis XV. style by Messrs. Oetzmann & Co., of 62-79 Hampstead Road, N.W. The architect of the new building was Mr. Peter R. McLaren, Edinburgh; the builders, Messrs. William Turner & Sons, Edinburgh.

THE handsome new school erected at Muiredge, Uddingston, by the Bothwell School Board, was formally opened on the 8th inst. The building gives accommodation to 916 scholars. There is also a grand central hall accommodating 196. The cost has been 10,000*l.*, or an average of 9*l.* 4*s.* per scholar. It is an imposing structure, unlike, externally and internally, any building of the same kind. It is two storeys in height, with a hall in the centre 59 feet long and 26 feet wide, lighted from the roof and by a handsome double-mullioned stained-glass window in the east wall. The roof is of open-timber construction, with carved spandrels and laminated ribs, and resting on moulded brackets. There are four separate entrances from the outside to the various classrooms, of which there are seven on the ground floor and seven on the upper floor, hav lavatories and cloak-rooms at the immediate entrance on e floor. At the east and west sides of the hall th are spacious stairs resting on polished stone colu with embellished capitals. The headmaster's room is the ground floor, and the male and female teachers' rooms on the mezzanine floors. All the classrooms are flooded light, and those on the ground floor are entered from the g hall, and the classrooms on the upper floor from a ga around the hall. The classroom walls are boarded with p pine, stained and varnished; and the staircase and lava walls are lined with enamelled tiles and embossed bord The heating of the building has been arranged by low-pres hot water pipes and radiators acting on cold air inlet sh and extracting vitiated air shafts to ventilators on the roof. all the classrooms there are placed Stott's patent ventila sun-burner lamps. The exterior has the appearance of educational institute of the Tudor period, with ornate ga and octagonal minarets, and deeply recessed mullioned transomed windows and hood mouldings. On the ridge of roof there is placed an elaborate louvre for extracting vitiated air. The plans for the building were prepared Messrs. Bruce & Hay, architects, Glasgow.

THE TEMPLE OF TEPOXTECO.

THE temple of Tepoxteco in Mexico is built upon a which is a sheer mass of rock more than 2,000 fe height. Between this cliff and the extraordinary ring of above it there is a *couloir* or chimney of loose fragmer rock, which, says the *San Francisco Chronicle*, the v must climb, no matter whether he ascends from Tepoxtl descends from San Juanico, a village above the circular He is aided by a ladder at the worst part, but he must tra himself from the topmost rung to a basaltic mass 3 feet to th of the ladder, with the prospect of rolling down 200 feet slips, and the probability of pitching down the gorg Tepoxtlan head foremost, about 1,800 feet. Holes for the l and feet were cut long ago.

The ascent up the gorge of Tepoxtlan is toilsome to th degree. Though it is narrow, yet it would have been fe to make a winding trail like the one in the Yosemite leads to Eagle Cliff. But this was not done. On the con the ascent was made as difficult as possible by making a

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rway of masses of rock from 2 to 3 feet in height, so that ıbing the Canyada of Tepoxtlan is as bad as getting to the of the pyramid of Cheops.

The temple is a building of two terraces, upon the model of so-called pyramid of Cholula, which has four terraces, and he Tower of Babel, which had eight. If the tomb of Lars sena was ever constructed, which competent authorities e doubted, Tepoxtlan was upon precisely the same lines of ıitecture, if we eschew the structures upon the terraces. It ecause these could not be constructed that the tomb of the ıt Etruscan chief has been scouted. What may be called skeleton was simply a structure of two terraces, a mound nasonry with the tomb at the farther end. This is precisely t Tepoxtlan is, only that instead of a tomb there was an osure with an arched or vaulted roof supported by four rs built up of masonry, which was covered originally with ıe white stucco. The exterior of the whole temple was red with this stucco, so that from below upon the crest of slope leading down to Tepoxtlan it is exceedingly con-ıous. It was a "white house" beyond question, and sug-s the inquiry as to whether there was not some symbolic ning to all such structures, which are mentioned in the est chronicles of all European nations. We had in Eng-more than one "Candida Casa," more than one Whitern Whitby, and Casa Blanca is by no means a rare thing in n and Italy.

Upon the second terrace are the remains of the four pillars supported the roof and the three walls of the temple. ıe are intact up to the spring of the vaulting. If there had any openings for the purpose of giving light there would been traces of them; but there is none, from which we draw the conclusion that lamps were used during the nonies. Had torches been employed the walls would have blackened. The temple was all the darker because it was ivided into two by breast-high walls that joined the third ourth pillars to the side-walls of the structure. All along side-walls there was a broad seat about 20 inches high, he front of this was covered with sculptured slabs nearly e. These have been stolen and rude imitations have been ituted. When I paid my first visit I particularly noticed he slabs were of red sandstone, and that the carving was but singularly fine. I have seen Aztec sculpture in many s, but I do not recall any that could compare with these My observation of them was very general, because my attention was absorbed by one which represented an "elephant in war-trappings." It was carved very well, but minute observation made it clear that it was certainly copied from an older slab whose place it occupied. This was not the case with the others, which in style and subject were distinctly Aztec. The impression made upon my mind at that time was that the original was Carthaginian, and I had no doubt that it was a symbol of the Tyrian Hercules, whose name in Phœnician was Yar Cul.

The examination of the masonry corroborated my general impressions. Where the cement had been removed or had scaled off the courses of stone-laying showed clearly that the work was done by civilised men. The stones, although irregular in size, were all beautifully squared and were laid in a very hard mortar. The plateau had not originally been quite broad enough, and to lay the foundation of the first terrace it was found necessary to build a retaining-wall some 15 feet down the side of the couloir, up which the visitor drags himself. Here the stones are all of one size and the courses are perfectly regular, and the angle of inward inclination is maintained with exactitude. There is not in all Mexico any masonry that will compare with it except at Mitla, but the retaining-wall of Tepoxteco was laid by masons who had to be lowered on a plank to do the work, precisely as house-painters are lowered to paint the lofty walls of modern buildings.

THE WORKMEN'S COMPENSATION ACT.

THE Home Office has issued statistics of the proceedings in English and Welsh County Courts under the Workmen's Compensation Act during the first six months it was in operation—from July 1 to December 31, 1898. It is pointed out, however, that the return really covers a much shorter period. The right to compensation accrued only with regard to accidents happening on and after July 1. It was only at an interval after that date that disputed cases could come to trial or arbitration, and in most cases there was further delay before decisions were given. Therefore "to regard the tables as representing three months' working of the Act would probably not be very far from the mark." As yet no comparison can be made between the numbers of cases dealt with under this Act and under the Employers' Liability Act, but in future returns comparisons will be made as far as possible. It is shown that the number of cases under the latter Act had not been sensibly affected up to the end of the year.

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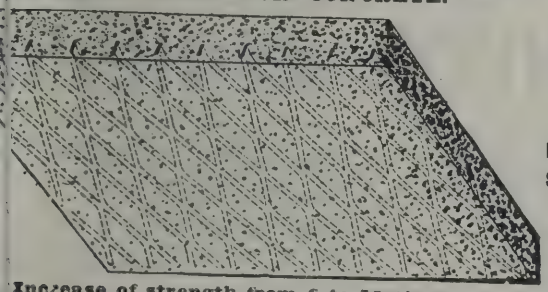
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ICE LIST AND ESTIMATES ON APPLICATION

In county courts 130 cases had been settled up to December 31 last—104 by the judge's award, eight by an arbitrator's award and eighteen by acceptance of money paid into Court. Other cases to the number of forty-eight were withdrawn, settled out of Court or "otherwise disposed of." In 101 out of the 130 cases the decision was for the plaintiff. In thirty-eight cases compensation was awarded on account of death, the average award being just over 200*l*.

Another table relating to agreements and informal arbitrations is admittedly incomplete. It professes to give "the number of cases in which memoranda were registered in the county courts, and shows which of these cases were settled by agreement, which by committee, which by arbitrator agreed on by the parties. Of the cases which come into the return, 152 were settled by agreement, nine by committee and two by an agreed arbitrator. As already pointed out, these figures represent only a very small proportion of the agreements under the Act, and of the decisions of committees and informal arbitrators. Apparently it is not considered necessary in most cases to go to the trouble of registering memoranda."

The courts where most cases have arisen have been Liverpool, Leeds and Bow. Bow is also easily first, as usual, under the Employers' Liability Act.

The following are the Home Office comments on the statistics:—

In conclusion, it should again be stated that the most serious mistake that could be made with regard to these returns is to imagine that the cases which come before the county courts represent any considerable proportion of the cases in which compensation is claimed or paid under the Act. There is a concurrence of testimony that in the great majority of cases the full compensation allowed by the Act is given without question, but unfortunately no figures can be obtained which even approximately represent the actual payments. The Home Office committee, which reported in the end of 1897 on the question of the appointment of medical referees, as the result of a careful examination of all available statistics of accidents, both official and non-official, and of comparison with the German accident rates, estimated the annual number of accidents in England and Wales for which compensation would be payable as between 120,000 and 150,000. Taking the lower figures, this would give 30,000 as the number of cases of accident within the Act in a period of three months.

Even if the total number of cases for the period covered by the return were put so low as 20,000, the number of cases carried to the county court (178) would still be considerab less than 1 per cent. of the whole, and even of these some we taken to the court not to dispute payment, but to settle t question of the person to whom the payment should be made

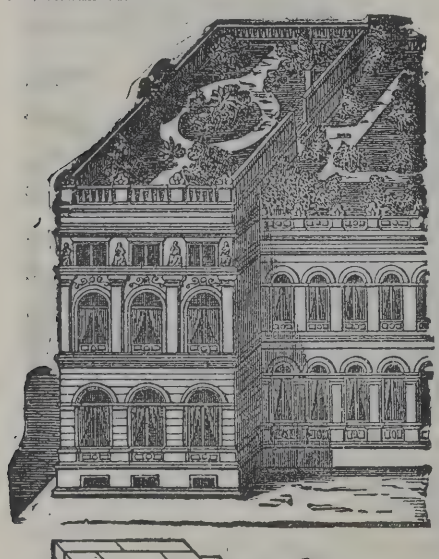
However far the figures just quoted may be from an accura estimate of the total number of cases, they may perhaps ser to show that the very small number of litigated cases must n be taken as any measure of the number of those in which co pensation has been paid under the Act.

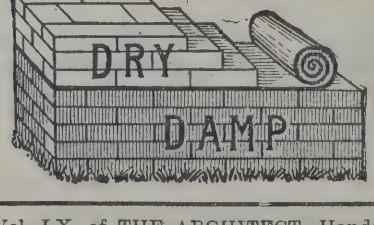
This lesson is also enforced by the returns from some the districts. The county court district of Stokesley a Guisborough appears to be the only district where memoran of agreements were generally registered, for though a co siderable number were registered also in Middlesbrough, it not clear that the registration was general. In the Stokesl and Guisborough district, with a population of 28,000, chie miners, while there were no litigated cases in the coun court, there were up to December 31 at least eighty cases which compensation was paid without dispute (seventy-eight b agreement and two on the award of a committee). If it cou be assumed that the same ratio of cases to population hol throughout England and Wales, this would give against n litigated cases about 80,000 cases in which compensation w paid by agreement. This figure is, of course, too high; in district where a mining population preponderates the prop tion of accidents for which compensation is payable under t Act is much greater than in the country generally; but ev when full allowance is made for this difference the result sufficiently striking.

Not less noteworthy is the fact that in some of the larg and most populous industrial districts, where numer accidents must certainly have occurred in the employme coming within the Act, not a single litigated case under new Act had up to December 31 been taken to the cou court and decided either by the judge or arbitrators. Th there was not one case from the mining districts of Durh Consett and Bishop Auckland, with a population of 312,000, from South Staffordshire, with a population of 575,000, from Plymouth and South Devon, with a population of 480,(nor from Cornwall, with a population of 314,000. In Bris with a population of 355,000, there was only one case, and c two in the circuit which includes Halifax, Huddersfield Dewsbury, and has a population of 582,000.

In next year's return it will be desirable to include a ta giving statistics of appeals under the Act. It will also

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NORWICH TECHNICAL SCHOOLS.

e foundation-stone was laid on Monday last of the new hnical Schools which are in course of erection in St. rge's, Norwich.

The area of the site is about 18,000 superficial feet. The dings have a frontage of 190 feet to the river and 120 feet t. George's Bridge Street, and consist of basement, ground r, first floor and second floor. The foundations necessitated vations of considerable depth below the river level so as to h the gravel bed. Advantage has been taken of the neces- depths of foundation walls to form a basement 11 feet ches high beneath the whole of the buildings. The follow- accommodation is here provided :—Heating and ventilation tment 55 feet by 24 feet, technical instruction in ironwork, engineering, ditto lasting, ditto plumbing, large storeroom, cloak room, ditto lavatory.

On the ground floor will be rooms for technical instruction oot and shoe making, dressmaking, manual training, tech- l instruction, headmaster's room, secretary's room, library, e committee room, store room for bicycles, cloak room, tories for both sexes and strong room in tower.

On the first floor, rooms for wood carving, geometry, hine construction, science lecture theatre, chemical labora- preparation room, balance room, lecture hall with retiring n, manual training room, science headmaster's room, science art room, and male and female lavatories will be provided ; on the second floor art design room, model and casting n, elementary art room, life room, painting room, antique n, art headmaster's room, and male and female lavatories.

The roofs will be covered with green slates laid in graduated ses and flaring out at the eaves.

ccess to the whole of the floors is by means of a principal case 36 feet by 19 feet, leading from basement to roof. At floor there is a large landing, from which a corridor 9 feet runs from east to west the whole length of the building. e is a second staircase at the east end of the buildings h gives direct on to the corridor. The staircases will be ructed in concrete throughout. The main stairs will be orted at one end of each step by the outer wall ; the other will be supported on arcading carried from the basement to evel of the second floor.

The floors will be constructed of steel main and subsidiary girders. This concrete will be covered with pitch composition, and the grooved and tongued floor boards will be nailed thereto, except in corridors, basement and lavatories, where the surfaces will be finished with hard white Penrhyn granite chippings concrete. The laboratory floors will be laid with Val de Travers asphalte.

The windows will be constructed with N.A.P. fittings, with the object of enabling them to be cleaned, &c, without exposing the cleaners to danger.

The main entrance is in St. George's Bridge Street, with a secondary entrance from Monastery Court, formerly known as De Hague Yard. Most of the doors of the buildings will be fitted with panic fittings so arranged that while they can be locked securely against persons trying to enter the buildings, or the rooms in the buildings, persons inside the rooms or the buildings cannot be prevented from leaving.

The estimated cost of the building is 22,000*l.*

The whole of the designs, specifications, &c., have been prepared by and the erection of the buildings is being carried out under the superintendence of the city engineer, in conjunction with Mr. W. Douglas Wiles, his chief architectural assistant. The general contractor is Mr. Samuel Warburton, of Manchester, the clerk of the works is Mr. Barrett, the agent for the contractor for the buildings is Mr. Bousfield. The Cossey bricks are being made by Messrs. Gunton Brothers, of Cossey; the carver of ornamental work in pediment of porch, gargoyles, &c., is Mr. Minns, Arthur Street, Mariners' Lane; and the stonemason is Mr. Halls, St. Augustine's.

WALSALL NEW MUNICIPAL BUILDINGS.

AN inquiry was held on the 13th inst. at the Guildhall, Walsall, regarding an application by the Corporation for approval of the borrowing of money to purchase land as a site for municipal buildings ; for consent to the application of the proceeds of the transfer of consolidated stock towards defraying the cost of such purchase ; sanction for borrowing 8,000*l.* for the provision of sanitary depôts at Bloxwich, and 1,230*l.* for the construction of sanitary conveniences in various parts of the borough.

The town clerk explained that there were really five applications in one, the first being for sanction to the borrowing of 5,100*l.* to defray the cost of purchasing additional land as a site for new municipal buildings, and in connection with this the

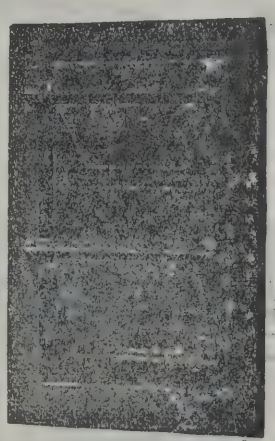
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Corporation asked that they might be allowed to sell certain consolidated stock and apply the proceeds in part payment for the land which it was proposed to purchase. With the approval of the Local Government Board the Corporation had already obtained a loan of 6,000*l.*, with which they had purchased 4,308 square yards of land in Lichfield Street, which it was intended should be the site of the new municipal buildings. The site was an admirable one in the very centre of the town, but the area was, unfortunately, insufficient to meet the present and the probable requirements of the town, and as, in any way, the buildings must be set back there would be a further diminution of the area. On realising this the Corporation endeavoured to obtain further land, and they had entered into a provisional contract was Darwall's trustees to acquire a further 4,737 square yards, having a frontage of 369 feet to Darwall Street and 153 feet to Leicester Street. This purchase, if carried out, would result in the Corporation having land sufficient for all requirements, and the enlarged site would have the great advantage of having additional frontages to Darwall Street and Leicester Street. There was also another consideration, namely, the land it was proposed to acquire extended to the rear of the public baths belonging to the Corporation, which could consequently be extended in case of necessity ; and the baths had been so much appreciated that there was little doubt some extension would become necessary in a very short time. As regarded any question as to the largeness of the area as a site for municipal buildings, there was no doubt a very considerable sum of money would be spent, and the Council were anxious there should be no difficulty through having insufficient land. A stream known as the Mill Fleam ran across the land ; but Lord Bradford's manorial rights would be acquired for 100*l.*, and the stream arched over, as had been done in other parts of the town. There was no one present to oppose the application.

The proposed loan for sanitary depôts was dealt with, the town clerk explaining that 7,500*l.* was for providing a central sanitary depôt in Wolverhampton Street on land belonging to the Corporation. The present sanitary depôt would be abandoned, the accommodation being inadequate and the conditions unsatisfactory. The land, however, might be applied to other purposes. Asked by the inspector if any particular purpose could be specified, the town clerk said it would form an excellent site for a new fire brigade station, the need for which had been urged upon the Council.

At the close of the inquiry the inspector visited the various sites and places to which reference had been made.

THE INSTITUTION OF JUNIOR ENGINEERS.

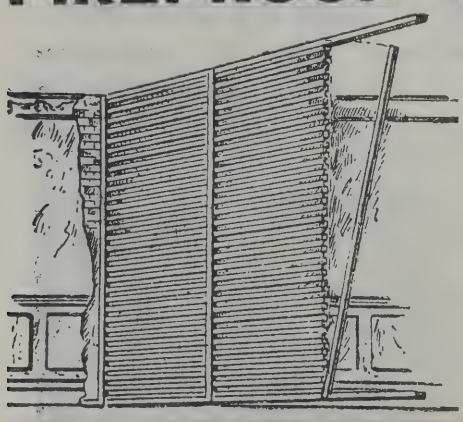
At the meeting of this Institution held at the Westmins Palace Hotel on Friday, April 14, the paper read was "Piles and Pile-driving," by Mr. H. Cartwright Re M.Inst.J.E., of H.M. Dockyard, Chatham. Mr. Basil H. J chairman, presided.

In introducing the subject the author made allusion to t antiquity of pile-driving (as evidenced by the pile dwellings the Stone Age, and to the recent discoveries of Mr. W. Donnelly of the crannog on the banks of the Clyde, ne Dumbarton Castle), to the preservation of piles under London Bridge for 600 years, and to ordinary foundations Chatham Dockyard.

Various types of piles were then described—bearing pi for remedying an unstable foundation, which was effected transferring the weight to a firmer material belo by consolidating the loose material itself, or by holdi the piles in position through the friction of their perimete sheet piling for facing to wharves, for cofferdams, and surround excavations made in waterlogged areas as at Chatha Docks, and in compressible soils to prevent material fro escaping from under additional weight. True sawing w essential for watertightness, and the difficulty of drivi regularly was partly overcome by the use of grooved a tongued piles ; correct shoeing and ringing were of gr importance ; details of the shoes in general use, as well as special shoe for grooved piles were described.

Various kinds of cast-iron screw piles were illustrated, a attention drawn to a recent form of wrought-iron and st built-up pile for driving, rolled from 6½ to 13 inches diameter

Different forms of pile-drivers were dealt with, and more modern endless chain driver, as well as the "Lacou steam monkey, compared with them. The sinking of scr piles and the advantage of the use of the water-jet in san soils were alluded to. Diagrams indicating the resistanc met with in driving a pile were shown ; these resistances w due principally to the inertia of the pile itself, the elasticity the pile and the ground, the resistance at the point, and fricti of the sides of the pile. As the value of the two latter var with every different section of ground there was difficulty obtaining a correct formula to apply to pile-driving. Empir formulæ which depend upon the amount of work expended driving found most favour, though many of these neglec entirely the quality of the timber, the length of the pile and

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tional dimensions. The results of the formulæ in use varied the value assigned to a pile under given conditions, and a ying factor of safety was recommended, so that it was bable as accurate results could be obtained from Rankine's tement that the actual load applied varies from 200 lbs. in t ground to 1,000 lbs. on reaching firm ground per square h of sectional area, providing the pile is supported, and not e to bend.

The detrimental effects in practice of high falls of the nkey were then considered. They were caused by the idity of the blow not allowing the inertia of the pile to be rcome before the full force of impact was developed; in the re modern practice heavier monkeys and low falls were ployed, thus "coaxing" the pile down without destroying it. pidity of blow of the monkey kept the ground surrounding pile from close contact and effected a considerable economy, he longer the interval between the blows the less the pile k per blow. Experiments showed that piles offered a ater resistance to sinking after absolute quiescence than nediately after the cessation of driving, though this effect more pronounced in soft or wet ground than in dry and rse gravel and sand.

In the discussion which followed Messrs. P. J. Waldram, Eade, J. Macfarlane Gray, J. H. Pearson, W. F. Crisp, W. Porter, T. Sims, T. P. Hosegood, A. W. Marshall, F. Krall, R. Marshall and E. A. Berry took part, and the ceedings terminated with the announcement of the ensuing on April 15 to the Vauxhall Bridge Works, and ensuing ting on May 5, when a paper on "Gun Construction" ld be read by Mr. W. H. Owston, M.Inst.J.E., of olwich.

REAT BRITAIN AS AN IRON IMPORTING COUNTRY.

s not so generally realised as it might be supposed likely to says the *Scotsman*, that the United Kingdom is now the st iron and steel importing nation in the world. This may e as a surprise to the majority of people, who have been stomed to look upon this as a great industrial nation, se manifest destiny and chief business it is, and has for rations been, to manufacture for the rest of the world. so it is—or, at any rate, has been, until quite a recent date. But the two things are not, after all, incompatible, or the trade relations of Great Britain would hardly be such as they are to-day. Nor is the experience of our country in this respect unique. With the exception of Russia, Germany, which is also the largest producing nation, imports larger quantities of iron and steel than any other continental country, and has done so for many years. The United States, which has long run alongside our own as a great iron-producing country, has also, until recently, imported more iron and steel than any other nation in the world, and within the last ten years has imported from Great Britain as much as 600,000 tons of these commodities in a single year. But the notable feature about our own case is that while other iron-producing countries have, as a rule, been reducing their imports from rival nations, Great Britain has been largely increasing the quantities consumed from this source. Ten years ago our total imports of iron and steel were only 323,840 tons. This year, if the promise of the first quarter be maintained, our imports will exceed 750,000 tons, and their total value will be close on six millions sterling. In these figures we do not include iron ores, of which in the first quarter we have imported 1,790,138 tons, which is at the rate of over seven million tons a year, and of which the computed value has been 1,331,298*l.*, or at the rate of 5,325,192*l.* a year. Put in another way, our total imports of iron ore, steel and iron for 1899 are likely to reach a total value of over ten millions sterling—a figure which is not approached by any other nation in the world, and which never has been approached by any other nation except the United States. The importance of these figures may be better estimated when we add that our total exports of iron and steel in some recent years have not much exceeded 20,000,000*l.*, and may possibly this year fall below that figure.

To the man in the street this will probably come as a surprise. It cannot, however, bring much astonishment to the man in the iron trade who has for years past found an increasing difficulty in combating the demon of foreign competition, which has confronted him at every turn of his daily existence, and has threatened in a great many cases to make his life a burden. It cannot surprise the Scottish ironmaster, who knows that if it had not been for the same skeleton at the feast, he would even now be able to get 5*s.* to 10*s.* per ton more for the iron that he produces. It cannot surprise the manufacturer of steel plates in Scotland and the North of England, who has during the last twelve months, for the first

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time in his experience, had to reckon with the same new and inexorable force in settling the basis of his contracts with shipbuilders. It will not surprise the maker of pipes and tubes—one of the largest industries of Glasgow and its neighbourhood—who has only by the skin of his teeth succeeded in getting some home contracts of importance, including the memorable Glasgow pipe contract of a few months ago, in consequence of the intensity of American competition. It will not, moreover, disclose much that is new to the British steel-rail manufacturer from whom the Yankee has in 1898 wrested orders approaching in the aggregate close on 300,000 tons, and whose works have in consequence been doing less than one-half of what they were capable of accomplishing. All these classes of producers, and many others besides, are but too well aware of the enormous and alarming growth of our imports of foreign iron and steel in every category, including wire, nails, hoops, sheets, bars and a dozen or two additional items. The movement in its present form and dimensions is comparatively a new one. It had very little force or vitality until three years ago, when the United States practically entered the general area of competition for the first time. Prior to that time it is true we received large importations of certain articles from Germany and Belgium. If we take 1890 as a starting-point, we find that in that year we imported over 70,000 tons of beams and girders, over 92,000 tons of bar-iron, &c.—chiefly for the purposes of the Sheffield crucible steel trade—over 8,000 tons of unworked steel, largely from Sweden, for special requirements, and about 150,000 tons of other manufactures of iron and steel, much of which had no exact counterpart in our own commercial products. We imported girders from Belgium because we had not ourselves gone fully into that branch of the trade, and had not adopted the conditions that were essential to succeed. With it—such, for example, as laying in a large stock of rolls of different sizes—we imported bar iron mainly as a product used as a raw material in the Sheffield trade. And we imported unworked steel from Sweden because it was of a higher quality, or, at any rate, of a different quality, to the bulk of our steel products at home. But to-day the conditions are very different. In the interval works have been established for the manufacture of girders and beams at Glengarnock, in Scotland, at Shelton Bar, in Staffordshire, at Leeds, at Middlesbrough, at Barrow and other places, so that the resources for the home manufacture of these descriptions of steel are abundant, and yet we have to face the startling fact that our imports of girders and beams for the first quarter of 1899 amounted to abo 28,000 tons, or at the rate of 112,000 tons a year—55 per ce more than the imports of 1890, when the number of gir mills in Great Britain was less than one-half what it is to-d Our imports of bar and similar descriptions of iron have fal off, because the Sheffield trade does not now use Swedish b in the manufacture of crucible steel to the same extent as merly. But that only makes the phenomenal increase of ot products appear to be all the worse. The case of the impo of unworked steel is perhaps the most striking of all. In 18 as we have shown, we were satisfied with importing about 8, tons of this product for special requirements, but our impo under the same head for the first quarter of 1899 were at rate of over 100,000 tons a year. The trickling rivulet literally swollen to the dimensions of a flood, which has delu every part of the United Kingdom with its detritus. Most this steel is coming from the United States in the form billets, and it is being used up by wire, sheet, hoop, rod a plate manufacturers all up and down the country. We can speak as to "unenumerated manufactures" as we speak of other products, because they are not separately cla fied, but their volume for the first quarter of the current y was at the rate of over 258,000 tons for the twelve mon which is an increase of about 108,000 tons on the correspond ascertained imports for the year 1890. What we do kno that a large part of this large nondescript item took the f of American ship plates, competing with the steel manufactu of the West of Scotland; that another large proportion t the form of wire, in competition with the staple trade of W rington; that part of it competed with the hoop, sheet, bar other trades of South and North Staffordshire; and that s was crucible steel entered to compete with the staple trad Sheffield. The narrative which has just been recited is ha likely to be pleasant reading to the general reader, but much more unsatisfactory must the experience have bee the manufacturer, who has had to face this competition, "h to brow," at every stage of his attempted progress? We nothing of the fact that we import a much larger annual vol of foreign ores than any other country because that is necessarily a serious disadvantage, and because whatev may involve it is inevitable that we should every year pay to six millions sterling to the foreigner and the British shipo under this head. But the importation of iron and steel is n any means in the same category. The five to six mil sterling now annually paid for foreign iron and steel migh

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t at home. In any other country except our own it would retained as a domestic manufacture exclusively. Of course, er our system of Free Trade this cannot be the case in at Britain, and it would be the rankest heresy to suggest anything should be attempted by the State to alter the ting situation. But our manufacturers may conceivably do ch to help themselves. They have been too much dis-raged until now by years of bad or indifferent trade, to ibit the enterprise and business dash that was characteristic nglishmen and Scotsmen in the earlier days of the trade, n they challenged competition with the world. It appears e now generally admitted that they have in many cases wed themselves to fall behind in mechanical equipment, ch means economy of production. Their relative situation ptly illustrated by the story of the American who declared he could not afford not to make use of the best possible it, in contradistinction to the British manufacturer, who plained that he could not afford to provide an equipment ne highest standard.

SWICH AND FELIXSTOWE BUILDING TRADES ASSOCIATION.

annual dinner of this Association was held on the 6th at the Crown and Anchor Hotel, Ipswich, the chair being n by Mr. Fred. Grimwood, with Mr. Chas. Barrett in the -chair.

After the loyal and patriotic toasts, Mr. H. Miller submitted ne Town and Trade of Ipswich," and adverted to the rapid ress of the borough in all directions, pointing out that its situation there could be no doubt that future years ld witness even greater expansion.

Councillors F. Bennett, A. Ranson and E. Catchpole re-ded, all testifying to the progressive policy of the Town ncil and the good state of trade. The need for commodious lling-houses in Ipswich had lately been felt, thus showing Ipswich was attractive to the residential portion of the munity, apart from those engaged in business purposes.

Mr. T. W. Cotman gave "Success to the Association." He rked that he looked somewhat askance on trade combina-of any kind, but in the present state of affairs he gnised that they were called into existence for the purpose utual help and defence. It was, however, by individual effort and force of character that our commercial supremacy could be maintained, and he thought it a weak point in any trade when a person was coerced from making his own bargain when he liked and with whom he liked.

In acknowledging the toast, Mr. F. Grimwood remarked that it was only by such associations that labour difficulties could be satisfactorily adjusted. They had no hostility to trade unions up to a certain point, but when the masters were not allowed to conduct their own business, it necessitated action being jointly taken by employers to protect interests which, whilst not antagonistic to the men, were of vital importance to those who had put capital into concerns, and built up valuable trade connections. He felt sure the architects must see the difficulties now surrounding the building trade, and so increasing cost of the work.

Mr. Thurman also acknowledged the toast, remarking that at Felixstowe the builders had endeavoured to compromise the matter of an advance of wages. The men, however, were exacting, and seemed determined to hamper trade.

The toast of "Past and Present Officers" was proposed in genial terms by Mr. George Abbott, especial reference being made to the services of the hon. secretary (Mr. W. Grayston), who suitably replied.

Mr. C. E. Whitmarsh gave "The Visitors," remarking that the presence of so many eminent members of the architectural profession could not be but a great gratification to the builders, whose business brought them into close contact with the profession on many points. There might at times be differences between them, but in all essential matters the builders were anxious to do work which would reflect credit on the architect, recognising that by doing so their own reputation was enhanced.

The Borough Surveyor responded in a most interesting speech, quoting statistics showing how steadily the town had grown since 1885. Since that year more than 3,000 dwelling-houses had been erected; 700 buildings other than dwellings had been built, and over 100 roads and streets made up. He confidently predicted the progress of Ipswich, and hoped his pleasant relations with the builders of the town would continue in the future as they had in the past.

Councillor G. Fenn and Messrs. W. Eade and T. Miller, C.E, also replied, the latter gentleman referring to the expected report respecting the dock improvements.

During the evening a musical programme was well carried out.

NOTICE OF REMOVAL.

ing the Rebuilding of the Strand Premises, which have been pied by "The Architect" for the last 30 years, the Editorial, lishing, and Advertisement Departments have been removed to the

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THE TELL-TALE PLUMMET IN THE WASHINGTON MONUMENT.

Doubtless the longest plumb line in existence, says Mr. C. Francis Jenkins, C.E., in the *Scientific American*, is that suspended in the Washington Monument, which has a free swing of more than 510 feet. It is of hard drawn copper wire, $\frac{3}{64}$ inch in diameter, and is suspended, for protection, in a galvanised iron pipe. The wire is located in a plane cutting the centre of gravity of the monument, which is 174 feet 10½ inches above the door sill. The plummet was set June 12, 1887, with the top end of the wire fastened to an adjustable brass screw in an I beam about 10 feet from the west wall.

In the plummet house (which is rivetted to the vertical protecting pipe) at the base is a hollow iron pedestal, one side of which is fitted with a door for access to the interior, where stands a bucket of water in which the "bob," a 25-pound brass spheroid, swings. On top of the pedestal are two telescopes, one on the north side facing south and one on the east side facing west. Both are moved by micrometer screws with a travel along scales graduated to inches and twentieths, which, with the screws, give readings to thousandths of an inch.

These readings are taken daily, the maximum deflection ever observed being 0·14 inch, which by calculation shows that the top of the monument moves about three times as far as the centre of gravity.

As carefully-taken data would prove of great value to engineers who undertake the erection or custody of very tall shafts, it is proposed to make the readings automatic and continuous by means of a kind of improved pantograph enlarging one thousand times. These, with the heat records taken at the top and at the bottom, both inside and out, would constitute a record of great value, showing what scientists call the "breathing" of this 81,120 ton mass of stone.

No less interesting was the location of the shaft, or what is recorded thereof. The bench mark, known as the Jefferson pier, was built on the first meridian line of the United States in 1793. It is at the intersection of a line drawn N.-S. through the centre of the Executive Mansion, and another E.-W. through the Capitol. No considerable record exists of the establishment of these lines, although it is tradition that President and Mrs. Jefferson were present at the time, and that Mrs. Jefferson gave her thimble to be set in the top of the wooden monument to receive the scratched cross. From this monument, and another located 90 deg. therefrom, levels were taken, with which subsequent levels were compared to determine whether the monument settled evenly. All the levels taken show that the foundation has remained horizontal although subject to a gradual diminishing settling, which, to the centennial year (1876), was 8·82 inches.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

Applications for Patents.

7035. George Howe and John Samuel Rogby, for "Improvements in the manufacture of tiles, bricks or blocks."

7132. Corbett William Woodall and Marc Ferdinand Solon, for "Improvements in or relating to the manufacture of glazed bricks."

7133. Corbett William Woodall and Marc Ferdinand Solon, for "Improvements in the manufacture of encaustic tiles."

7161. Alexander Pouey, for "Improved oven for baking pastry and the like."

7178. John Cowan, for "Improvements in boiler furnaces."

7210. John Henry Brearley, for "Improvements in or connected with regenerative furnaces for heating gas-retorts or analogous purposes, and in the special construction of bricks to be employed therein."

7247. Ladislaus Galecki, John Loplain and Paul Lopati, for "Improvements in the manufacture of bricks and analogous articles from lime and sand, and in means and appliances for effecting the same."

7434. Arthur Petrie Florence, for "Improvements in relation to firegrates, stoves, kitchen-ranges, and in apparatus appertaining thereto."

To Inventors.—Patents for Inventions, Trade-marks and Designs secured; every assistance given to inventors. Specialists in Building matters. Information free.—Messrs. Rayner & Co., Patent Agents, 37 Chancery Lane, London, W.C.



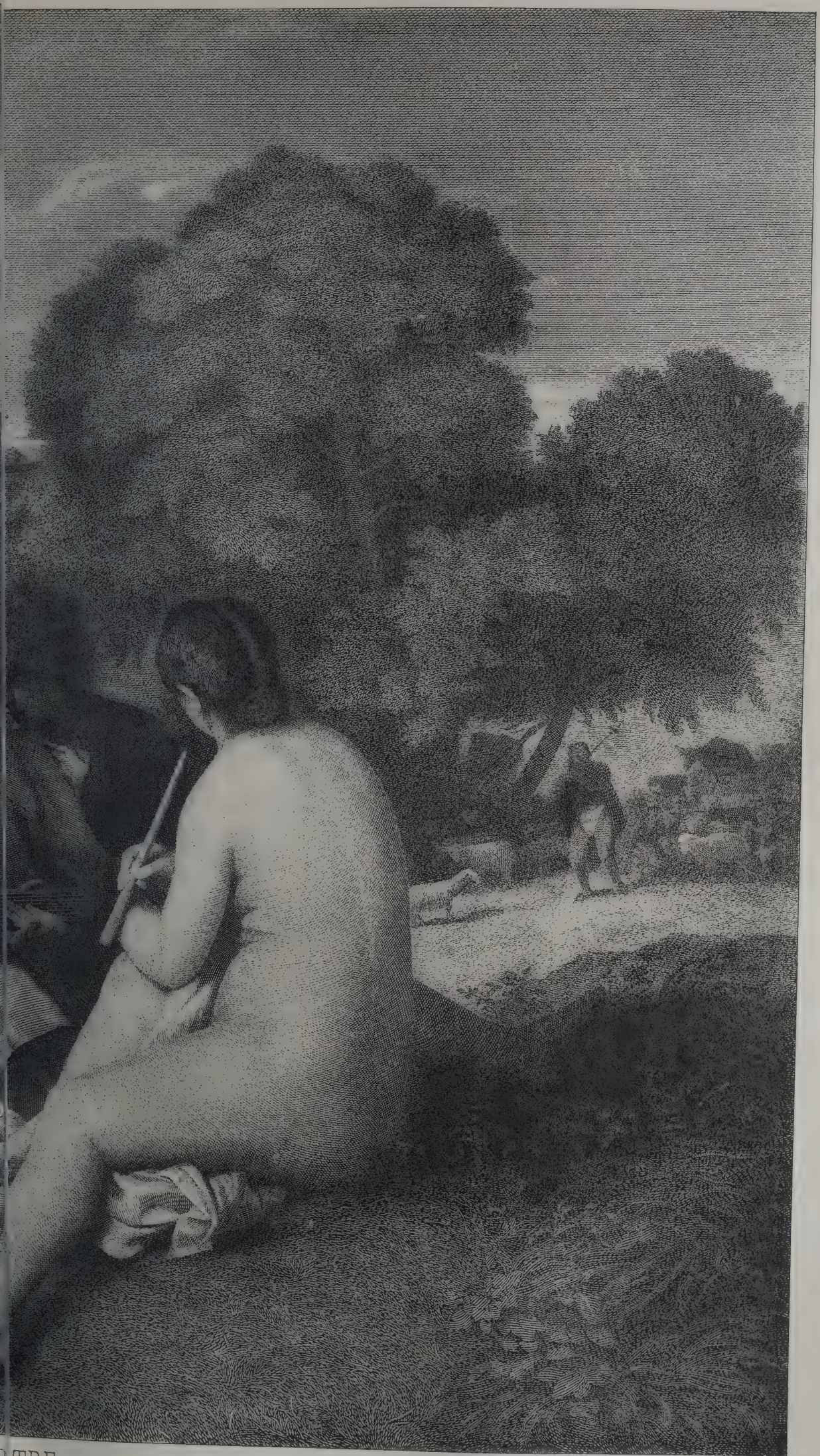
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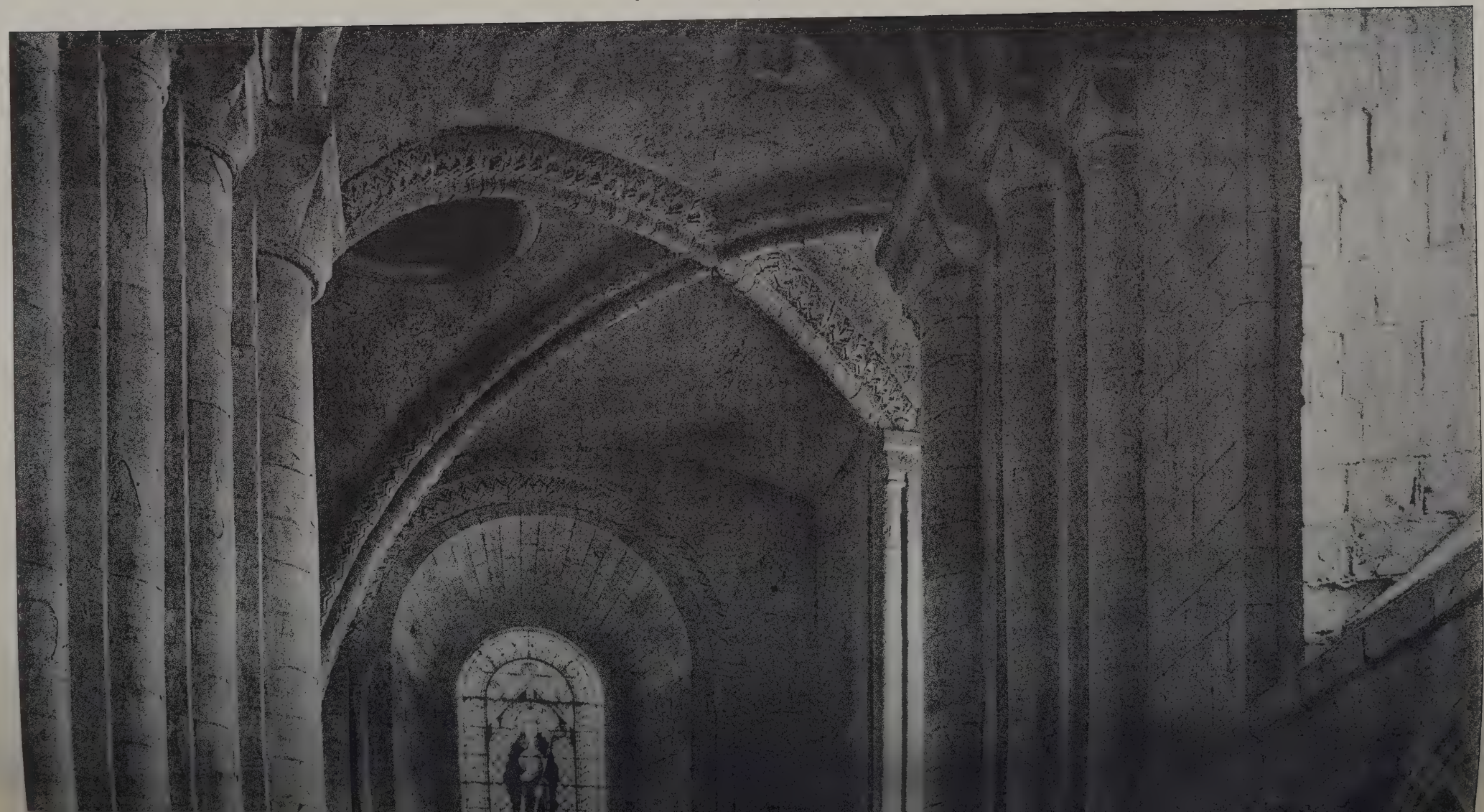


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CATHEDRAL SERIES, No. 223.—DURHAM: NORTH AISLE, FROM CHAPEL OF NINE ALTARS.

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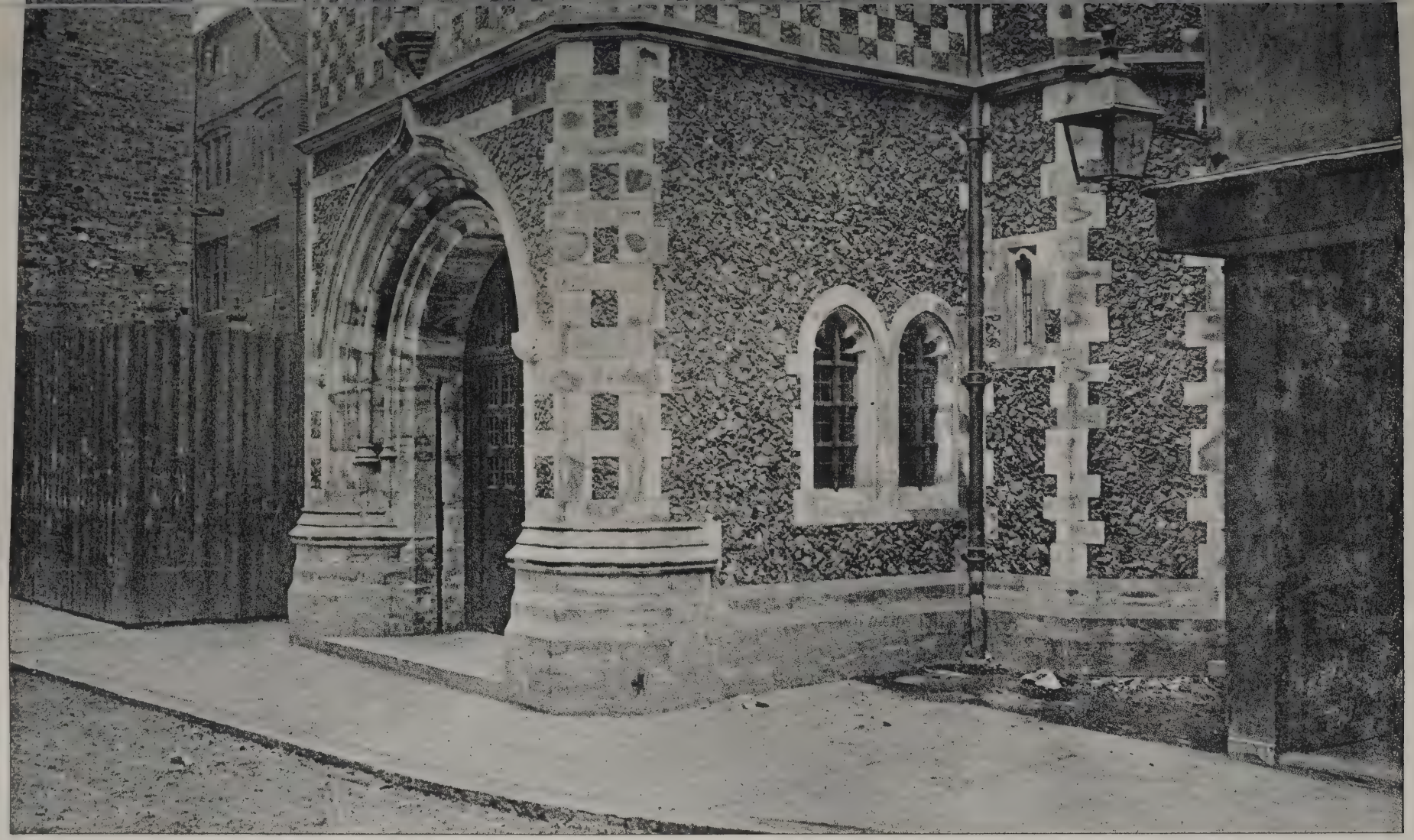
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CATHEDRAL SERIES, No. 224.—DURHAM: WEST END OF NORTH AISLE.

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S. BARTHOLOMEW THE GREAT: THE PORCH.

ASTON WEBB, A.R.A., Architect.

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HEY ROAD.

ts.

The Architect.

THE WEEK.

Duchess of YORK on Saturday visited St. Canice's
edral at Kilkenny. It is a building well deserving of
tion, no matter how high in rank is the visitor. Its
cter is suggested by what the late G. E. STREET said
:—"Of cathedrals of a smaller scale I know none
n pleases me altogether more than that of Kilkenny,
with a happy art, though the scale is small, there is
air of a cathedral as distinguished from a parish church,
great deal of the most lovely detail." Mr. STREET
lered that Christ Church Cathedral in Dublin and
nny Cathedral are so exactly like what can be seen
rts of St. David's, Llandaff, Wells Cathedral and
nbury Abbey, "that they must have been executed
same workmen, or from the designs of the same
ect." The windows in the north aisle of Christ
h, the internal shafts of which are intersected by
at very short intervals, are imitated closely in the
doorway of Kilkenny Cathedral and in a doorway at
Florida Abbey, in South Wales. It is not consoling
ve susceptibility to have so fine a building ascribed to
hmen, but it should be remembered that in Mediæval
rchitecture was like an universal language. There
records to determine the origin of the architecture
Canice's. The east end was apparently commenced
1180 by Bishop O'DULLANY, who was of the Irish
nd completed in 1200. For eighty years afterwards
ilding was continued by fits and starts. It was
d by Bishop ST. LEGER, who is likely to have be-
to one of the invaders' families. At a subsequent
rge sums were expended on the building by Bishop
D. The eastern window was filled with stained-glass,
was so beautiful that RINNUCINI, the papal envoy
Irish Confederation in 1641, offered 700*l.* for the
nts. CROMWELL'S soldiers destroyed all the glass
uld discover in the cathedral. The building was
d in the eighteenth century by Bishop POCOCKE.
ng the cathedral is a round tower 108 feet in height.
ay Castle is another interesting building. In 1399
RD II. occupied it for fourteen days. A manuscript
n the British Museum with an illustration of the
nterview with the Irish chief, ART MACMORROUGH.

Archdeacon of Manchester, in the charge he
d on Monday, drew attention to the remarkable
ion in the outlay on churches erected between 1890
8. There were only two, and the cost was 10,400*l.*
period 1880-89 fifteen were erected at a cost of
l., and in 1870-79 there were twenty-one, with an
f 168,000*l.* The decrease was attributed in part to
essity of providing church schools in the diocese.
r cause was said to be the passing away of indi-
and families who were munificent in their expen-
n church buildings. The BIRLEY family erected
s which cost at least 30,000*l.* The gifts of the
OD family were no less generous. Among their
s are St. John's, Miles Platting, and St. Augustine,
ury. Lord EGERTON OF TATTON built St.
's, Ordsal, at a cost of 9,000*l.*; Mr. W. ROBERTS
rist Church, Didsbury, at a cost of 11,500*l.*; Mr.
St. John's, Cheetham, for 12,000*l.*; and Mr. P. R.
Clayton, St. Cross, for 12,000*l.* Sir W. H.
WORTH built St. Elisabeth's, Reddish, at a cost of
,000*l.*; Mr. BENNETT gave St. Benedict's,
, costing 16,000*l.*; Mr. C. F. BEYER, Gorton
es's and Gorton All Saints, for 13,000*l.*; and
P. STEWART, St James's, Collyhurst, for 14,000*l.*
ears some of the suburban parishes have grown
lly, and it will be necessary to make provision to
d with the new conditions. It was estimated that
s 80,000*l.* would be required. Towards that sum
can be reckoned on. Sites have been purchased,
in outlying districts prices are very high; three, for
have cost 7,500*l.* It is also worth notice that
ation has to be introduced into Manchester owing
hifting of the population. The parishes of St.
Peter, St. James, and St. Simon and St. Jude are to be united and made into one parish, with St. James's as the parish church. The sites of the two others will be sold under Act of Parliament, and the proceeds of the sale and the endowments transferred to new districts.

IF a town were to be found on the Seine within twelve miles of the centre of Paris and with a history of over a thousand years, what a wonderful amount of rejoicing would be performed in it from time to time? The commemoration of the seventh centenary of Kingston which took place this week caused very little interest among Londoners. How old Kingston is nobody can tell. It is mentioned in a charter of 946 as "the royal town where kings are hallowed," but there is evidence enough to show that the Romans possessed a settlement on the spot, and it may then have been an ancient place. Nine kings were crowned in Kingston between the years 900 and 1016. At the time of the Conquest the town was valued at 30*l.* It contained a church and five mills. King JOHN granted a charter in 1200, and made repeated visits. There is a record of members being returned to Parliament in the reigns of EDWARD II. and EDWARD III. The large church is built of flint, clunch and stone; a large part is Perpendicular, but there is also work of an earlier time. The town itself has little else to show which can claim to be ancient. The suburbs, Norbiton and Surbiton, are quite modern, and are more sought after than the older parts of the town. They impart so new a character to the place that many people are sceptical about the history of Kingston. But there is no doubt about the value of its claims to antiquity, although it makes no pretensions to be superior to many other Thames-side resorts.

A SPECIAL meeting of the council of the Glasgow Institute of Architects was held on Monday. The President explained that the meeting had been called to consider the principle of the Bill recently introduced into the House of Lords by Lord RUSSELL OF KILLOWEN relating to illicit commissions. One of the objects of the Institute is to insure that the business carried on by its members would be free from anything dishonourable, and they welcomed any action, through such a Bill or any other means, which would insure fair trading in business and honourable dealing amongst all professional men. By article 10 of the articles of association of the Institute every member is required as soon as possible after his election to sign a declaration that he will not have any interest in any trade contract for work which it is his duty to superintend or pass, nor will he receive or accept any pecuniary consideration or emolument from any measurer or tradesman working for a client under his supervision, but shall in every case receive payment for all professional services from his client direct, and not otherwise. He believed that the profession in Scotland was singularly free from this taint. The following resolution was then unanimously passed:—"That the council of the Glasgow Institute of Architects in the interests of honest trade, and to show its disapproval of illicit commissions in whatever form, resolves to support the principle of Lord RUSSELL'S Bill, and that this resolution be communicated to the Royal Institute of British Architects, and that this council expresses its willingness to support that body in any similar action it may take in favour of the principle of the Bill."

THE church of St. Dunstan in the West, which was erected from SHAW'S designs in 1831-32, may not be a perfect example of Gothic, but it is picturesque, and on that account has been often introduced in views of Fleet Street. Much of the effect depends on the church being separated from the adjoining premises by an open flagged space on each side. It will hardly be credited that recently an agreement was entered into between the rector and churchwardens and the Law Life Assurance Society, Limited, for the sale of the space on the west side of the church in order that the Society's offices may be enlarged. On the church door a notice is affixed of a petition for a faculty to legalise the arrangements. If the western part is appropriated to secular use the eastern part will soon be sacrificed.

ARCHITECTURE AT THE ROYAL ACADEMY.—I.

THE Architectural Room is likely this year to subserve satisfactorily the purpose to which it is destined. Before the exhibition closes it may be assumed there will be some warm days, and then the room will be a grateful refuge. The drawings form a lining for the walls that is cool, and will be considered refreshing. There are not many coloured drawings, while the monochromes and pen drawings are not exciting. Then there are a few models, one being as attractive as a toy, which diminish the vacancy that occasionally is depressing. Altogether the room is adapted to be a place of retirement, and we hope it will be appreciated.

For architects the contents are interesting. What can be seen are mainly buildings, for the drawings of stained-glass and decoration are few in number. There is also a general absence of sketches of old work. All the architects who belong to the Academy are not represented. Mr. NORMAN SHAW and Sir A. BLOMFIELD have not contributed drawings. Mr. JACKSON has one drawing, the new Radcliffe Library. Mr. AITCHISON sends his diploma drawing, which is a coloured elevation of the Royal Exchange Assurance Offices in Pall Mall. Mr. BODLEY, who is a rare exhibitor, has an interior of St. John's, Cowley. Mr. ASTON WEBB signalises his entry by a large drawing of "The Britannia Royal Naval College, Dartmouth," which is the only building commissioned by the Government in the collection. There is not a drawing to recall the projects for the offices at Westminster. But many architects will be glad to see a study by Mr. H. B. GARLING, one of the veterans of the profession, of façades which belonged to the design he submitted in 1857 for the new War Office, and which was premiated.

The first wall on the left of entrance, with over forty drawings, presents an epitome of the exhibition. There are many houses of various sizes, and it is not easy to be original when treating that class of building. Mr. H. T. BUCKLAND sends "Labourers' Cottages, Bromford, near Erdington," which are of red brick, but are too top-heavy to please landlords' wives who are lovers of the picturesque. Mr. E. S. UNDERWOOD's "Additions to House, Matfield, Kent," is a modest contribution of a porch and a half-timbered room above it. Mr. S. K. GREENSLADE's "Street Front" is a protest against the prevalence of the red brick house. It is a symphony in green and white, and looks attractive in the combination of Portland stone and slate. There are two houses by Messrs. NIVEN & WRIGGLESWORTH. "Hillington" shows some vigorously designed plaster relief, which separates the floors, and in the curved bays there is corresponding breadth of treatment. "Lynch House, Sevenoaks," does not attain so high a standard. The windows on ground-floor, from having semicircular heads, appear too small, for there is no need to have barriers against daylight unless in exceptional conditions. The porch is commonplace. Messrs. WIMPERIS & EAST have a well-considered design which represents "Proposed Rebuilding of London Newspaper Offices." The frontage appears as a curved line, and is flanked by projections which allow of the introduction of windows differing from those in the main part of the building. In the latter the various floors have each a special character, and the design is neither suggestive of the warehouse nor the palace, which appear to be the two accepted forms for such buildings. Messrs. BREWILL & BAILY, in "Aspley Heath," show an T-shaped house seen from one of the ends, and which is reposeful. The "Cottage Homes," by Mr. G. HORNBLOWER, are small and simple. "Cold Ash, near Newbury," by Mr. LEONARD STOKES, cannot be comprised among the things which the Germans style "Bilder ohne Rahmen," for the exterior wall is by dressings converted into framed spaces. "No. 2 West Drive, Streatham Park," is a house which is sure to appeal to many Britons, for there is no loss of land for the sake of effect, and the outer hall and drawing-room express magnitude without any disturbing corners. In the additions to "Soot Pray Farm," also by Mr. STOKES, we have a third example of what is sometimes called the common-sense treatment. The "Hall in House at Windermere," by Mr. BAILIE SCOTT, which serves as a billiard-room, would have delighted the Viking settlers. It s mainly of wood, and the material is employed with the boldness and simplicity of a ship's carpenter who dexterous with an adze. The drawing is an indication the new spirit arising among us which Queen Anne is feminine to satisfy. "The Addition to Premises, East G stead," by Mr. E. TURNER POWELL, may be calle diplomatic drawing, and it has succeeded with the scrutin who have rejected many of more architectural value. character of the building is left to the spectator's imagi tion. We know there is a shop with a red roof, but immense white blinds and the enclosure for plan obsc the remainder. So much ingenuity deserved recogniti and there may be cases where concealment is an advanta but we hope the example will not find imitators. Mr. A PRENTICE shows "Cavenham Hall, Suffolk," in th characteristic drawings which merit approbation for absence from them of finical strokes. But as they separated they do not produce their full effect. It wo be difficult to decide which view has most interest. entrance front shows a large hospitable projecting po with massive columns that can carry a large room over The gables are emphasised. In the garden front building appears of greater length and the parts at ends not correspond in height, but the lower gains compensat by the use of reliefs. In the third view the massing of roofs is seen to most advantage. In "King's Cor Biddenham," by Messrs. MALLOWS & GROCOCK, we se cottage residence approached from a garden which has ancient air. Mr. J. BARTLETT's "Victoria Institute, W hurst," appears in front as a couple of one-storey cotta but the ground drops and the rear would have a m imposing look. Messrs. LEE & PAIN, in "St. Katheri Lodge, Regent's Park," revive that species of Gothic which stuccoed walls alone appear eligible. The Spania must be stolid who are not amazed when they Mr. WORNUM's "Las Fraguas, Santander." It is an Eng country-house that could be erected in any part of kingdom, and without the least concession to any Spa characteristic. Mr. E. F. REYNOLDS's "Design for Country-house" is evidence of independent thought, there is no regard for precedent. The three divisions v in size. The central part is of one storey, but with extremely high roof that extends to the height of the ot parts, so that the sky-line is almost level. The chimne not unlike a truncated obelisk, and serves to mark division. The remaining part is rather gaunt, with sm windows in the upper part. The design may not approved, but it was worthy of admission from its nove and we are glad originality can be occasionally encoura by the Academicians. The glaringly red "Cannon St Hotel, Birmingham," by Messrs. BATEMAN & BATEMAN in another category. "Sunnyside, Holmwood," by W. T. BARLOW, is a compact residence. Two more q buildings are Mr. G. E. STREATFIELD's "House at G Marlow" and Mr. RANSOME's "House in the New Fore Mr. BATTERBURY is usually happy in treating street-fr where the space is limited. The "Stone Front, 233 Stra is the latest example. There is just sufficient differe between the one window of each floor to suggest the f is not turned out of a machine as a whole and not enc to affect repose. The "Staircase and Hall, Warnl Court," by Mr. A. C. BLOMFIELD, have allowed the in duction of elaborately-carved newels.

The "Crown Theatre, Peckham," by Mr. ERN RÜNTZ, is hung too high for adequate study, but it rev no sign of that fussiness and commonplaceness which becoming too characteristic of some of the modern thea Messrs. ERNEST GEORGE & YEATES in one drawing sent "Two Wooden Bridges," which, like those of Medi times, are covered. Both roadways are approached steps, and in the Surrey example the entrance is ma by a turret. "The Chapel, Wyckcliffe Hall, Oxford," Mr. W. WALLACE, is a small building of a freely-tre Perpendicular style with a tower at side. "The T Hall, Hitchin," by Mr. GEOFFRY LUCAS, is plain and tage like, a treatment that might be often adopted advantage in small towns. Messrs. LANCHESTER, STEW & RICKARDS in their "New Town Hall, Godalming," been successful. The projecting clock saves the cost tower and recalls several old public buildings in the co Mr. R. W. BEDINGFIELD's "Design for Liverpool R Institution" is sufficiently Classic in style to suit the

it the dimensions of the dressings to windows and doors part more heaviness to the building than is advantageous. The Roedean School," by Mr. J. W. Simpson, is a large stellated building on a terrace, with a great deal of variety the parts. Mr. Aitchison's "Assurance Office" is orth the attention of architects who have to make the ost of narrow frontages. The treatment is refined, we ight say elegant, and there is a sense of measure in aling with the carving and mosaic decoration. The Design for Council Offices, Essex," by Mr. J. A. Minty, rms a good group, the centre showing a turret that is ghtly elevated above the roof. In Mr. W. G. P. ownsend's "Wrought-iron Gates" there are enough raight lines to suggest stability. The ornamental part is ainly above, in a place where there are no strains.

The "Design for Pulpit and Bench End, St. Brelade's urch, Jersey," by Messrs. Rogers, Bone & Coles, has thing conventional about it. The preacher is not placed uch above the heads of his auditors. A screen with light lonnettes and a reading-desk in the centre form the ilpit; but there is so much character about the details is preferable to many larger structures seen in churches. r. G. C. Horsley's "New Screen, Ipstones, Staffordire," is a stately example, with fine carving, but it is not ggestive of anything detached, but of part of an enclosure which wood is largely used. Mr. Bodley's "Interior of . John's Church, Cowley," also shows a fine rood-screen. olour is employed not only in windows and on walls, but roof. It is an almost ideal Gothic church, but whether would be approved by lawyers is doubtful. The "Design Calvary, St. Bartholomew's Church, Brighton," is other advanced example of an approach to continental cedents. It shows a sculptured group in a dark recess, d is ably represented by the style of drawing. Finally, have on the wall a design for a certificate for students of usic by Mr. T. J. Grylls, which is not out of place, for the atment is architectural. But the figures are too modern harmonise with the massive columns.

(*To be continued.*)

P. V. GALLAND.*

PIERRE GALLAND and Alfred Stevens in our time enabled people to realise the versatility of many the Renaissance artists. Each of them could have rked as an architect, a painter or a sculptor, and the on of arts which they exemplified was not without antage to their productions. But however men admire satility in theory, and especially instances of it which e found long ago in Florence or Rome, they are not posed to see it flourish. It is supposed to mean an gular form of competition which has the advantage in its our of being economical. The many-sided artist is en as corresponding with the general practitioner in dicine, and as he is able to turn his knowledge to ount on more occasions, he is only rewarded with a lesser than the specialist who expects patients to pay for mployed intervals between consultations.

Alfred Stevens was repeatedly made to feel the advantages of coming too late into the world. Two three centuries before he would have found a welne in England without having to travel in quest of ers from manufacturers. There was enough of the naissance spirit in this country to inspire an appreciation his splendid talents. We cannot imagine Inigo Jones ibiting the least jealousy of Stevens, and as Stevens bably would not set up as a poetaster, Ben Jonson uld not have vented ill-will on him. Charles I. would e been proud of such a subject, and nobles like Lord undel would be sure to offer commissions for designing ices and for adorning them with paintings and sculpture. en Stevens appeared in this century there were few rons possessed of the courage to employ an artist who e no academic or official stamp, and the prospective ue of whose works could not be calculated by any tables sessed by appraisers. The spectacle was consequently sented of a great genius modelling fire-irons and doing humblest work for bread. When he obtained a commission that was worthy of his power he was tied down in official bonds, as if through apprehension that with a versatile artist there was no knowing what he would produce, and a house or a picture might take the place of a group of sculpture.

Pierre Galland happily was not doomed, like the English artist, to try his luck among a people who could not understand art, and who doubted anyone whose training was foreign as a suspicious character. But he was also made to pay the penalty of a departure from established rules. Trained as an architect, he was expected to go through the official round which by slow degrees sometimes leads to eminence. If he could devote himself to designing, the early stages would not be oppressive to him. But for a man possessed of the creative force of Galland the mechanic routine of an architect's practice is hard to bear. It was like having wings and not daring to soar. Shrewd manufacturers realised his situation and tempted him with commissions. The artist appeared to be capable to deal with all materials and to suggest how their value could be enhanced. As the son of a renowned industrial artist he possessed almost an instinct for suitability in design, and many were glad to secure the aid of a man so various as was the young Galland. His reputation went on increasing until he was accepted as one of the foremost artists of his class, and consequently as a power in France.

Then came the question, What was to be done with him? An artist who had fairly fought his way upwards until there seemed to be no higher summit to be reached could undoubtedly be utilised in the service of France. Galland had already declared that English industrial art was advancing with strides which were amazing, and that in a measurable time the production of beautiful objects in France would cease to be a monopoly. At first his words were pooh-poohed by officialism. But then it was remembered how a like prophecy was heard about military supremacy. Although the country was assured of success, since the preparations were so complete not a button was deficient on a gaiter, yet somehow the preparations were late and a failure followed. Was it not possible for another catastrophe to occur in the industrial contest? Galland had studied the problem not only in France but among her rivals; he had taken lessons from them and was competent to turn the enemies' tactics to the advantage of France. Accordingly it was decided to appoint him one of the professors or directors of the Ecole des Beaux-Arts.

Then the inconvenience of versatility became manifest to everybody holding office. Galland was not the man to be content with following a prescribed course. Nor could he believe in the advantage of keeping a student in one class, say the architectural, and then transferring him to another where there was little or nothing said about architecture. It may be an excellent intellectual exercise for a student to make out the relations between the different divisions of knowledge he has to go through, but we can see in our own Royal Academy the slight gain which arises from the separate system. Able students will be able to co-ordinate their knowledge, however diverse it may be in origin and matter, but they are always an exception. Galland wished to raise men who would resemble himself, and a better model could not easily be found. He was grounded in art by his father and his masters in Swiss schools, but the real foundation of his skill was laid in the architect's offices where he worked in Paris. There he acquired system and the species of composition which is most suitable for a designer.

In laying so much emphasis on the necessity of architecture as an element and salutary influence, it was not difficult to conclude that Galland contemplated architectural classes which would be in rivalry with those already existing. The professors of architecture accordingly treated him as a painter who was trying to confuse their ancient art, and rose against the invader. The professors of painting regarded him as an architect who was endeavouring to become an interloper in their special province, or as a designer of bijouterie and other metal-work who was posing as a teacher of painting pictures of all kinds. There was so much dissension in consequence of M. Galland's appointment, the Minister was compelled to abandon his resolve to have the artist beginning a reformation in the Ecole des Beaux-Arts. But as he did not wish

* See Illustration.

to acknowledge a defeat, he appointed M. GALLAND to be head of the Gobelins. Then followed an experience which was common in the Mediæval schools of Paris. Wherever a famous teacher migrated, crowds of students followed him. ABELARD, for example, fled to a forest, but those who sought his training were indifferent to atmospheric changes, and were content to live in huts which they formed with branches of trees. Learning was considered to be more important than stately buildings. The old spirit of the Latin Quartier was revived when M. GALLAND accepted his appointment in the dingy Gobelins. The school which was intended for the instruction of the future designers and weavers of the factory was crowded with students who aspired to something beyond "la haute lisse" or "la basse lisse." In the various examinations the students from the Gobelins attained the highest positions, and, owing to their success, an effort was made to have them placed on an equal footing with the men from the Ecole des Beaux-Arts. The contests again broke out, for it seemed as if M. GALLAND were, in spite of himself, destined to be a revolutionist. The designers who made a specialty of tapestry were also in arms against the versatile outsider. M. GALLAND was at length wearied with the constant misinterpretation of his motives. He decided to abandon official duties, and it was only by the firmest resolve he was allowed to regain his liberty as an artist.

Although M. GALLAND was approaching the term of the threescore years and ten he felt like a young man. He considered he was as capable as in his early days to undertake vast and onerous commissions. Works which had been lying in his atelier for many a day he took up to complete. Accordingly, when he was offered the decoration of a series of cupolas in the Hôtel de Ville, Paris, he accepted the commission with the eagerness of a tyro who has gained an opportunity to manifest his skill. The nervousness which was the consequence of the wranglings which seemed to be a part of his official duties passed away, and he entered on the preparations for his work with a light heart. He was ambitious to display his originality, while demonstrating his reverence for the great designers of previous periods.

The Municipal Council had decided that M. GALLAND was to celebrate Architecture and Furniture—two themes which are supreme with Parisians. In our pride we say the Frenchman has no home, but he has at least an appartement which he dedicates to the arts. We have published reproductions of the eighteen panels in which M. GALLAND depicted the labours of the men and women who co-operate in the production of a French residence—the architect, carpenter, stone-cutter, mason, smith, painter, turner, joiner, sculptor, glazier, founder with the metal-worker, engraver, potter, tapissier, armourer, musical instrument-maker, who are auxiliaries within, and the gardener who makes the surroundings beautiful. Many other artists have represented the processes of the arts, but what distinguishes M. GALLAND'S series is the intimate knowledge which they all exhibit. The panels are the work of an artist who was competent to stand by any of the craftsmen and give them directions.

The Council desired to see something more represented than mere incidents which would recall several of the industries of Paris. With all the love of realism, the French mind seeks for abstractions or general ideas. Hence the success of the mathematicians and other followers of science. In that spirit M. GALLAND was directed to unite with his trade series figures that would suggest art, matter, industry, science, commerce, navigation, agriculture and force. Some of the figures we publish to-day; the remainder will appear next week.

The classification will not be approved by all, for everyone who considers first principles has his own notions of what are the elementary constituents of social life. The earth presents us with matter and force, with land and sea. Some would comprise the four under the head of nature. The combination of nature with human effort becomes production, of which there are many definitions. The French economists of the eighteenth century, for Dr. QUESNAY preceded ADAM SMITH, called their science physiocratic, or the government of nature; and what else are art, industry, science, commerce, navigation and agriculture but varieties of the exercise of the governing power? Nature is, therefore, represented by matter a force, unless we say that art and the rest are no more th nature. However, by the adoption of similar figures symbols all the difficulties of classification are got over.

Artists will at once realise the limitations under wh M. GALLAND worked. He had to suggest abstractions placing his figures in a cloudland region outside the ea they were to be all seated and within circular outlir There was little scope for variety under the conditi imposed on him. But it will be allowed that he has c trived to be expressive in spite of all the difficulties, w the contrast presented between the medallions and panels indicates that one series was taken from life while other was the product of the fancy.

STEVENSON'S HOUSE IN SAMOA.

A CORRESPONDENT of the *Scotsman* writes:—I that there have been stories in the newspapers of looting of Stevenson's house in Samoa. They are "stori in the children's sense of the word. There has been no loot Mr. Stevenson's name is held in too high respect in the isl for the property that was his to be disturbed by the peo I do not think I exaggerate when I say his memory is de revered by the people for his goodness to them. But tho his house has never been looted it has been sold by M Stevenson. She would not use it again, and having reser all the pictures and special household gods, she has sold rest, with one great exception. The mausoleum at Keia, wh the author of "Kidnapped" rests, is reserved, along wit right-of-way to it up the mountain. Mrs. Stevenson has rig felt not only that the grave is sacred to her, but that it is property of the world and could not pass into the hands of individual.

THE CHICHELE MONUMENT, CANTERBU CATHEDRAL.

THE redecoration of the tomb of Archbishop Chichel Canterbury Cathedral, the main portion of which recently carried out by All Souls College, Oxford, has just b completed by the erection in position of twenty figure various kings, saints and others, the work of Mr. J. E. Ke They are of wood, coloured and gilded, in keeping with highly ornate appearance which the tomb presents. figures are those of William of Wykeham, King Henry the Virgin Mary, King Henry V., Catherine of France, Alphege, the Duke of Clarence, St. Gabriel, Mary Bo St. Dunstan, St. Anselm, St. Augustine of Hippo, Abra St. Gregory, St. Thomas of Canterbury, St. Augustin Canterbury, St. Jerome, St. Michael, St. Ambrose and Edmund.

It is interesting to recall the legend connected with th and tomb of Archbishop Chichele. He was born at Hig Ferrers, Northamptonshire, where he afterwards establish college, built a church and an almshouse. He was like the founder of Bernard's (now St. John's) and All Souls leges, Oxford, of which University he had been an alum He erected at Lambeth the great tower of the palace, calle Lollards' Tower, from the sectaries so denominated having imprisoned there. He appears to have held a middle course tween those who favoured and those who opposed the pretens of the see of Rome, evidently leaning, as far as prud dictated, to the liberty of the English Church. Worn out age and infirmities, after he had filled the archiepiscopal for twenty-nine years, he wrote to Pope Eugenius for lea resign; but he died before the pope's answer arrived. reported to have advised Henry V. to undertake the Fr wars, but the story runs that, when he heard of the ter slaughter and realised the miseries entailed, he repented o advice. He placed the cenotaph, with its strangely contra representations above and below, in the cathedral during lifetime, and also founded All Souls College, Oxford, in c that prayers might be said for the souls of those who fell i wars. The tomb stands in the aisle of the north transept is architectural in form and is decorated with statues painting. At the extremities of an altar-tomb, supportin effigy of the prelate, are two polygonal towers surrounde two rows of niches with statues and surmounted by a ca The sides are pierced with cinquefoil arches, between whi an emaciated figure in a winding sheet. The tomb was gr marred by the Puritans, and the figures upon it disappe Later some figures of Our Lord and the twelve apostles placed there, but these were quite unsuitable, and have been erected in the position which, it is believed, they origi occupied over the choir-screen on the nave side. All College enjoys the traditional privilege of restoring the from time to time, but until the present renovation ha exercised it for very many years.

ROUND TOWERS OF IRELAND.*

[N selecting the subject of the present paper I have been actuated by a desire to reopen for controversy a subject which appears to have lain practically dormant for at least ome time past. The subject of the "Round Towers of Ireand" is one that would fill a fair-sized volume. It presents imensions and outlines far too wide for the scope of a single aper. To trace clearly even in outline, to compress and at ne same time try to elucidate the fads and the follies of many f the absurd theories put forward would be simply impossible. lowever, I shall try, even imperfectly, to describe the buildngs as I found them, and compare them with the theories of arned gentlemen who have devoted some time and study to ne question, so far as these theories, &c., are applicable to nem. The question is one well worthy the attention of the arned antiquarian and the scholar. It seems to me a pity nat any doubt should exist on the subject, and I fail to see a just eason for doubt, in face of the fact that the dates of the erection f some at least of the towers are recorded in the "Annals of ne Four Masters"—a work admitted by historians of all shades f thought in the kingdom and in Europe to be the most espected, reliable and truthful record of events in Europe toay. To say or assert that the round towers are the conquerors of time" is to express a very great fallacy. At ne present day we have about half the number standing of hich history gives us a record, and these are in different stages f dilapidation and decay, and they also are bound to perish nd pass away with the conquering hand of time. It is true nat a fair number of the towers still lift their heads in sublime randeur to-day, thanks to the fostering care of some private entlemen, our antiquarian societies, and, in later years, the overnment of the country, who have with praiseworthy zeal t last come to the rescue of our ancient monuments. The eriod at which the towers were erected appears to be the real one of contention, and it is to this I would particularly ask your pecial attention. The object for which they were designed nd erected appears to me to be the only question requiring rther elucidation than that which has obtained up to the resent time.

In the early part of the present century the question of the rigin and uses of the round towers received very considerable ttention, and was very well handled by several parties holding iverse views on the subject. In a letter recently received om a very learned reverend friend and historical writer, he ays that, "From the rivers of ink, used in defending one or ther of various opinions of learned men, I turned away with omething approaching disgust; such a lot of rubbish, such a eap of nonsense as has been written on them." There can be o possible doubt entertained as to the correctness and truth f this statement. Tons of paper and barrels of ink have been asted upon the subject by men, many of whom were very arned authors and painstaking historians, but who lacked an ntimate knowledge of the Gaelic race and language and the se and development of ancient Irish architecture, or the rimitive architecture of European or Asiatic countries. It as, with these writers, generally been the case of one comenting upon another in successive stages, combating the ews of their neighbours and predecessors while trying to dvance their own notions on the subject, demolishing one ouse of cards to erect another on its ruins.

So distracting, absurd and confusing were the expressed pinions of every writer on this subject of Irish antiquities in ne early part of the present century, that the Royal Irish cademy (one of the most distinguished and learned bodies of ntiquaries in Europe) offered a gold medal and prize of 50*l.* r the best essay on the "Origin and uses of the Round owers of Ireland." A clause in the conditions of the competion made it incumbent on competitors to make a careful rvey of at least a large number of the then existing remains the round towers, and at the same time to make a careful mparative analysis of the masonry of the towers, and the asonry of the ecclesiastical buildings always found in conection with or adjacent to the towers. It was then for the rst time in the history of the controversy that the subject was ken in hand in a practical way by a practical and educated an, and one who, by the glorious record which he has left us his writings, has proved to the world his fitness for the work hich he undertook to do.

George Petrie, LL.D., R.H.A., V.P.R.I.A., it was, who for ne first time in Irish history cleared away the accumulated bbish of ages with which time had surrounded the round owers. Under the influence of his pen and his brain the ists, the doubts and legendary romance that had up to that me enshrouded the round towers of Ireland were lifted and leared away for ever. The Royal Irish Academy, in 1833, fter careful study and consideration, unanimously voted Dr. Petrie the gold medal and prize of 50*l.*, which he richly nerited.

Dr. Petrie having been engaged on the Ordnance Survey of Ireland, under Colonel Sir Thomas Larcom, enjoyed peculiar facilities for prosecuting his inquiries and research. Sir Thomas Larcom, R.E., superintendent of the Ordnance Survey, gave him every possible facility, encouragement and assistance while engaged on the work, and in the elucidation of ancient Irish manuscript documents he has had the assistance of the two best Irish scholars of the century, John O'Donovan and Eugene O'Curry, also fellow-workers on the Ordnance Survey. In addition to the above-named advantages, Dr. Petrie had free access to and made close examination of the ancient Irish manuscripts and other kindred documents of historical interest, preserved in the British Museum, Trinity College, Dublin, the Royal Irish Academy, and the Arms Office, Dublin Castle, and everywhere else in the country where documents of the kind had been stored and preserved.

It is greatly to be deplored that the documentary treasures mentioned fall far short of the number of manuscripts which might have been preserved, and that because of the wanton and deliberate destruction of such documents by Government officials of bygone days. As regards the destruction of Irish manuscripts, I take the following quotation from Mr. Joseph Salmon's valuable essay on the round towers, published in Belfast, 1886:—"The policy which the representatives of English rule in Ireland pursued towards the Welsh manuscripts, they enforced against the Irish, also visiting our native records with every species of hostility."

Dr. Rothe, Bishop of Ossory in James I.'s reign, testifies in his "Amacleta" (p. 342) that when the alien authorities became aware of a MS. history being in the hands of a private person it was immediately begged or bought, or threats were employed to obtain possession of it if other means failed, so that a man's life was endangered by resistance to their will. He names Sir George Carrew, Governor of Munster and author of the famous work, "Pacata Hibernia," as guilty of notorious robberies and ravages thus committed upon our written records. The destruction which this man wrought in a single province among our ancient memorials Sir Henry Sydney and other deputies extended to the entire kingdom, their conduct encouraging the belief that it formed part of their office to subvert every trace of antiquity in the country (p. 343). Dr. Lynch, who flourished under the three Charleses, avers ("Cambrensis Eversus," vol. i. p. 337) that wherever Elizabeth's troops were quartered they rifled the houses of friends and foes indiscriminately, carrying off all Irish MSS. which they could possibly lay hold of. A dearth of Irish MSS. was thus entailed to succeeding ages.

An excellent Irish scholar, Dr. W. K. O'Sullivan, in his introductory volume to Eugene O'Curry's lectures, says:—"During the first part of the eighteenth century the possession of an Irish book made the owner a suspected person, and was often the cause of his ruin. In some parts of the country the tradition of the danger incurred by having Irish MSS. lived down to within my own memory, and I have seen Irish MSS. which have been buried until the writing had almost faded and margin rotted away, to avoid the danger which their discovery would entail at the visit of the local yeomanry." Numberless cases of a similar character could be given, and were it necessary for purpose of this inquiry, the most reliable English, Welsh, Scotch, German and French historians might be quoted as deploring the loss which the history of Mediæval civilisation has suffered at the hands of official vandals in Ireland.

To those causes must be attributed the mystery and uncertainty which has hung round the tower-building period in Ireland. But in the early part of the present century, with the partial recognition of civil and religious liberty, a happier state of things came into existence. Such of the old Irish documents as escaped the vandalism of bygone days were unearthed with a new enthusiasm, and the contents critically investigated and translated by O'Donovan, O'Curry, Petrie and others of lesser note. Many beliefs entertained under circumstances of less enlightenment were dissipated as devoid of foundation.

Famous amongst the ancient remains whose history had been enshrouded in darkness (a darkness, it might be said, rendered thicker by each succeeding hand which had attempted to dispel it) were the round towers, and to divest them of their robe of obscurity may rank among the greatest achievements of modern archæological science. Mr. Gladstone's Government in 1869 added a clause to the Church Disestablishment Bill, setting aside a small sum of church surplus fund to be applied in preserving Irish national monuments of architectural and historical interest, and about twenty-five monuments were scheduled in connection with this Act. Sir Thomas H. Deane (then Mr. Deane, R.H.A., architect) was appointed by the Treasury Superintendent of the National Monuments, in conjunction with the Commissioners of Public Works in Ireland, who got control of the funds. Several other monuments have in subsequent years been added to the original list, embracing nearly all the ancient buildings in the country worth preserving, including the principal round towers.

* A paper read by Mr. Antony Scott, M.S.A., at the meeting of ne Society of Architects on April 27.

It has been to me one of the most pleasing duties of my life to superintend for a period of twelve years the restoration of these ancient towers and temples of past ages—to trace in the ecclesiastical ruins the rise, development and transition from the primitive tiny quadrangular church with its western doorway, having inclined or sloping jambs, to the beautiful groups of Romanesque monastic buildings of more modern times. This was a pleasing study so far as marking the rise, progress and development of early Christian architecture was concerned, in the same way as we follow Fergusson and other writers of architectural history, who commence with man's primitive efforts to build in stone.

So far as stone-built churches are concerned, there has been no controversy, for all are agreed as to their being the work of the early Christians; but it is not, nor has not been, so with the circumjacent towers, around which so much doubt and uncertainty hangs. It was these buildings which attracted my attention most in consequence of this uncertainty and doubt. If they were the work of a period much earlier than Christianity, I felt sure they would bear the impress of some distinctive features not to be found in the work of more modern times. I provided myself with Dr. Petrie's exhaustive inquiry into the origin and uses of the round towers, Canon Smiddy's, O'Brien's and Keane's works also on the subject, and in this way I commenced a study of these curious buildings which appear to have puzzled generations of Irish historians and archæologists, as well as writers and historians of other countries. I may be pardoned if, after years of close contact with these buildings, I have formed and now give expression to very decided opinions as to the period of their erection.

(*To be continued.*)

SOCIETY OF ARCHITECTS.

THE members' annual dinner of this Society was held on Wednesday evening last at the St. James's Restaurant, Regent Street, W., the president, Mr. T. W. L. Emden, J.P., L.C.C., in the chair. The Lord Chancellor, who was unavoidably prevented from being present, sent a letter of regret. There was a large attendance; among those present were:—The Right Hon. E. Carson, Q.C., M.P., Mr. J. A. Rentoul, Q.C., M.P., Sir James D. Linton, Sir David Evans, K.C.M.G., Very Reverend Dean Langton Geo. Vere, Mr. T. L. Corbett, L.C.C., Messrs. W. T. Madge, C. Martin, J. Classon Preston, A. Murray (City architect), Joseph Randall, C. Welch, M.A., P. A. McHugh, M.P., H. J. Holloway, Ellis Marsland, the Rev. H. G. Pulley, M.A., S. F. Hooper, M.A., J. B. Clark, M.A., C. Berry and A. Mercer, M.A., Messrs. W. C. Williams, O. Marsland, G. Adams, S. Marsland, A. E. Mullins, T. Tofts, F. Sills, Silvanus Trevail, J.P. (vice-president), H. G. Quartermain, Lieut.-Col. Leslie, R.E. (vice-president), Messrs. A. Scott, W. A. Scott, J. Bartlett, D. A. Findlay, A. W. Roques, S. T. T. James, R. T. Symonds, C. E. Butcher, W. Cooper, F. Vallance, J. P. Smedley, W. Lockwood, F. Macey, S. H. Egan, Edgar Farman, W. R. Mallett, G. G. Pye, E. G. Pye, J. H. Richardson, W. Scott Deakin, A. Quartermain, J. Manning, A. R. G. Fenning, E. E. Barks, A. L. Brohier, A. H. Coyle, W. H. Haskins, C. A. Bassett Smith, T. R. Richards, B. R. Tucker, S. C. Cane, F. R. Ohlson, C. F. Skinner, G. H. Seavey, C. Day, E. J. Hammond, G. E. Bond, Dr. Peake, Captain A. M. Leslie and Mr. C. McArthur Butler (secretary).

The toast of "The Queen," proposed by the President, was honoured in the usual loyal manner, and with a vocal accompaniment.

Sir David Evans, in proposing the "Houses of Parliament," said it was not for him to say whether reform was necessary for either of the Houses. If the higher House needed reform, perhaps the lower House did also; but whatever were the faults of these two assemblies, it was evident that as long as they had so many distinguished members of Parliament, so long would the joint endeavours of both Houses meet with the approval of the Empire. They had three distinguished members of Parliament among them that night.

The Right Hon. E. Carson, Q.C., M.P., in responding, said he found himself in a somewhat congenial atmosphere, and it was only natural, for he was the son of a member of the great and noble profession of architecture. In fact, for a time he did study Corinthian and Ionic columns, and had even tried to read plans, but he had not pursued his studies very long. The time he had spent at architecture he did not, however, consider wasted. The first brief he held had to do with architecture and building, and he found his technical knowledge of the subject a great help for getting round the idiosyncrasies of judge and jury. In replying to the toast he had to be impartial on all sides, and he was thus confronted with a difficulty. The House of Lords was presumably an ancient and noble structure, and he did not know whether its architecture could be improved upon; but, taken as an assembly, it had been helpful for the present prosperous cor tion of the Empire. The House of Commons were the rep sentatives of the people, and so long as the members fulfil their obligations towards the people, so long they perform their duty as men. He was not sure that either House l done much for architecture, or had even discussed the quest as to a greater symmetry of the buildings which might ad their cities. A Scotsman did once in the House put a quest as to who was responsible for certain inartistic gargoyles wh had been set up. The First Commissioner of Works, w replied to the question, said that he was not responsible any ugly appearances either outside or insi de the House.

Mr. Manning gave the toast of "The Clergy." They w a body, he said, who were the guardians of some of the b buildings in the land, and men who generally appreciated ability and wisdom of architects.

The Very Rev. Langton Vere and the Rev. H. G. Pul responded.

"The London County Council," a toast proposed by M Ellis Marsland, was responded to by Mr. T. L. Corbett, L.C Mr. Corbett said, in the light of some recent architectu criticism which had been passed on the efforts of the Cou Council, it required courage for a member of that body appear before a society of architects. He could only pr himself, however, that the tide of criticism had rolled fart down the Thames.

Mr. J. A. Rentoul, Q.C., M.P., proposed the "Society Architects and Architecture." He said there was abund proof that architects were worthy of the toast, and they h many claims to respectability. Their president had the hon to be the brother of a county court judge, and Mr. Carson w the son of an architect. The architect was even mentioned literature. The greatest writer in English had sketched ma characters, but one of his strongest was Pecksniff. It w lamentable, notwithstanding these great claims to a promin place as a profession, that architectural works of past a which existed to-day could not be equalled by modern tim This showed that architecture was not a progressive a whereas law had progressed, indeed to such a degree tha sometimes became bewildering. Speaking seriously the speal said it was to be regretted that an architect had more often work for his living than for his art, and sometimes even for t smiles of a patron. This was not an encouragement for gr work. There was no building more condemned than the L Courts. Where did it fail? The rule laid down in its c struction was that there should be easy access to each roo and it was thus the fault rested with the man who made t rule which spoilt the architectural work.

The President, in reply, said the Society's purpose w first and foremost for the registration of architects, which wo give the profession a better standing. The result of suc measure would also do much to prevent what was wrong a false in architecture. The profession also felt the necessity an authority that should deal with the way in which build should be carried on to benefit the public at large. Archite felt the hardship of dealing with several bodies on such poi and their Society wanted to make the law dealing with su matters more simple. In Scotland the Guilds Court was a to deal satisfactorily with such questions, and on much the sa rules it would answer in England. Whatever benefited t profession benefited the public at large.

Mr. Silvanus Trevail, who proposed the "Arts and Cra allied to Architecture," spoke of the meanness in ornament the public buildings, and hoped that with the new Governm buildings which were to be erected, more would be done towa their embellishment in the way of sculpture.

Sir James D. Linton, who responded, said, when he recal the position of the allied arts and the advancement that l been made by private means and opportunities in spite of ma drawbacks, they had much to be proud of. The relation of decorator and the architect was an interesting point. It h been said that the decorator should be under the direction the architect. That was a right conclusion, but it should n exist, because in the old days there were no painters or deco tors who were not just as able architects. Among a num of instances the name of Michel Angelo might be mentio as a painter or decorator-architect. There was a difference feeling among architects and painters, and by closer comra ship painters desired to overcome this difficulty.

Mr. Joseph Randall also responded.

The toasts of "The Visitors" and "The Press" followed

A charming musical programme under the direction Mr. Albert Fox gave a further stimulus to a very succes evening.

The Autumn Congress of the Sanitary Institute will held this year in Southampton, by invitation of the Mayor a Corporation, commencing on August 29.

THE DECORATION OF ST. PAUL'S.

THE following protest has been sent from the Society for the Protection of Ancient Buildings, 10 Buckingham Street, Adelphi, W.C. :—

To the committee for the decoration of St. Paul's Cathedral.

"My Lords and Gentlemen,—The Society for the Protection of Ancient Buildings is very anxious to urge upon the committee for the decoration of St. Paul's Cathedral that the work has now reached nearly the only point which will occur of resting and reconsidering their aims.

"At the present time the nave and the transepts in a large degree represent the church as left to us by Christopher Wren; any injuries which these great portions of the building have sustained have been very much of the nature of accidents done in what we may call the days of ignorance, they have not been parts of a deliberate scheme for altering the general character of this great interior. Moreover, it is quite consonant with now ruling ideas of propriety to subject the eastern limb of a church to treatment separate from the nave and transepts, so that, as we have said, the work of decoration could be concluded now without any sense of incongruity arising from a supposed lack of completeness. This course the Society ventures most respectfully and earnestly to urge upon the committee as opposed to any course in the nature of a compromise —such as continuing the works on a tentative or less extensive scale. The thing most worth considering is, in the opinion of this Society, how to preserve a large portion of the building in the state in which we of this generation have known it, with all the effect of spacious restfulness, so greatly due to the soft mellow colour of its magnificently wrought masonry.

"In speaking thus the Society does not refer only to the mosaics, but to all the works which have for their aim, not the protection and care of Wren's work, but the correcting and improving it, as is supposed, into something better.

"There is evidence on the north-east pier of the dome that it is intended to run an iron verandah railing all along the great cornice, and to do this would be such a fatal worrying of the interior that we can hardly suppose the committee will consent to it now the trial piece has been put in position.

"The retention of the plain white glass in the remaining windows, the Society considers, is of the utmost importance—first of all from its authenticity and from the character and feeling agreeing with Wren's work, of which it is part, and secondly from the need for white light not only for its own sake (and that is evident enough), but so as not to alter the lovely colour and tone of the ancient stonework.

"Any tampering with or wounding of the surface of this stonework comes as a shock, even if it be though so small in degree as the insertion of the bracket under Mr. Watts's picture.

It is not a part of the duty of this Society to criticise the mosaics and colour decoration on their merits, but simply to point out that they are revolutionary beyond all anticipation of probability, and entirely destructive of the ancient character of reverential peace possessed so lately by the Cathedral of London.

"In conclusion, the Society ventures to hope that its well-known interest in the preservation of ancient buildings will be considered a sufficient justification for troubling you with this communication.

"Signed on behalf of the Society for the Protection of Ancient Buildings.

"Essex E. Reade, } Honorary
"Geo. Rutter Fletcher, } Secretaries.

"April 21."

GLASGOW ARCHÆOLOGICAL SOCIETY.

THE monthly meeting of the Glasgow Archæological Society was held at 207 Bath Street, on the 20th inst. Principal Story presided.

Mr. P. MacGregor Chalmers read a paper on "The Early Fabric of the Cathedral, with Notes of his recent Excavations." A short historical sketch of the early structures was given, bringing out prominently the probable relationship of each to the site of St. Mungo's Altar in the saint's own church. Under this altar doubtless the saint was buried. The site may be recognised to-day in St. Mungo's Shrine. The church—the choir only—founded by Prince David, was described as being necessarily in the Norman style, of the type of Dunfermline Abbey, or of much of the work at Durham. This choir must have been destroyed at an early date, since there is evidence that a second choir was erected in the time of Bishop Ingeham (1164-74). Of this fabric an interesting fragment remains in the old wall shaft in the lower church, marking doubtless one of the angles of the apse of this early south aisle. To this choir Bishop Joceline began to add a nave. Wynton says he enlarged the church in 1181. As the choir was again destroyed this work was interrupted. Of Bishop Joceline's restoration a great deal more remains than is currently supposed. The north wall of the north aisle, the lower part of the north and south transepts, the general arrangement of the present vaulted landings leading to the aisles of the upper church, and almost the entire south aisle of the lower church, with its walls and vaulting, are of this period. This part of the description was assisted by a series of large drawings of all the mouldings. The object of the recent search under the floor of the cathedral, which was undertaken by permission granted by the Government, was to determine if, happily, any part of the ancient foundations had been allowed to remain. As a preliminary to this description, Mr. Chalmers indicated the results of a similar search at Jedburgh Abbey carried out by him some time ago by the kind permission of the Marquis of Lothian. At Glasgow the search went to prove that all the old foundations had been removed. It was doubtless found necessary to do this owing to the method adopted for the foundation of the present cathedral. It was found that the pillars are not carried down below the pavement level as pillars. A great wall, about 8 feet thick, seems to run continuously the whole length of the choir from east to west. It goes down a great depth, and reaches, at the top, to within 9 inches of the floor. The four pillars of the shrine are also founded upon a four-square wall. One of the other interesting discoveries was the finding of two of the original glazed red brick floor tiles. These were exhibited at the meeting, and were compared with almost identical tiles found at Glenluce Abbey, which Mr. Chalmers is at present engaged repairing. A series of interesting photographs were shown. These included one of the painted panels on the vaulting of the church. This contained four of the ten commandments. The fourth reads—"Remeber thow keip holy ye Saboith day." The last photographs shown were several of the remarkably beautiful carved bosses in the lower church, each carved with a beautiful face, undoubtedly portraits. The identification of the persons represented was to a large extent free from difficulty. One is a portrait of Bishop William de Bondington, who built this part of the church; another is a portrait of King Alexander II., who died in 1249. The other two portraits, those of a man and a woman, may be identified as Isabella de Valloniis, lady of Kilbride, and Sir David Comyn, her husband. These carvings are unique in the cathedral. They can hardly be considered in any other light than as a record in stone of a great benefaction. Mr. Chalmers referred to other such records in the cathedral. Isabella de Valloniis granted her "whole land which is called the forest of Dalkam" to the bishop and the church of Glasgow, before 1250. The charter was confirmed by John de Balliol on September 14, 1250.

CRYSTAL PALACE ENGINEERING SCHOOL.

THE certificates awarded by the examiners for the Easter term of the Crystal Palace Company's School of Practical Engineering were presented on Saturday in the lecture theatre of the school. Sir John Jackson, F.R.S.E., associate of the Institution of Civil Engineers, took the chair. Mr. R. G. Hodson, superintendent of the Crystal Palace School of Art, Science and Literature, read the lists of awards and the reports of the examiners.

Before presenting the certificates Sir John Jackson said he was delighted with what he had seen in the school, particularly in the mechanical workshops. In his opinion no engineer had had a sufficient training unless he had spent a considerable time in workshops or on works in progress. To show the advantage of practical knowledge, he said an engineer gave a drawing to a contractor for an iron bridge, saying that it must be strictly followed, and was greatly surprised when the contractor pointed out that when certain rivets had been put in the man doing the work would be caged up. He (the chairman) spent three years in an engineering factory before taking the civil engineering course in Edinburgh University. He had always looked upon those three years as a most useful training. Those who would have to do with workmen in later life would find workshop experience important. But on the whole, perhaps, it was better to get the workshop training in a school like this at the same time that they were getting their class-room training.

Mr. J. W. Wilson, principal of the school, in thanking the chairman for his attendance, remarked that many old students had posts in Africa, and that one of them, Beringer, was engaged in carrying out Mr. Cecil Rhodes's trans-continental telegraph line.

The Chairman, in replying, said that when he was at Edinburgh he had three intimate friends among the engineering students. One of them tried his best to be an engineer, but he was not made for that vocation, and he then turned his attention to literature, in which he reached the top. That student was Robert Louis Stevenson.

The Design of Mr. W. V. Gough has been adopted for the new Free Library in Bristol.

NOTES AND COMMENTS.

IN connection with the Paris Exhibition of 1900 several international congresses will be held. There will be twelve principal sections, and the subdivisions will afford opportunities for many varieties of meetings. The sections are education, fine arts, mathematical sciences, physical and chemical sciences, natural sciences, medical sciences, applied mechanics, agriculture, political economy, social sciences including sanitation, colonisation and geographical sciences, industry and commerce. Religious and political subjects cannot be discussed at any of the meetings. The International Congress of Architects will have for president M. ALFRED NORMAND; vice-presidents, MM. FRANTZ BLONDEL, CHARLES LUCAS, OCTAVE COURTOIS-SUFFIT; general secretary, M. MAURICE POUPINEL; secretaries, MM. GEORGES ROUSSI, HENRI PUCEY, ALFRED NEWNHAM; treasurer, M. CHARLES BARTAUMIEUX. The five members of the permanent committee with other additions form an executive commission as follows:—MM. CHARLES BARTAUMIEUX, FRANTZ BLONDEL, ADRIEN CHANCEL, OCTAVE COURTOIS-SUFFIT, HENRI FERNOUX, C. M. GARIEL, ALPH. GOSSET, FRANTZ JOURDAIN, LÉON LABROUSTE, EDOUARD LOVIOT, CHARLES LUCAS, ALFRED NEWNHAM, ALFRED NORMAND, J. MAURICE POUPINEL and GEORGES ROUSSI.

AMONG the few enterprises in which Irishmen, without distinction of creed, race or party, would unite is the supporting of the memorial to the Treasury praying that the Civil List pension of 100*l.* per annum, which was enjoyed by the late Mrs. HOGAN, widow of the Irish sculptor, JOHN HOGAN, may be continued to his three daughters. Two of these ladies, who are well advanced in life, are invalids, and the third is occupied in personal attendance on them. The story of the father's life must always find a place among those which relate to the vicissitudes of genius, and is not without interest for our readers. He was a builder's son, and was born in Tallow, co. Waterford, in 1800. It was a strange place to produce a being who was to be endowed with a Greek's sense of severe beauty, but hardly more so than was Ennis, where another artist with the love not only of form but colour, WILLIAM MULREADY, was born. Nature has freaks of dropping seeds on unsuitable soil. HOGAN'S father aspired to see his son "a gentleman," and when he was twelve he was placed in an attorney's office in Cork. In that city he saw a famous collection of casts belonging to GEORGE IV., and by which MACLISE, FORDE, O'NEILL and others educated themselves. HOGAN also drew them, and as THEMIS is jealous, he was declared to be unfitted to fill up forms of summons and process. Fortunately he was able to obtain employment from Sir THOMAS DEANE, who was then and long afterwards the chief architect in the south of Ireland. HOGAN'S ability was perceived, and he was enabled to prepare models for carvers. When he was twenty-three a carving in wood by him and models of other works were seen by Mr. CAREY, who was one of the few art critics of the time, and he appealed so powerfully to amateurs that a sum of 250*l.* was obtained to enable HOGAN to visit Rome. He made the ancient city his home until 1848, when the political disturbances compelled him to try his fortunes in Dublin. He produced works which were equal to any by THORWALDSEN or GIBSON, but as they were mostly for Irish patrons there was the inevitable difficulty about paying the price agreed upon. The ecclesiastics were the most unsatisfactory of all his patrons in that way. When HOGAN settled in Dublin a suspicion arose that he belonged to the revolutionary party in Rome, and he was not welcomed as he merited. Commissions on which he had a right to count were sent elsewhere, regardless of the consequences which were to arise from setting up terrible figures like that of MOORE, the poet, in the streets. HOGAN'S heart was broken by the conduct of his countrymen, and he died in great poverty. The Government came to the rescue of his family with a pension of 100*l.*, and on it they have lived. The sculptor was a man of whom any country might be proud, and we hope his tragic history will not be supplemented by a record of his survivors' dependence on public charity. The collection of casts from his works which can be seen in Cork is the best evidence of HOGAN'S genius, and should be enough to satisfy the most exacting critic of the sculptor claim to be ranked among great artists. As such there is duty from the country to his representatives.

IN England we do not expect to see philanthropi building societies described as "licensed victuallers," bu the law in Ireland compels the use of the phrase. Ther is an "Association for the Housing of the very Poor," an it has a wide field for its labours in Dublin. At preser there is not money enough to start a building, and mear while an effort is to be made to acquire buildings and t put them into habitable condition. But many people hav hesitated to support the venture because in the memorandur of association the words "licensed victuallers" appear There is no intention of selling intoxicants, but the solicitor insisted on the insertion of the words in order to give th company power, should occasion arise, to acquire licensed premises in connection with suitable blocks of houses. I the St. Giles's district many houses were transformed, bu we never heard of Miss OCTAVIA HILL finding it necessar to become a victualler. We suppose they are stronge sticklers for the letter of the law in Dublin than in London

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FORTY or fifty years ago the late JOSEPH WOLF, who died on the 20th inst., was one of the specialists for th illustration of books and periodicals. For drawing some varieties of birds he was without a rival. There was no artist of the time who was better able to represent the delicate plumage of birds of paradise, and he was therefore much in request for such splendid works as those produced by Mr. GOULD, Mr. GOSSE and Mr. GRAY, which are now o enormous value. He also illustrated several other works in which birds or wild animals were described. LANDSEER testified to his remarkable powers and accuracy. By birth he was a German, and was born near Coblentz in 1820 In his youth he exemplified the passion which Mr. RUSKIN desired to see among Englishmen—that is, the drawing o birds instead of shooting them. He was apprenticed to a lithographer, and as soon as he became competent he was entrusted with the decoration of a large book on falconry by Professor SCHLEGEL. His success obtained for him an invitation to this country, and for fifty years he was appre ciated as he deserved. His water-colour drawings were exquisite, but as they were treasured by collectors they were rarely seen in auction-rooms. Although the public were not acquainted with his work in colour, there are severa books which will always be prized for the illustrations which the genial artist furnished them with.

PARIS without its equestrian statue of JOAN OF ARC in the Place des Pyramides hardly appears to be itself. Of late years there was no work which attained more popularity. All parties felt kindly disposed towards the heroic girl, and among the numerous representations of her that is the most popular. The second version which M. FRÉMIET produced, and which is set up in Nancy as if defying Germany, has not appealed with equal force to popular sympathy. It was necessary to temporarily remove the equestrian figure which is so dear to Parisians. It was in danger. The ground of the Place had to be opened for municipal works, and it was found the pedestal had afterwards settled. That might impose a strain on the bronze, and be injurious to M. FRÉMIET'S work. Until there is an assurance of security the horse and rider will remain with the founder. The sculptor will take advantage of the opportunity to apply a new coating which he believes will preserve the bronze and restore it to its original condition. It would be an advantage if the authorities in London and the provincial cities could borrow M. FRÉMIET'S new patina, for the English climate is merciless towards bronze statues.

ILLUSTRATIONS.

THE PLEIADES OF PROGRESS.

CATHEDRAL SERIES.—DURHAM: FROM LANDING STAGE.

SHIPLAKE COURT, HENLEY-ON-THAMES.

MANSION, QUEEN'S GATE, W.

AUSTRALIAN ARCHITECTURAL NOTES.

[From a Sydney Correspondent.]

ALTHOUGH a distinctly Australian style of architecture has yet to be evolved, many of the public and private buildings in the leading colonial cities display an amount of taste, and even elegance of design, for which a stranger would hardly be prepared. There is, perhaps, too much imitation of European work, but there are not wanting indications of a tendency to depart from the conventional, and adopt styles harmonising with Australian climatic conditions.

In New South Wales, the paradise of colonial architects, the earlier buildings were constructed in accordance with climatic requirements, the principal features being broad verandahs and dark rooms, the latter being supposed to exclude mosquitos, which they did at the cost of fresh air and ventilation. Later on the broad balcony was introduced, but colonial architects, finding their way from the United Kingdom, instead of adopting the bungalow principle in preparing their designs, had resource to styles with



Court House, Darlinghurst, Sydney.

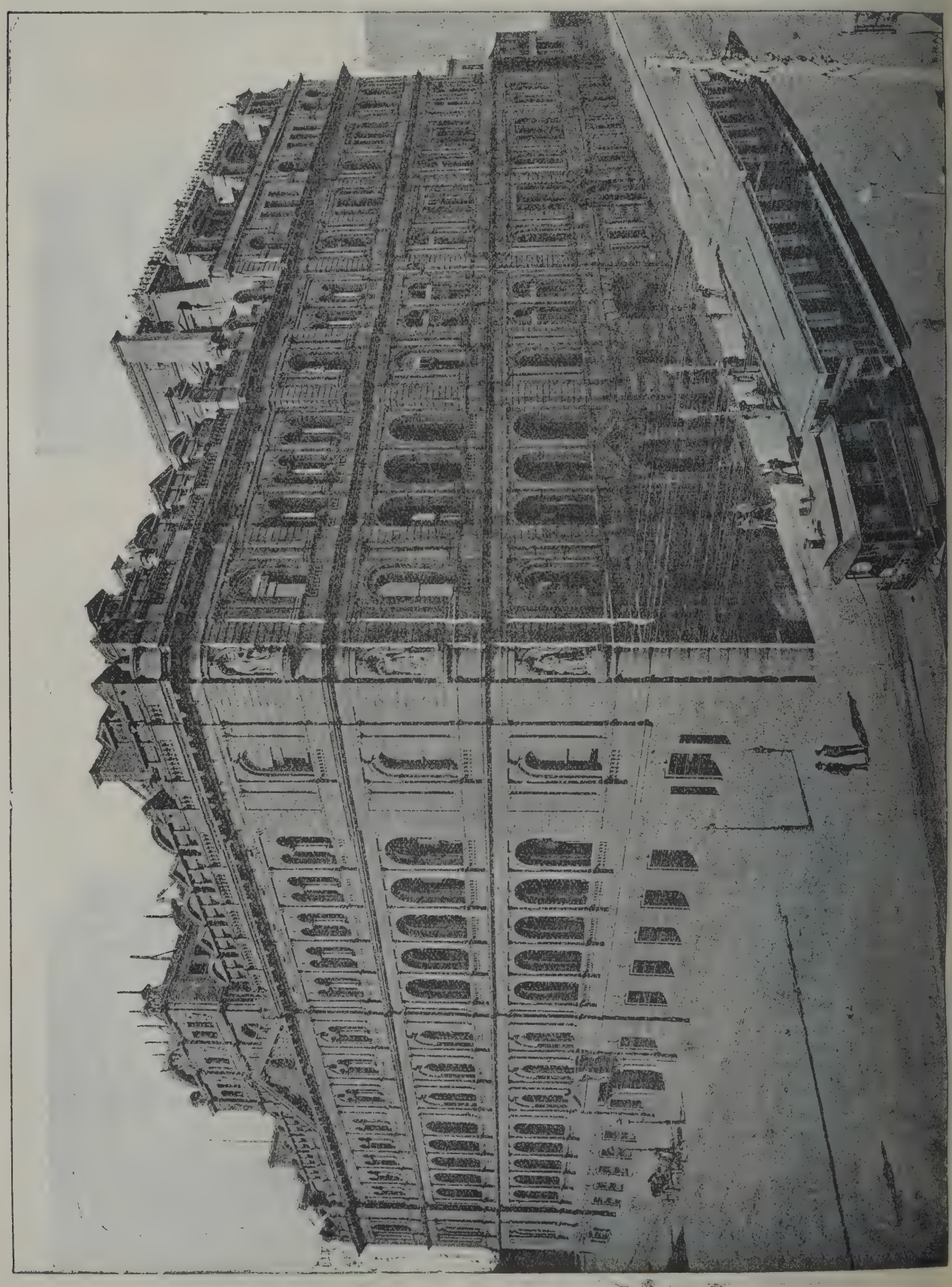


New Police Court, Sydney.

which they were familiar in the mother country, but which were somewhat out of place in a country like Australia. The court-house at Darlinghurst, Sydney, affords an illustration of this. Although designed from Classical models, it is a dull, heavy-looking affair, with a badly arranged interior. It is not a prison; it is simply a place of trial, adjoining the principal gaol in the colony. In later structures of a similar class the Italian style has been largely used, with a view to securing an air of lightness combined with strength and durability, an example being afforded by the recently constructed police court in Sydney.

In the public buildings of the colony the use of loggia in place of the balcony is especially noticeable. The Public Works Department, Sydney, is a characteristic illustration of this. Unfortunately the interior, a perfect chaos of narrow, dark passages, inconveniently placed staircases and ridiculously small chambers, is less impressive than the exterior. There are, however, two or three rooms of fair proportions, in one of which the meetings of the Colonial Executive Council are held.

(To be continued.)



THE SOUTH LONDON ART SCHOOL.

THE following is the report of Mr. John Sparkes to the Governors of the City and Guilds of London Institute on he South London Technical Art School for 1898 :—

The most peculiar feature of the year's history was the ompetition for a travelling studentship among the past holders f the 100*l.* scholarship, which resulted in the selection of Mr. Bramwell as the best of the competitors. Mr. Bramwell has ravelled abroad during five months, he has seen the principal istorical buildings and collections in Italy that have a bearing n the art of the world—having spent three months in Naples, Rome, Milan, Venice, Genoa, Perugia, Arezzo, Siena and Florence. In all these places, rich with objects and buildings hat have been, and are, the sources of vitality in the growth f all the arts in Europe, he has sketched with discrimination, nd further has very wisely provided himself with the ecessary material and experience in the use of it, to ake photographs of those details or masses that are difficult o represent in a sketch without an abundant amount of ime. He has also expended some of his allowance in he purchase of photographs of such objects or buildings that ave been recorded by that method. After leaving Italy he ent to Germany and studied in Zurich, Munich, Dresden, Breslau, Berlin, and returning through Brussels completed hat must certainly be an education in the object lessons of is art, that will stimulate his artistic gifts and guide them in eir development. Mr. Bramwell had the advantage of aving had a very thorough training in the art and technical ections of his craft, and to him a journey such as he has ade comes to confirm him in good methods, and what is also nportant, to give him the inestimable advantage of studying e true local aspects of what is questionable or bad in the rts of the ages of decadence. While abroad he met Mr. utland, who was able to travel with Mr. Bramwell with the ratuity this committee had voted him as a recognition of his erseverance in the last five annual competitions for the holarship. He, too, has made his journey by way of Paris nd Dijon to Turin, Pisa, Rome, Naples, Siena, Florence, istoja, Bologna, Padua, Venice, Brescia, Verona and back by Milan and Paris. I have asked these scholars to write a short port of their travels, with the view of putting on record their periences.

They met in Florence Mr. Turner, a past student of the hool, who is travelling in Italy with the 200*l.* scholarship of e Royal Academy—this is an additional privilege that is warded with the gold medal of that institution. Besides the reat prize of the gold medal and the above scholarship, Mr. urner took the silver medal for the best three figures modelled om the life, which carried with it 50*l.* His work was so autiful and academically so correct as to encourage the lief that in a few years Mr. Turner will be in the foremost nk of our artists. Further, they also met Mr. Watson, who as travelling with the 50*l.* scholarship awarded by the South ensington authorities in connection with the Royal College Art. Mr. Watson was for some time a student of the uth London School in the painting and figure classes. It ems worth noting that Mr. Watson's ambitions as a painter id designer have received such an important stimulus.

I have dwelt somewhat at length on the very valuable ljunct to the great educational advantages offered by the uth London School these travelling scholarships afford, in e hope that they may be repeated occasionally, as I am rtain that no greater or better form of education exists than avel, when the student is sufficiently forward in his studies and ilful in his craft to profit by the great lessons that are thus ught him.

There are six students who hold a scholarship from the unty Council of 20*l.* a year for three years, and two others ho hold a scholarship of 10*l.* for two years.

I attach Mr. Frith's and Mr. Tyrrell's reports, which deal th the present condition of the classes, and confirm my own pression of the great advantage of foreign travel.

During the year the students have been aided by critical vice on their sketches by many gentlemen of position and gh practical experience, and thanks are especially due to essrs. Harry Bates, Gascombe John, Stephen Webb, Roscoe ullins, Stirling Lee, Edward Lauteri and W. Brindley for eir kindness in coming to the school and giving their best inion on the work submitted to them.

Mr. Frith writes :—

"I am pleased to be able to report that the attendance at e modelling classes of the above during 1897-98 has shown an crease on previous years ; this is especially gratifying when is remembered there are now several more schools within each of the district than was formerly the case.

"The sketch club has shown an increase in the number of ontributions at the monthly meetings.

"The life class is quite the largest we have had, and the ork is of a good and promising character.

"The success of Mr. Turner in gaining the gold medal of e Royal Academy has had a good effect, both in demonstrating the value of earnest, conscientious study, and in stimulating others to follow him, as he also has followed those who have previously gained the same distinction.

"The career of this student should be particularly gratifying to the Council of the Guilds, as he was so situated as to be entirely dependent on his own exertions ; and his gaining the school studentship was the means of affording him the opportunity of continuing his studies in the direction where he has gained his honours and laid the foundation for what should be a distinguished and successful career. Had this studentship not been in existence, he would probably have either become a dissatisfied workman or have arrived at his present position after a wearing and enervating struggle.

"The studentship competition, it may be remarked, has each year increased in importance, and has brought out a greater amount of work, and that of a higher quality. On the last occasion there were at least three works, either one of which had quite sufficient merit to justify the award of the prize.

"The grant of the 25*l.* travelling studentship, taken as a recognition of work done will no doubt be of benefit to the school. There is often in a school a student whose abilities and personal qualities dominate to the extent of making others abstain from competing as hopeless, or they are so impressed by the odds they suppose to be against them that strained effects result in their work. An occasional consolation prize distinctly contributes to favour the quiet working that produces the best work by in a way saying, 'All is not lost even if you do not come in first.'

"The two students travelling have received an experience that should be of great value : their report will no doubt show they have endeavoured to get the fullest benefit from their scholarships.

"It seems to me that it is advisable that the granting of a travelling studentship periodically should become a part of our system, since this is well calculated to complete the education of our best students to the point at which they may safely be turned loose. It is to be remembered that although in the art they are studying much has been done, there is room for development in many directions, and much remains to be done.

"In viewing the work of other ages and countries the student will find some of the difficulties that have baffled him successfully overcome, and he will see others which have ceased to be difficulties to him in conditions where they have been abandoned as insoluble or only partially mastered ; his knowledge will be broadened, and he will gain the hope, confidence and discrimination best suited to inspire, invigorate and guide him in his career.

"The exhibits at the Royal Academy numbered about twenty, several of them of the first importance, as Mr. Frampton's 'Memorial,' Mr. Gascombe John's 'Elf,' and Mr. Pomeroy's 'Perseus,' &c.

"Mr. Frampton is engaged on a statue of Her Majesty the Queen and other works, Mr. Bates on a companion monument to his 'Lord Roberts,' Mr. John on a statue to the late Duke of Devonshire, for Eastbourne. Mr. Tweed has just finished the models of some important reliefs for a monument to Cecil Rhodes. Mr. Allen has just completed his two panels for St. George's Hall, Liverpool, and others. I believe all are in their degree making the best use, according to their opportunities, of the abilities the school has in the first instance assisted to develop."

Mr. Tyrrell reports :—

"I am happy to say the past session has been marked by increased attendances in both life and ornament classes. The sketch club has also shown great energy.

"One student—Hartwell—has gained admittance to the Royal Academy schools.

"Two others have been entrusted by architects to carry out work on buildings—Broadbent, on some schools at Brighton, and lately interior decorations for the Cape.

"Lloyd, some carving on a church in Wales.

"The last Academy Exhibition testified to the activity of past and present students, twenty-one of the exhibits in sculpture coming from their hands.

"Mr. Bates, A.R.A., is busy on an equestrian statue for Bombay, with other commissions.

"Messrs. Frampton and Pomeroy are also very busy, and Mr. Allen has successfully accomplished his large sculpture panels for St. George's Hall, Liverpool.

"I may also mention that Mr. Broadbent has been appointed teacher of modelling and design at the Westminster School of Art.

"And Mr. Thomas is similarly to teach modelling and wood-carving at the Cheltenham Schools."

Mr. Fripp's report deals with his life and composition class, to which I can only add my confirmation of its zeal and hard work. The large majority of his students are seeking to make their way as illustrators. Therefore the composition class (which I take myself) is an important factor to the proper

teaching of the school. I can say that the work done in this class is really excellent, it is clever, and what is more important it is systematic and well-educated work. That we are on the right line in this regard is shown by the very high positions taken by our past students—who are now leaders of their profession.

Mr. Fripp writes :—

"It is a great pleasure to be again able to report that the work carried on in my department of the school during the last ten months has been eminently satisfactory; the attendance of the students, especially in the autumn and spring terms, has been most regular.

"Amongst our present students, two have gained County Council scholarships of 40*l.* for two years, and one, Mr. Nelson, has especially distinguished himself by obtaining an Extension, value 60*l.* for one year, taking second place on the list after a severe competition. Mr. Stevens has obtained a valuable appointment under Professor Thompson at Oxford, for three years, as an anatomical draughtsman ; Mr. Affleck exhibits three pictures at the Royal Academy and two at the Royal Institute, all on the line ; lastly, Mr. Aveline, one of our Free Students' Medallists, has obtained admission to the Royal Academy Schools, and within six months been promoted to the Upper School. Altogether the work of the school is in a most healthy condition, and is showing excellent results in response to the benefits the institution affords. I may add that the number of our students engaged in illustrative and decorative work of a high class continues to increase."

Mr. Stevens's report on the house decoration class speaks for itself. The fact that our students have to leave to take up appointments before they have received all they could get from the school is to be regretted, but as they are preferred or promoted in consequence of the knowledge they have obtained in our studios, the regret is at least modified ; but this rapid promotion deprives the class of the mature students who are so valuable a constituent of every art school.

Mr. Stevens reports as follows :—

"In making my annual report, I have to say the house decoration class is becoming more widely known and appreciated by the workmen it was formed to assist in acquiring the technical knowledge necessary for them to possess in the various branches of the trade. It is found to-day that owing to the keen competition and the improved methods of working, that practical skill and theoretical knowledge are absolutely essential to enable a workman to hold his own, and this is the more felt by that class of young men (and their number is increasing daily) who intend to make our colonies their home in the future.

"I frequently receive very gratifying information from those who have gone away of the benefit they derive from the work done at the class.

"I do not think there is anything very special to report this year—all the students have worked well, and one, Mr. W. C. Smith, has been appointed manager to the decorative branch of a firm in Sevenoaks, Kent.

"I still think it would be well to have a few large bills posted in the neighbourhood similar to those of the County Council and the polytechnics, to bring the class still more to the notice of people in the trade, for strange as it may appear, so ingrained is the conservatism in matters connected with their business, that one workman will very rarely give any information to another workman that may tend to make him a better mechanic ; they say, 'Find out, as I had to'; and so it is only by means of technical schools that these absurd barriers to craftsmanship can be broken down and the young man be given a fair chance of success on his way through the world."

I have to report that the studios and plant are in good condition, but the wear and tear is great and necessitates annual cleaning, whitewashing, painting, &c. The attendance of students has been regular and the teachers have been zealous and careful to develop the individuality of their students.

TECHNOLOGICAL EXAMINATIONS.

THE report on the work of the Technological Examinations Department of the City and Guilds of London Institute contains the following information concerning the building trades sections :—

In all branches of the building trades there has been a marked increase in the number of candidates for examination, and in most of the subjects a similar increase in the attendance of students at the registered classes. In carpentry and joinery the attendance numbered 2,837 against 2,676 last year ; in brickwork 629, against 571 ; in masonry 431, against 385 ; in plasterers' work 83, against 56 ; whilst in painters and decorators' work the attendance has fallen from 603 to 549. In all the foregoing subjects, however, the number of candidates for examination has increased—in carpentry from 1,080 to 1,224 ; in brickwork from 293 to 397 ; in masonry from 188 to 259 ; in plasterers' work from 20 to 40 ; and in painters and decorator work from 172 to 188. These results must be regarded as ve satisfactory. The percentages of passes show, too, on t whole, an improvement in the work. Specimens of practic work were sent in from 123 honours candidates in carpent and joinery, and from 46 in painters and decorators' work, which latter subject a practical examination was held this ye for the first time. For the optional practical tests in brickwo and masonry 19 and 9 candidates respectively presented ther selves, whilst 386 candidates entered for the practical test plumbers' work, which, according to the new regulations, w be made an obligatory part of the examination in both t ordinary and honours grades. In brickwork and masonry t attention of candidates is called to the examiners' request th they will state in what part of the country their experience h been gained.

The following extracts are from the examiners' reports :—

Carpentry and Joinery.

Preliminary.—Speaking generally the candidates failed satisfy your syllabus. Signs of hasty preparation were n wanting in the pupils. The candidates seemed to have co cerned themselves more with the technique of the trade tha with the principles of drawing, geometry, mensuration a mechanics, which should more properly be the object attention by an elementary candidate. There were, howeve signs in the papers that teachers are becoming alive both the weakness and to the necessity for improvement, so tha with the firm pronouncement of the views of the Institute the syllabus and examination papers as a guide, we may reaso ably hope for much improvement in the near future. We mu not omit to observe that a fair number of the papers were ve well done, and a few were extremely good.

Ordinary and Honours Grade.—On the whole the candidat show a fair knowledge of the subjects, particularly in t Ordinary Grade, although it would have been better in ma cases if the candidates had taken the preliminary course secure better draughtsmanship. In the honours grade v found that generally the practical work was good, but the were many exhibits to so small a scale that no detail could shown.

Brickwork.—There is a great improvement in the ordina grade, due perhaps to the reduction in the number of questio to be answered. Allowance has been made as much possible for local practice. Hence it will be seen ho important it is that the candidates should state where th have gained their experience. Most of the North of Engla candidates show but a very slight knowledge of cut and gaug work ; and, whether it be for hard or soft material, this shou receive serious attention. It is to be regretted, too, that few candidates show a satisfactory knowledge of the science bonding, as evidenced in most cases by Questions 7 and ordinary grade. Students should be taught to answer t questions intelligently and in the order given : thus, if the are three points in a question, they should be answered firs second, and third concisely. The honours candidates a below the standard in general knowledge, and much mo attention should be given to drawing. One candidate only w fairly successful in answering No. 9.

Masonry.

Some of the honours papers are most satisfactory, but it to be regretted that more attention is not given to the charact and composition of materials and the effects of atmosphe on them. There appears to be among some of the candidat an impression that a knowledge of materials need not for part of a mason's training, but this is very much to be depr cated. The geometrical portion of the examination paper w poorly answered, and we think that some attention might called to this fact, as it is one of the most important subjec for masons. One cause for candidates not receiving so mar marks as they otherwise might is that they do not state whe they gained their experience, and thus different local practic cannot be allowed for.

Plasterers' Work.

The standard in the Honours Grade is not so high as th of last year, though those to which first and second prizes a awarded show considerable ability, the first being very practic in its nature, probably the outcome of much experience.

The papers in the Ordinary Grade are above the average those of last year, for, though no one paper is better than the be of last year, there are in this competition several of almo equal merit with the winner of the first prize. Taken altogethe the Ordinary is a much better competition than the Honou Grade.

Painters and Decorators' Work.

Ordinary Grade.—The papers, considered as a whole, a very fairly satisfactory, a number of them showing clearly th the candidates have been instructed in a practical manner, a have been taught why the different materials used in paintin and decorating are employed, and why the successive steps

xecution of the work are taken. Many papers, however, eave much to be desired in these essential particulars, and ppear to indicate that the instruction has, to a great extent, een limited to the actual methods of executing painters' work. The answers are more unsatisfactory in the following subjects han in any others included in the syllabus :—Dryers—In nany cases the proportion in which they should be used is mperfectly understood. Distemper—There is a general want of knowledge on this subject. Writing—The form and spacing of letters is most imperfectly understood.

As this examination (Ordinary Grade) is wholly a written ne, it is suggested that teachers should themselves from time o time set questions and require written answers from their upils, so as to train them to explain clearly what they know of he subject.

Honours Grade.—While many of the papers show knowledge and training, they fall considerably short of the high tandard of excellence necessary for securing a certificate in his stage. The principles involved in the different processes of painting are, it is evident, in many cases but imperfectly nderstood.

The answers are more unsatisfactory in the following ubjects than in any others included in the syllabus :—Gilding n Glass—The best method of executing this work is not well nderstood. Decoration—The most serious shortcoming of a najority of the papers is in the theory and practice of colour nd in the recognition of the good and bad in ornament ; the ractical examination brings out these shortcomings very conpicuously. Inasmuch as the art of decoration is based upon a roper understanding of colour harmony, it is earnestly hoped hat more attention will be given to this subject in the future.

THE GLASGOW EXHIBITION OF 1901.

ON Saturday last the first sod was cut preparatory to the construction of the foundations for the International Exhibition of 1901. The site is to be in Kelvingrove Park, where the Exhibition of 1888 was held.

Before the ceremony, Mr. Shearer, chairman of the building ommittee, said that the Exhibition buildings were designed and lanned by one of their foremost and ablest architects, Mr. ames Miller, and would cover an area, including the art alleries, of about 20 acres. The architectural merit and eauty of the buildings would make them worthy caskets to old the treasures of art, science and industry that would be oured into them from all quarters of the earth. It was as yet oo early to speak of the advantages the 1901 Exhibition would ive, but of one thing he was certain, if what followed in 1888 ollowed in 1901 it would bring in its train increasing prosperity ot only to Glasgow and the West of Scotland, but to the whole ountry.

The Lord Provost (Sir David Richmond) said :—I count it great honour and pleasure to be asked to occupy the principal lace to-day. In thus inaugurating the building operations, I m sure we are all at one in hoping that the structure which vill be reared on this site will prove not only to be an object of race and beauty, but also a source and centre of instruction and ealthy entertainment and pleasure to the people of Scotland nd to visitors from all parts of the world. It is exactly twelve ears since, almost on this spot, a company similar to that which I have now the honour of addressing assembled o witness the cutting of the sod for the foundations of he Exhibition of 1888, and those of us who were present on hat occasion, and who had anything to do with the arrangeents which resulted in the magnificent and successful spectacle which that Exhibition presented cannot but recall the fact with pecial pleasure to-day. Many of the thousands of people who locked through the turnstiles during the summer of 1888 still herish the happiest memories of "The Groveries," and the mpulse which was given to the trade and commerce of Britain y that undertaking is even yet appreciably felt. When preparing for the Exhibition of 1888 we had not, as we have on his occasion, an inspiring precedent on which to base our rrangements. This was a great disadvantage, and, while we ntend to profit by the lessons which the last enterprise taught us, we shall leave no stone unturned in order to eclipse the henomenal success which attended our labours then. We are in the fortunate position not only of having the benefit of he experience of many of the active promoters of the 1888 Exhibition, but also of possessing the palatial pile of the new Art Gallery buildings in which to exhibit the paintings, sculpture work and other art treasures. The members of the various committees are not only in active sympathy with the work which they have on hand, but they possess that administrative ability which is of the utmost importance in the successful and economical adjustment of the hundred-and-one matters of detail connected with the organisation of a great exhibition. It is intended that the Exhibition should, as a collection of the industrial, scientific and art products, not only of the United Kingdom and its colonies, but of the civilised world, be made as complete as possible, and to the attainment of this result every effort will be directed. We have the promise of an important and comprehensive representation of the products and industries of other countries, notably the United States and Belgium, not to mention Canada and other British dominions and colonies. In connection with this matter it is impossible to value too highly the great assistance which was rendered by the Foreign and Scotch Offices in bringing the Exhibition officially under the notice of foreign Governments. We are also considerably indebted to our friends Messrs. Crawford, Simmons & Mason for the good service they did us in enlisting the sympathy of our American cousins. Sir John Muir and his partners are again putting the Exhibition under obligations to them in the matter of securing exhibits from India, so that, all things considered, we are entitled to look forward to an Exhibition which will rank first among similar undertakings in any part of the world. As an exposition of the natural products and manufactures of various countries, it will form an object lesson to our merchants and craftsmen, while the entertainments, sports and other attractions for the pleasure of visitors will be on a lavish and magnificent scale. We are drawing near to the close of the nineteenth century, and it is intended that the forthcoming Exhibition should illustrate as far as possible the wonderful part which this century has played in the history of mankind and the progress of civilisation. In carrying out this object the Clyde Trustees propose to show, by model, the immense change which has been effected on the Clyde as a navigable river. The fine art committee will show us what the nineteenth century has done in the direction of fine art, and the other sections will illustrate the progress which has been made in their own particular departments. The triumphs of the opening century are, likely enough, destined to surpass those of its predecessor, and it will be interesting to have an opportunity of observing what a splendid foundation the past has supplied for the inventors and discoverers of the future to build upon. The design for the buildings now about to be erected is by Mr. James Miller, and they will fittingly house the many beautiful exhibits to be shown in them. The contractors, Messrs. William Shaw & Sons (whom I have to thank most cordially for presenting me with the valuable souvenir of this occasion), were also the contractors for the Exhibition Buildings of 1888, which they erected in a very short space of time and to the entire satisfaction of the building committee, and we wish them a similar success in their present contract. The spot on which we now stand is the site of the central dome of the industrial hall, which building will occupy the whole of the ground contained in this enclosure. The machinery hall will be in the Bunhouse grounds, and these buildings, with the fine art galleries and the corridor connecting the machinery and industrial halls, will contain the various classes and special sections of exhibits.

AN ITALIAN ARCHÆOLOGICAL SCANDAL.

THE Rome correspondent of the *Times* writes :—There are as yet no signs of the report of the Government commission appointed some months ago to inquire into the charges of confusion and wilful inaccuracy currently made in archæological circles against the organisers of the Papa Giulio Museum, and formally brought forward in the preface of the last edition of Professor Helbig's "Führer durch die Sammlungen Klassischer Alterthümer in Rom." It is, indeed, generally doubted whether the report, when drawn up, will be made public. Nevertheless, the most competent archæologists seem already to have acquired a settled conviction that the upshot of the inquiry cannot be sufficiently satisfactory to restore to the museum and its chief organiser, Professor Bernabei, the scientific authority and prestige so seriously shaken by the above-mentioned charges. Some exception has been taken to the composition of the commission, on the ground that Senator Bonasi, the president, has no special qualification for the work, and that the official positions of the two technical commissioners are more or less at the mercy of Professor Bernabei, Director of Fine Arts, into whose conduct it is incidentally their business to inquire. It is objected, furthermore, that the appointment of the Government commission was only announced when the Academia dei Lincei in secret session was about to authorise a more searching investigation. Though these objections are doubtless not entirely without foundation, the high personal character of the members of the Government commission constitutes some guarantee of their impartiality in judging such evidence as they may have thought fit to examine or have been able to obtain. A more serious indictment of the work of the commission might be founded upon its neglect to visit the scene of the excavations at Narce in order to check the accuracy of the topographical and archæological illustrations and maps published under official auspices. The trustworthiness of these documents has

been very seriously impugned and can only be vindicated by a visit to the spot, a visit which the Government commission seems in no hurry to make.

The most valuable collections in the Papa Giulio Museum come, or were reputed to have come, from the groups of Etruscan tombs excavated a few years ago at Civita Castellana and Narce, in the Agro Falisco to the north-east of Lake Bracciano. As arranged in the museum they purported to be exact reproductions of the three categories of Etruscan tombs with their respective contents. From the evidence of the excavators and of the owners of land excavated, it appears, however, that by no means all the objects in the Civita Castellana collection really came from that locality, many of the most valuable finds having been sold to private collectors and their places filled by inferior objects from other places, while the objects really found at Civita Castellana were arranged in the museum in a haphazard and arbitrary fashion by Professor Bernabei and his subordinates. Still worse is said to have been the fate of the objects from the unrivalled Etruscan necropolis at Narce, a site distant some seven kilometres from Civita Castellana. This site was carefully excavated, accurate note being taken of the position and contents of the various tombs in order that their reconstruction in the museum might be effected with precision. The organisers of the museum, however, seem to have arranged the Narce objects so as to make them harmonise with the Civita Castellana jumble; certainly the contents of many tombs were interchanged, and in at least one instance a tomb was introduced into the Narce collection with which the Narce excavators are entirely unacquainted. Worst of all, the excavators' journal, containing precise data concerning the character and proper positions of the Narce objects, has been irrevocably "lost." It was consigned to the authorities at the close of the excavations for preservation in the archives of the Ministry of Public Instruction. Now that the journal is required for the purpose of establishing the accuracy or detecting the inaccuracy of the arrangement of the Narce collection in the museum it is not to be found and is stated to have been destroyed. Its absence, no doubt, prevents the production of documentary evidence of the falsification of the Narce objects in the museum, but it also precludes all possibility of correcting the alleged wilful confusion in the arrangement of the Etruscan relics.

The foregoing conveys roughly an idea of the chief issues involved in the "archæological scandal." The saddest side of the affair for archæologists is that no amount of official whitewashing and no degree of judicious silence on the part of the Government commission can restore to the Papa Giulio Museum its quondam fame as a reliable record of Etruscan civilisation. Whether or no Professor Bernabei continue to direct the Fine Art Department of the Ministry of Public Instruction, it is only too evident that the scientific value of the museum he organised will henceforth be reduced to that of a collection of objects interesting in themselves as relics of antiquity, but deprived of that ordered sequence indispensable for accurate and reliable generalisation.

ST. GEORGE'S TOWER AND SPIRE, LIVERPOOL.

In response to invitations issued by the President and Council of the Liverpool Architectural Society a meeting of members of the Society and representatives of the Historic Society of Lancashire and Cheshire and of the Liverpool Academy of Fine Arts was held last week to consider the intended demolition of St. George's Church, and more particularly the removal of the tower and spire.

Mr. W. E. Willink, president of the Architectural Society, explained the origin and progress of the movement for the removal of St. George's Church, including the recent decision of the city authority to include the demolition of the tower and spire. The members of the Architectural Society considered that in the interests of their art they should get this decision of the City Council reversed. They had also thought it desirable to invite representatives of the Historic Society of Lancashire and Cheshire and of the Academy of Fine Arts to attend the meeting and join them in their efforts to reverse the decision. When they had a good thing in the city it was a great pity they could not keep it. The loss of that building would be one which they would not lightly repair.

Professor Simpson read letters of apology which had been received from those unable to attend the meeting. The Bishop of Liverpool, in the course of his letter, said he thought it very unlikely that it would be a popular step to pull the church down in the manner proposed, especially when nothing better could be put in its place. Mr. R. D. Radcliffe, hon. secretary of the Historic Society of Lancashire and Cheshire, hoped the tower and spire would be preserved, and that a tablet would be placed thereon recording that the altar of the church, of which it was the only remaining portion, stood on the site of the altar of the chapel of Liverpool Castle, the oldest ecclesiastical foundation in the town—at least such was the firm conviction of the late Mr. E. W. Cox. Mr. Morrison, president of the Academy of Fine Arts, wrote wishing all success to the meeting. Mr. Burridge, head master of the School of Art, sympathised with any effort to retain buildings of historical and architectural interest, and therefore approved of the object of the meeting. Mr. Deacon, architect, in his letter said if he were able to be present he would vote for the retention of the tower and spire. Mr. J. Watts, artist, wrote that all landscape painters must deplore the removal of the tower and spire as it was one of the few points of picturesque interest in their poor river front. Professor Simpson said he had much pleasure in moving the first resolution, which was as follows:—"That from æsthetic and historical considerations the demolition of St. George's tower and spire would be an act very greatly to be regretted." He remarked that anything that would tend to injure or destroy in any way the appearance of the town from the river was to be deplored, not only by the inhabitants and those many thousands of people who each day crossed the river, but by the numerous foreigners who came to the port. There were three very strong reasons why this portion of the church should be retained. First of all, it was the site of the old castle; secondly, it was the site of the old church; and thirdly, it would mark the site of the present church. With regard to the design, he considered that it was a marvellously fine one, quite as fine as that of many of the Wren churches. Another point he emphasised was that the tower and spire would be perfectly safe.

Mr. R. Fowler seconded the motion.

The Chairman said a letter had been received from Mr. Woolfall, vice-president of the Architectural Society. The letter was read, and in it Mr. Woolfall expressed himself as favourable to the removal of the building if the Corporation would see that the church, with tower and spire complete, was re-erected in some other prominent position.

The resolution was unanimously carried.

Mr. H. Peet (of the Historic Society) moved the second resolution:—"That the finance committee be respectfully requested to recommend the City Council to rescind their resolution of April 5 with reference to the demolition of St. George's tower and spire." He had very little to add to what had already appeared in the newspapers on the subject under his signature. There were, however, one or two things he thought he ought to mention. He thought the City Council had to some extent been misled. He was told that in the speech Sir Thomas Hughes made to the City Council, he said the expense of taking down the tower would be enormous. The contractor had offered (said Mr. Peet) a substantial sum for the tower and spire as it stood. He believed if the church were taken away and the tower left standing, and if the tower were afterwards taken away it would not be a question of 100*l.* one way or the other; the probability was it would be 100*l.* to the advantage of the Corporation. It was nearly in the middle of Derby Square, and was clearly seen from three important thoroughfares—South Castle Street, Fenwick Street and Lord Street.

Mr. H. Hartley, in seconding the motion, said an eminent expert had satisfied himself that the tower was substantially built and would be absolutely safe after the body of the church had been removed. The City Council, too, were apparently ignorant of the fact that Mr. Goldstraw, their building surveyor, after making a careful examination, found the base and the whole of the tower so strong, he had no hesitation in saying that it could stand when the body of the church had been removed. Had the Council known these facts he thought they would have voted differently on the subject.

Mr. M'Govern spoke in support of the resolution, which was unanimously carried.

TESSERÆ.

Haydon on the Academy Dinner.

Of all human farces enacted, commend me to the Academy dinner. It is unquestionably the most brilliant imposture in Europe. I have witnessed this "comédie" for forty years—the same speeches, the same healths, the same anticipation of great things, the same perpetuation of small ones, the same row of tip-toes, the same lords and ladies and chancellors, the same wigs, the same clouds, the same bits of column and curtain and red coat, the same silks, the same satins, the same doing the amiable, the same doing the intellectual, the same doing the sentimental, the same doing the dandy and the beauty—the member and the mayor, the peer and prince—the same discussions during claret on the tone of Lady Mary's bonnet and Lady Charlotte's cheek, the same heat, the same gossip, the same "Non Nobis," &c., the same "Hail, Star," &c., the same wine, the same ennui; when up they all get full of loyalty and fine arts, the ministers to their cliques, the members to their clubs, the artists to their indigestion and blue pill, those

who have no centres cursing those who have, and retiring to sleep, if they can, with vengeance in their livers, believing they have advanced high art. Tell me a vaudeville equal to this—tell me a Molière who can exceed it—tell me a delusion of Bedlam that can beat it. Would I abolish it? certainly not; abolish the Academy dinner and the next shooting season the artist would be shown to the housekeeper's table. Would I destroy the Academy? Not I; though it is a slavish organ of the vanities of fashion, it is a bulwark against its insolence. Reform it, my respectable friends, cleanse it, sweep it, preserve it, scrape it, whitewash it, remodel and reconsider its laws, fit them for the time, new fashion its constitution, double the paltry salary of its officers, unite it with the people and raise its importance, and the art will be saved and the Academy too. It is at present, with all its faults, a beautiful charity for the afflicted, and perfection itself in providing objects for the use of its funds. Its charity will always be in request whilst its despotism is never controlled, and if Europe should wish to know the secret of providing the lazar house with patients, they have only to consult the hanging committee.

The Salisbury Chapter-House.

There is no record of exact period when the interesting chapter house at Salisbury was erected. It is supposed to have been commenced a few years after the completion of the cathedral in 1258, and its design is attributed to Bishop Bridport, who died in 1262. Price in his history, published in 1753, merely affirms "that by several diligent searches into and careful inspections upon the nature of the work, I find that the cloisters, chapter house and monument room, were not begun till the cathedral was considerably advanced, because the stonework is not bonded together, as it must have been had all been carried on together, though manifestly by the same architect." But by whomsover built, it must have been in its original state, "with its central clustered columns, its vaulted roof and ramified ribs, its light, large and lofty windows, all decorated with stained glass, its sculpture and a floor paved with richly glazed tiles," perhaps the most beautiful room of its class in Europe; or as Gilpin says, "nothing in architecture being more pleasing." The only paper or notice relating to it amongst the cathedral records is the following quaint report made in 1691 by Thomas Naish, clerk of the works to the fabric, with an estimate of the charge of bringing it into good repair. "And first to begin with what threatens the suddenest ruin. The chapter house is an octagon of 68 feet diameter built with too slight abutments to support the thrust of the vaulting, the least space of time (the weight of the former being too little for the thrust of the latter) were not the springers of the vaulting braced together with eight bars of iron united at the centre, and fixed in hooks at each angle, which hooks are gutted with lead to fix them to the wall; but by the thrust of the arching several of these hooks are drawn out of their first place, some 6 inches, some more, some less; by which means the vault is spread and hath rent the walls in several places 3 inches or 4 inches wide, and drawn the columns which standeth in the middle (being not more than 16 inches diameter) about 6 inches from its perpendicular, and by a small declension further, must in all likelihood fall to the ground. The roof is also decayed, and thrusts the walls outwards and helps towards its ruin. Some of the buttresses are decayed at foot, the stones being loose or scaled by frost. Part of the walls between the vaulting and roof is by some former wet (qy. rent?) so shattered that it scarce well supports the roof. The mullions of windows also are scaled by the rusting of the iron bars that are fixed in them, and some of the tracery work like to drop by the spreading of the walls. The cure proposed is a brace of iron round each buttress, fixed to the bars which now are in the crooks, which need be 3 inches broad and 1 inch thick, and will weigh the whole eight, 2,160 lb. at 6*d.* per lb. amounts to 54*l.* An iron band quite round the chapter house on the top of the windows, of the same dimensions, will weigh 2,500 lbs. at 6*d.* per lb. = 62*l.* 10*s.* Repairing the defective part of the timber work of roof, 40*l.* Repairing the walls between the vaulting and roof, new footing the butments where decayed. Restoring the mullions that are scaled and broken, and new pointing and keying of the walls and vaulting where rent, and all mason's work, 90*l.* Total, 246*l.* 10*s.*"

English Academies.

Nothing could exceed the apathy of the English nation, touching the affairs of the fine arts, from the period of the death of Charles I to the middle of last century. Sir Godfrey Kneller had suggested the advantages that would be likely to result from a national establishment for the promotion of the arts, but it availed not. This foreign artist, however, may be said to have mainly contributed to the advancement of so desirable an object, for he promoted meetings among the artists, who resolved upon establishing an academy at their own expense, which being formed, it was held in his house, in Great Queen Street, Lincoln's Inn Fields, and they placed him at their head. This was founded in the year 1711, and there the indefatigable George Vertue studied the human figure. Sir James Thornhill had long been zealous in his endeavours to promote a similar institution for the cultivation of the fine arts, and had drawn out a plan for a royal academy, with an estimate for the building, with apartments for the professors, and suggested the site for its erection, namely, the upper end of the King's Mews, Charing Cross. This estimate he delivered to Lord Halifax, who, it appears, was inclined to promote the plan, but although the sum required amounted to little more than 3,000*l.*, the scheme failed. Sir Godfrey Kneller died in 1723, when it appears a schism arose among the members of his academy, so that in 1724 they separated; one party seceding with Vanderbank and establishing a separate academy in a building that had been used for a sectarian meeting, the other party following Sir James Thornhill, who built a large room behind his house, near Covent Garden Theatre, and procured a collection of casts from the antique, opened it as an academy, which continued until his death in 1734. Vanderbank's institution was of but short duration. On the death of Sir James Thornhill this academy was discontinued, and the members separated. But another society was soon established, principally by foreigners, who held their meetings in the house of a Mr. Hyde, a painter residing in Greyhound Court, Arundel Street, Strand. They procured living models to study from, and appointed Moser to the office of principal conductor. These pursuing their study with success, under so able a president, made others desirous of joining their friendly community, whence, their numbers increasing, they removed to St. Martin's Lane, and founded that academy so celebrated for the ingenious painters, sculptors, engravers and others who ultimately enrolled themselves in the list of its members. On the demise of Sir James Thornhill the casts from the antique, some of which were very fine, that had been used in his academy devolved to Hogarth, who had married the only daughter of Sir James. These Hogarth generously lent to the society in St. Martin's Lane, of which he had become a member, and which was the precursor of the Royal Academy

St. Mary Redcliffe, Bristol.

There are four palpable varieties of Gothic architecture in Redcliffe Church, manifesting as many architects and as many different times when they were respectively designed and erected. The inner north porch or vestibule—the tower and spire—the outer north porch—the body of the church, with the lady chapel and the south porch—were built successively, and it is generally admitted that an older church was removed to give place to the present nave and chancel, with their aisles and the transept. The oldest of these members, *i.e.* the vestibule, is of a date between A.D. 1200 and 1230. "In 1207 Lord Robert de Berkeley granted to Redcliffe Church, at the request of William, the chaplain, his fountain of water from Huge well for the friars of St. John the Baptist in Redcliffe." Lands were conferred on the same church about that time, plainly showing that there was one then in the parish. The tower and spire we may safely refer to the reign of Edward I., as corresponding with known specimens of that age. According to the chronicles of Bristol, Simon de Bourton, who was mayor in 1293, "began to build the church of St. Mary de Redcliffe when John Lamyngton was chaplain." Seyer, in his "Memoirs of Bristol" from MS. Calendar, more cautious and particular, says, "It was about the year 1293 or 1294 that Simon de Bourton, a person of wealth and consequence, who was mayor of Bristol in that year, and bore the same office six times, built the church of St. Mary, Redcliffe, where the eastern end now is." Here we find it positively stated by one writer that the church was built, and by another that it was begun, at the above date; but no part of the present church is so early as 1294.

The First London Opera House.

It was not until the beginning of the last century that Italian music had obtained so high an estimation in England as to receive decided encouragement, and even then it was inadequate to the means of providing for its support on a scale at all worthy of the country, for although its merits were acknowledged by a few, yet the science of music was not at that time sufficiently understood by the public to ensure its patronage; and after the experiment made by erecting this theatre and introducing Italian singers, at the suggestion and by the influence of Sir John Vanbrugh, the architect, who zealously employed his interest and fortune towards the advancement of the opera, it was in a few years found necessary to support the already embarrassed project by a large subscription, and which eventually received the royal patronage and that of the chief nobility. The first opera house in England was built on the site of Her Majesty's Theatre by Sir John Vanbrugh in 1704, and opened to the public in the April of the following year, and then called the Queen's Theatre. Musical pieces in English, with the occasional introduction of some Italian singers, and the regular drama became the usual entertainments; and in this way, chiefly under the management

of Sir John and Congreve the speculation proceeded heavily, and with precarious success, and it was not until the year 1720 that the opera assumed the promise of form and stability, at which time His Majesty George I. countenanced the subscription of 50,000*l.* by a liberal contribution, and which cheering example was followed by the Court. As the science of music became better understood it was the more admired, and proportionately encouraged, and as the jealousies and opposition made by conflicting interests subsided the Italian opera became established in England, and the edifice itself profited by its success. From this time the theatre submitted to various and repeated changes, under the direction of its architects, as improved knowledge or the preponderance of fashion made it needful or politic to venture upon them, until the whole was rearranged by Robert Adam the architect. The changes were not, however, the most judicious, and the house again underwent considerable alteration by Novosielski, whose qualifications were considered to be ample, from his intimate acquaintance with the economy of the stage. In the year 1789 the edifice was accidentally burnt to the ground, and in the following year the foundations were laid for a new building, from designs also by Novosielski, who, taking advantage of the space now cleared for his exertions, increased the area of the house, which heretofore had been too narrow and incommodious, and adopted for its internal shape the horseshoe form, at that time a novelty in British theatres, but practised by the Italians in their edifices.

Topographical Plans.

Ruskin, in his work on "Modern Painters," says, what the map-draughtsman may take as addressed to him, to direct his study of natural form in ideal perception:—"The task of the painter in the pursuit of ideal form is to obtain accurate knowledge of the peculiar characters of every species of being, down even to the stone, for there is an ideality of granite, and slate and marble. A bank of loose earth of any kind that has been at all exposed to the weather contains in it features capable of giving high gratification to a careful observer. It is almost a facsimile of a mountain slope of soft decomposing rock; it possesses nearly the same varieties of character." "There is an expression about all hill lines of nature, but it is not to be reduced to line and rule." "Turner's early drawings are singularly instructive in definiteness and simplicity of aim; they are little more than exquisite studies in light and shade." This should surely be the draughtsman's aim in expressing the forms of land in a map. "All forceful shadow and play of colour surrendered for quiet uniform hues of grey and chiaroscuro of extreme simplicity, proper for architectural drawings in relievo." This is exactly what should be said for the shading plans of ground in relievo. The term "form" is not to be applied to the outline of bodies. "It necessarily implies light and shade; no form whatever can be known to the eye without its chiaro-scuro, that perfect and harmonious unity of outline with light and shade by which the parts and projections of the body are explained to the eye." "The eye of knowledge is as a telescope to the common eye, by which more is apprehended than is immediately seen." Thus forms of land are seen in their origin, composition, &c., to the cultivated eye. "Truths of specific form are the first and most important of all." Under such guidance as this the map-draughtsman may both please the eye with pictural expression in grace and elegance, and the mind, which must be his chief object after all, with the information and description it requires. The subject may not be always beautiful in itself, but in reference to circumstances and associations with what is interesting and important in the knowledge of ground it may call for artistic description in a map to convey it at least agreeably and satisfactorily to the eye, and what is beautiful in a richly varied face of country may be beautifully portrayed.

Expression in Architecture.

The importance of the architect's well considering the style and expression of his building is manifest, since he is bound by the laws and spirit of his art to aim at originality. We all feel that buildings possessing a suitable expression never fail to arrest attention and inspire interest, but when they are shorn of this essential and soul-stirring attraction they are passed by as piles of hard materials and nothing else, as a dead letter, not a language. It is to be observed that the capitals of the three orders of architecture, owing to the conspicuous part they play in a building, and their being so susceptible of modified expression, with strict attention to the preservation of their original form and meaning, are admirably calculated both to receive and reflect a full impression of the character which it is sought to display; the same thing holds good in detail generally. If this be borne in mind in designing, novelty will occur as often as the destination of the building varies—and this circumstance should act as a warning to those persons who, thinking but casually upon art, are apt to taunt architects with the slavish disposition of copying the ancients, because they make use of similar elements. In the way those persons mean, the ancients were copyists also, for they the ancient repeatedly imitated themselves. When at last the elements o Classical architecture became defined, they were adopted as th elements of the art and adhered to, and to adorn them wit new and ever varying sentiment became the study of the mos imaginative amongst the ancients. Thus there are no bound to the power of invention, save those which reason alon imposes—there is absolutely no such thing as being compelle to copy; all nature tells us so. Marvellous as the economy nature is in adhering to forms created from the beginning, sti she is continually presenting us with novelty in the varie expression of those very forms. Thus as regards the huma countenance, though one and all of the millions created ar based upon the same foundation, what variety does it no present? We know the formation and construction of th features of the human countenance to have been the same fro the creation of man to the present time; the infinite variet which it exhibits depending entirely upon expression, and wh would wish for greater novelty? In this wondrous restrain which all powerful nature imposes upon herself—in this marke economy of invention it is that we see revealed much of th awful wisdom which pervades all her works.

English Oak.

The difference between the woods of the two oaks commonl seen in England is, that the grain of the wood of *quercu sessiliflora* is generally less varied and of a more uniform an deeper colour than that of *quercus pedunculata*, and with les of that laminated appearance which is called the flash, o silver grain. The trees are said to be known by the *sessiliflor* having the acorn stalks short or seated, with the leaves long while the *pedunculata* is the reverse, having the acorn stalk long and the leaves short. The acorns of the former grow i clusters of two or three close to the stem of the branch, those of the latter grow singly, or seldom two on the same footstalk The *quercus pedunculata*, or robur as it is more generally called is the true old English oak, the *sessiliflora* being supposed t have been introduced some two or three ages ago from th Continent. There appears to be much diversity of opinio among botanists and planters on the value of the timbers o these two oaks, to the same extent at least as that alread shown to have existed on the use of chestnut, and some author deny the botanical difference of the trees.

GENERAL.

The Most Worshipful Grand Master H.R.H. th Prince of Wales has been pleased to reappoint Mr. Henry L. Florence, vice-president, R.I.B.A., the present Grand Superintendent of Works, to that office in Grand Lodge fo the ensuing year.

Sir Robert Ball unveiled on Saturday a bronze table placed on 19 New King Street, Bath, recording the fact tha Sir William Herschel, the great astronomer, resided there Bath abounds in historic houses, and the Corporation recentl decided to place tablets upon a number of those formerly occu pied by persons whose claims to remembrance are world-wide Herschel discovered the planet Uranus in the back garden o that house, and on occasion he used to bring his telescope ou into the street opposite, where many of his discoveries were made.

Paris Bordone's *Baptism of Christ*, in which are seen St. John, from the bank, pouring water from a vessel over Ou Lord, an angel to the left and a group of cherubs in the sky formerly in the Palazzo Ambrosia Doria, and exhibited a Burlington House, 1877, was sold on Saturday for 1,07 guineas.

Tamworth Castle is to be formally opened to the publi on Whit Monday.

The Venice Art Exhibition was opened on Monda morning in the presence of the Duke of Genoa, Signo Baccelli, Minister of Public Instruction, the principal civil an military authorities, and a large concourse of spectators.

A Lecture will be given by Mr. Stephen Webb, entitle "Design for Relief Decoration," to the Society of Designer on Tuesday evening, May 9, at 8 o'clock P.M.

The Royal Society of Painters in Water-Colours at a general meeting on Tuesday elected Mr. J. M. Swan, A.R.A and Mr. Robert Little full members of the Society.

The Roman Remains at Darenth having ceased to be a wonder, the occupier of the soil has decided to re-cover th ruins and again devote the land to agriculture.

The Improvements Committee of the Leeds Corporation decided on Wednesday to construct a new street 45 feet wid from Albion Place to Briggate.

The London, Brighton & South Coast Railway Company have resolved to carry out improvements at the Victoria terminus which will cost 2,000,000*l.*

THE
Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to rise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

** As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s. by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

CLACTON-ON-SEA.—Premiums of 75*l.*, 50*l.* and 25*l.* are offered for designs for laying-out about 900 feet frontage of cliff, and erection of pavilion and other buildings. Mr. G. T. Lewis, Town Hall Buildings, Clacton-on-Sea.

HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* are offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed 20,000*l.* Mr. S. Stead, Municipal Offices, Harrogate.

SALFORD.—June 6.—Premiums of 30*l.*, 20*l.* and 10*l.* are offered for designs for laying-out the site of the Infantry Barracks, and for erection thereon of public hall, shops and model cottages. Borough Engineer, Town Hall, Salford.

TOTNES.—Designs are invited for erection of a cottage hospital. Chairman, Cottage Hospital Committee, Totnes.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

BANGOR.—May 13.—For alterations at the workhouse. Mr. Richard Davies, architect, Bangor.

BARNSLEY.—May 1.—For erection of a new school, class-rooms and lecture hall in Racecommon Road. Messrs. Senior & Clegg, architects, 15 Regent Street, Barnsley.

BARROW-IN-FURNESS.—May 1.—For erection of new Cookery Centres at Rawlinson Street and Holker Street schools. Mr. W. Hutchinson, School Board Offices, Town Hall.

BARTON-UPON-IRWELL.—May 2.—For execution of certain private street improvement works, in the township of Clifton, in two contracts—1. Eleven streets, containing a total length of 690 yards; 2. Twenty streets, containing a total length of 1,482 yards. Mr. J. W. Whitworth, clerk, Union Offices, Patricroft.

BATLEY.—May 4.—For additions to Highfields, Soothill. Mr. Walter Crawshaw, architect, Branch Avenue, Batley.

BATTERSEA.—June 7.—For supply and erection and carrying out of work in connection with the electric lighting of the parish. Vestry Clerk, Municipal Buildings, Lavender Hill, S.W.

BEDMINSTER.—May 8.—For rebuilding the Engineers' Arms, St John's Lane. Mr. Henry Williams, architect, 24 Clare Street, Bristol.

BELFAST.—For rebuilding licensed premises, Millfield. Mr. W. J. Moore, architect, Whitehall Buildings, Ann Street, Belfast.

BREAMORE.—May 1.—For construction of brick, concrete, and stone pier abutments, approach walls, &c., for the substructure of a bridge over the River Avon. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

BRIDGEND.—May 4.—For building a chapel. Messrs. Giles, Gough & Trollope, architects, 28 Craven Street, London.

BRIDPORT.—May 4.—For building offices, showrooms, &c. The Manager, the Gas Company, South Street, Bridport.

BRIGHTON.—May 2.—For erection and completion ready for occupation of twenty-eight five-roomed artisans' dwellings, at St. Helen's Road, Brighton. Mr. J. C. May, surveyor, Town Hall, Brighton.

BROTTON.—May 5.—For building butcher's shop, slaughter-house, &c. Mr. Arthur F. Newsome, architect, Albert Road, Middlesbrough.

BUCKFASTLEIGH.—May 9.—For building cottage. Mr. S. K. Mills, Great Western Railway Company, Paddington Station, London.

BURNLEY.—May 13.—For paving, kerbing, channelling, &c., of thirty-one streets and twenty-nine back streets. Mr. G. H. Pickles, Town Hall, Burnley.

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CARDIFF.—May 3.—For alteration and renovation of the manager's house, Roath Market. Mr. W. Harpur, Town Hall, Cardiff.

CASTLEFORD.—For building several blocks of cottages. Mr. M. Waters, 73 Albion Street, Castleford.

CHELTENHAM.—May 30.—For reconstruction of the Montpellier Baths. Mr. Joseph Hall, borough surveyor, Cheltenham.

CHERTSEY.—May 16.—For street drainage works. Mr. J. F. Stow, engineer, Windsor Street, Chertsey.

COLCHESTER.—For building a villa. Mr. J. W. Start, architect, Colchester.

CULTER.—May 3.—For constructing stone buttress for a bridge crossing the Culter Burn. Mr. Alex. Clark, 13 Bridge Street, Aberdeen.

DARLINGTON.—May 8.—For erection of electric-lighting station. The Borough Surveyor, Town Hall, Darlington.

DERBY.—May 2.—For construction of a bridge in the parish of Cubley, on the road leading from Marston Montgomery to Hungry Bentley. Mr. John Barker, surveyor, Cubley, Derby.

DERBY.—May 8.—For extensions to electric-lighting station. Mr. Arthur Eaton, architect, 6 St. James's Street, Derby.

DUBLIN.—May 1.—For erection of an addition to the station building at Edward Street, Newry, comprising waiting-rooms, offices, &c., and a two-storey gatekeeper's cottage at Milltown siding, near Banbridge, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

DUBLIN.—May 9.—For erection of a station building in timber and goods shed. Engineer-in-Chief, G. N. Railway Co. (Ireland), Amiens Street, Dublin.

DUNGARVAN.—May 4.—For carrying-out improvements at the infirmary baths. Mr. J. R. Dower, clerk to the guardians, Dungarvan, Ireland.

EGHAM.—May 13.—For making-up roads. Mr. W. Menzies, Englefield Green, Surrey.

ELGIN.—May 5.—For several works in the erection of new buildings at White Horse inn. Mr. Charles C. Doig, architect, Elgin.

EPSOM.—May 8.—For supply and erection of elect lighting plant. Mr. W. C. C. Hawtayne, 9 Queen Str Place, London, E.C.

FARNBOROUGH.—May 1.—For erection of stables at Fa borough for the horses of mounted police and for erection police cottages and cells at Hartley Row. Mr. W. J. Tayl surveyor, The Castle, Winchester.

FEATHERSTONE.—May 4.—For several works in t erection of fire-brigade house, stables, &c. Mr. W. Palliser, Urban District Council, Featherstone, Yorks.

FENTON.—May 2.—For erection of an infants' scho Grove Road, Fenton, Staffs. Messrs. R. Scrivener & So architects, Hanley.

FERMOY.—For building bank premises. Messrs. Ka Parry & Ross, architects, 63 Dawson Street, Dublin.

FLEETWOOD.—May 16.—For supply of electric-lig fittings, &c. Mr. Thos. Barton, Ainsworth Street, Blac burn.

GATESHEAD.—May 1.—For erection of district poli station in the Old Durham Road. Mr. J. Bower, borou engineer, Town Hall.

GLOUCESTER.—May 6.—For erection of a mixed a infants' school, caretaker's house, &c., in the Hatherley Roa Mr. Alfred J. Dunn, 31 St. Michael's Square, Gloucester.

GRIMSBY.—May 20.—For erection of buildings and chimn shaft in connection with electricity works. Mr. Marsh Petree, borough engineer, Grimsby.

HALESWORTH.—May 9.—For rebuilding front portion residence and business premises. Mr. H. S. K. Stanfo Halesworth, Suffolk.

HALIFAX.—May 6.—For erection of Board schools, form tion of playgrounds, boundary walls, &c., Sunny Side, Hal Hill. Mr. W. Clement Williams, architect, 29 Southga Halifax.

HANDSWORTH.—May 1.—For erection of a fire-engi station, engineer's cottage and hose tower, &c., adjoining t Council House, Handsworth. Mr. E. Kenworthy, engine and surveyor to the Council, Council House, Handswort Staffs.

HAYTON.—May 5.—For alterations and additions to house at Hayton, near How Mills. Mr. A. W. Johnston, arch tect, 81 Castle Street, Carlisle.

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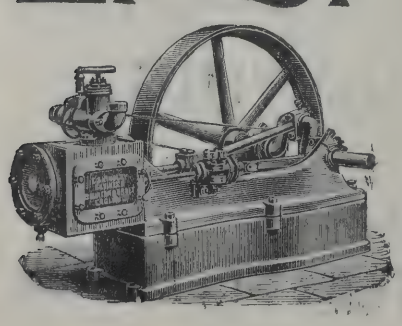
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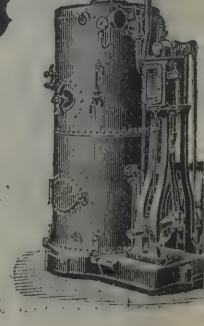
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[Mention this Journal.]

HEAGE.—May 3.—For alterations and additions to Board school. Mr. B. Glossop, Bull Bridge, Ambergate, Heage, near Belper.

HERNE COMMON.—May 15.—For alterations and additions to the workhouse. The Master, The Workhouse, Herne Common, Kent.

HETTON-LE-HOLE.—May 8.—For building boundary wall at the churchyard. Mr. G. S. Forster, surveyor, Hetton-le-Hole, R.S.O., Durham.

HUDDERSFIELD.—May 1.—For erection of eight dwelling-houses at Greenside, Dalton. Mr. J. Berry, architect, 9 Queen Street, Huddersfield.

HULL.—May 4.—For additions to Sproatley Rectory. Messrs. Botterill, Son & Bilson, architects, 23 Parliament Street, Hull.

ILFORD.—May 8.—For building public offices and large hall. Mr. Benjamin Woollard, architect, 16 Finsbury Circus, London, E.C.

IPSWICH.—May 3.—For extension of administrative block and alterations and additions to w.-c s and bathroom at the Borough Asylum. Mr. E. Buckham, Town Hall, Ipswich.

IPSWICH.—May 3.—For erection of new rooms at the museum and free library, St. George's Street. Mr. Henry Miller, 16 Museum Street, Ipswich.

IRELAND.—May 1.—For erection of four dwelling-houses at Lisburn. Mr. Henry Hobart, architect, Dromore, county Down.

IRELAND.—May 1.—For extension of a timber goods shed and the erection of an office inside same, at the Queen's Bridge Goods Depôt, Belfast, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

IRELAND.—May 1.—For erection of boundary walls and gullet at the new houses on Convent Road, Wicklow. Mr. Francis W. MacPhail, town clerk, Wicklow.

KEIGHLEY.—May 3.—For building workshop. Messrs. W. H. & A. Sugden, architects, Keighley.

LINTHORPE.—May 5.—For building villas. Mr. A. F. Newsome, architect, Albert Road, Middlesbrough.

LIVERPOOL.—May 5.—For erection of Royal Naval Reserve buildings at Altcar, near Liverpool, consisting of a firing battery, magazine, messroom and latrines. Director of Works Department, Admiralty, 21 Northumberland Avenue, London, W.C.

LLANDEGFAN.—May 17.—For building chapel, schoolroom, &c. Mr. Joseph Owen, architect, Menai Bridge.

LLANELLY.—May 5.—For extension of National schools. Mr. W. Griffiths, architect, Falcon Chambers, Llanelly.

LONDON.—May 3.—For building isolation hospital. Southgate Urban District Council, Palmer's Green, N.

LONDON.—May 8.—For erection of the superstructures of and for painting new bandstands at Battersea Park and Victoria Embankment Gardens, for the London County Council. Particulars at the Architect's Department, 13 Spring Gardens, S.W.

LONDON.—May 8.—For supply and erection of boundary railings and gates, including stonework of coping, steps, &c., at Nelson Recreation Ground, Kipling Street, S.E., for the London County Council. Particulars at the Architect's Department, 13 Spring Gardens, S.W.

LONDON.—May 9.—For alteration of existing building of the Bluecoat School and building additional schoolrooms, &c. Messrs. Beazley & Burrows, architects, 17 Victoria Street, S.W.

LONDON.—May 10.—For erecting electric-light building. Mr. H. Mair, Town Hall, Hammersmith.

LONDON.—May 16.—For supplying and fixing additional plant at the Regent's Park electricity works. Chief Clerk, Electricity Department Offices, 57 Pratt Street, N.W.

LONGTON.—For building workshops, oven, &c. Mr. Wm. Wood, architect, Crown Buildings, Stafford Street, Longton.

MAYBOLE.—May 6.—For construction of a gasholder, tank, &c. Manager, Gaslight Company, Maybole, Scotland.

MERTHYR VALE.—May 4.—For building fifty-two cottages. Mr. W. Dowdeswell, architect, Treharris, Wales.

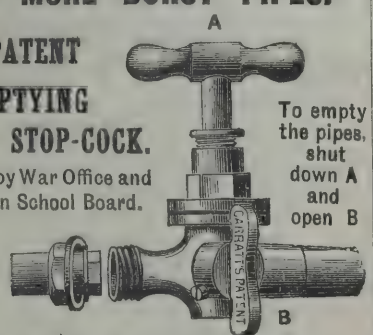
MILFORD.—May 13.—For building parish church and presbytery. Mr. M. A. Hennessy, architect, 74 South Mall, Cork.

MINEHEAD.—May 6.—For providing and laying asphalte. Mr. J. Cribb, Glenmore Road, Minehead.

MORECAMBE.—May 15.—For building three detached villa blocks at the County Lunatic Asylum. Mr. John Cresswell, architect, Moot Hall, Newcastle-on-Tyne.

MORTLAKE.—May 9.—For building seventy-six workmen's dwellings. Mr. G. B. Tomes, Urban District Council Offices, High Street, Mortlake.

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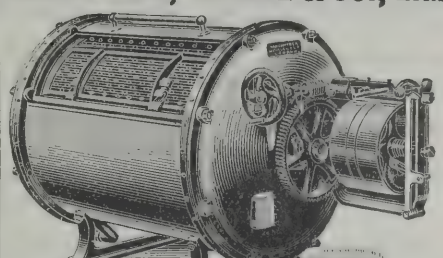
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MEDAL AWARDS, LONDON AND EDINBURGH.

NAPLES.—July 10.—For construction of harbour and docks. Public Works Department, Rome.

NEWCASTLE-UPON-TYNE.—For alterations to the Golden Otter inn. Mr. A. P. Farthing, architect, 21 Pilgrim Street, Newcastle-upon-Tyne.

PERTH.—May 4.—For the several works in the erection of a theatre. Mr. Wm. Alexander, city architect, Dundee.

PERTH.—May 6.—For constructing main sewers. Mr. R. M'Killop, 12 Tay Street, Perth.

PONTYPOOL.—May 3.—For pulling down portions of the existing workhouse buildings and erecting proposed extensions thereto. Messrs. Lansdowne & Griggs, architects, Metropolitan Bank Chambers, Newport, Mon.

REDHILL.—May 1.—For erection of an isolation hospital, to include three ward blocks, administrative discharging, mortuary and laundry blocks, near White Bushes, off the Three Arch Road, Earlswood Common. Mr. W. H. Prescott, borough surveyor, Market Hall, Redhill.

ST. MARY CRAY.—May 9.—For building fire-brigade station. Mr. R. G. Mullen, 96 High Street, Bromley, Kent.

ST. STEPHEN'S-IN-BRANWELL.—May 8.—For building Board school. Mr. Sampson Hill, architect, Redruth.

SCOTLAND.—May 12.—For additions to boys' school, Illogan. Mr. Sampson Hill, architect, Green Lane, Redruth.

SHEFFIELD.—May 9.—For the works in the erection of Public Elementary school. Messrs. Holmes & Watson, architects, St. James's Chambers, Church Street, Sheffield.

SHREWSBURY.—May 5.—For additions and alterations to public convenience. Mr. W. Chapple Eddowes, Borough Surveyor, The Square, Shrewsbury.

SHREWSBURY.—For main sewer and connecting drains. Mr. H. H. Cave, Estate Office, Rugby.

SLEIGHTS BRIDGE.—May 6.—For building entrance lodge. Messrs. Clark & Moscrop, architects, Darlington.

SOUTHAM.—May 13.—For laying main drains, constructing manholes, &c. Messrs. Charles Nelson & Co., Stockton.

SOUTHAMPTON.—May 5.—For heating and hot-water supply and laundry and kitchen fittings, also electric lighting for the municipal lodging-house. Mr. W. B. S. Bennett, Municipal Offices, Southampton.

SOUTHMOOR.—May 5.—For building school. Mr. J. W. Rounthwaite, 13 Mosley Street, Newcastle-on-Tyne.

SOUTHEND-ON-SEA.—May 4.—For building stables, store-rooms, cottages, office and other works, for the Corporation. Mr. A. Fidler, borough surveyor, Southend-on-Sea.

SOWERBY.—For forming roads. Mr. Thomas Stokes, architect, Thirsk.

STOCKTON-ON-TEES.—For building the new Empire Theatre and hotel. Mr. Harry May, architect, 24 North John Street, Liverpool.

SUDBURY.—May 8.—For making-up about one mile of streets. Mr. T. W. A. Hayward, Town Hall, Sudbury, Suffolk.

SWINTON.—May 8.—For erecting a brick building for sludge-pressing machinery at the sewage works. Mr. T. S. McCallum, 52 Corporation Street, Manchester.

TODMORDEN.—May 9.—For constructing brick and earthenware pipe sewer, with manholes, &c. Mr. C. R. Pease, Town Hall, Todmorden.

TWICKENHAM.—May 10.—For works in connection with widening road. Mr. F. W. Pearce, Town Hall, Twickenham.

WALES.—May 1.—For erection of two additional wings to the Gwbert Hotel at Gwbert-on-the-Sea. Mr. C. Morgan-Richardson, Cardigan.

WALES.—May 1.—For repair of the tower, &c., of Cascob Church, near Presteign. Mr. Ernest Collier, architect, Carmarthen.

WALES.—May 6.—For erection of a concrete wall, drainage and other works to support the landslip between the main road and the river Usk, near the village of Llangrwyne, Brecon. Mr. H. Edgar Thomas, clerk, County Hall, Brecon.

WALES.—May 8.—For repairs and alterations to the British School, Govilon, Abergavenny. Mr. Edward Edwards, The Cwm, Govilon.

WALES.—May 9.—For laying 12-inch sewer of glazed socket-pipes, with manholes, ventilators, &c., at Bedwas. Mr. John Powell, 131 Stow Hill, Newport.

WALES.—May 30.—For building asylum at Tolgarth. Messrs. Giles, Gough & Trollope, 28 Craven Street, London, W.C.

WATH-UPON-DEARNE.—May 4.—For building a chapel. Mr. W. G. Smithson, architect, 13 Bond Street, Leeds.

WESTON-SUPER-MARE.—May 8.—For building library and Museum. Messrs. H. F. Price, Wilde & Fry, architects, Weston-super-Mare.

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WHITEHAVEN.—May 3.—For alterations and additions to e Oddfellows' Hall property in Lowther Street and Queen reet. Mr. J. S. Moffat, architect, 53 Church Street, Whitehaven.

YORK.—May 3.—For extending carriage-shops, for the orth-Eastern Railway Company. Mr. Wm. Bell, N. E. ailway Co.'s Offices, York.

TENDERS.

ABERDEEN.

or laying-out and enclosing a new recreation ground at Merkland Road, for the Aberdeen Football Club. Messrs. BEATTIE & MACDONALD, C.E., surveyors, 21 Bridge Street, Aberdeen.

P. Tawse, Clayhills, Aberdeen, laying-out of ground and enclosing walls	£620	0	0
R. Thomson & Sons, 75 Barclay Street, Stonehaven, wood fencing	53	0	0

ASTON.

or certain alterations to drains, water-pipes and sanitary fittings at the workhouse, Gravelly Hill, for the Guardians of Aston Union. Mr. COOPER WHITWELL, architect, 23 Temple Row, Birmingham.

W. LEE & SON, Avenue Road (*accepted*)	£229	6	0

BANGOR.

or supply of electrical plant, &c., for the Corporation.

Accepted tenders.

British Insulated Wire Co, wiring	£3,858	0	0
J. Hamilton & Son, buildings	2,920	0	0
J. Fowler & Co., steam dynamos	2,143	0	0
J. Hornsby & Son, boilers	1,490	0	0
Mirrlees & Co., steam-pipes	1,157	0	0

BATLEY.

or levelling, paving, flagging, channelling and completing of Whittaker Street, for the Town Council. Mr. O. J. KIRBY, borough surveyor, Market Place, Batley.

Turner, Heason & Mitchell	£607	9	8
J. Speight	590	14	9
H. & W. BARRACLOUGH, Clifton Bridge, Brighouse (*accepted*)	579	13	1

BOURNEMOUTH.

For painting the Promenade Pier, for the Corporation. Mr. F. W. LACEY, borough engineer and surveyor.

Genuine white lead paint.

G. Shears & Sons	£350	0	0
Miller & Sons	348	10	0
F. T. Cutler	342	0	0
Jenkins & Sons	329	0	0

Calley's Torbay oxide paint.

Miller & Sons	386	0	0
G. Shears & Sons	365	0	0
F. T. Cutler	360	10	0
Jenkins & Sons	346	0	0

Ferrodor paint.

Miller & Sons	389	0	0
F. T. Cutler	378	0	0
G Shears & Sons	365	0	0
JENKINS & SONS (*accepted*)	363	0	0

BRAMPTON.

For sinking well and erecting two houses, for Mr. A. A. Tutthill. Mr. ARTHUR PELLS, architect, Beccles.

B. Rayner	£580	0	0
G. A. Dunn	550	0	0
W. CALVER, St. Andrews, Bungay (*accepted*)	493	0	0

BRANKSOME.

For making-up, kerbing, channelling, laying surface-water sewers and other works to a portion of Alexandra Road, for the Branksome Urban District Council. Mr. SAMUEL J. NEWMAN, surveyor.

Grounds & Newton	£240	0	0
S. Saunders	224	18	9
G. T. BUDDEN, Branksome (*accepted*)	219	19	0

BRENTFORD.

For making-up Church Alley, for the Brentford Urban District Council. Mr. NOWELL PARR, surveyor, Clifton House, Boston Road, Brentford.

J. Ball	£248	8	6
B. NOWELL & Co., Kensington (*accepted*)	199	0	0
Surveyor's estimate	192	0	0

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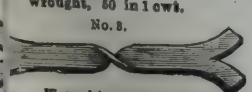
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BUNTINGFORD.

For erection of an isolation hospital, &c., near Aspenden.
J. N. Crabb, Lancaster Road, Enfield.
Only one tender received.

CARDIFF.

For erection of a Board school in Virgil Street, Grangetown, for the Cardiff School Board. Messrs. R. & S. WILLIAMS, architects, Borough Chambers, Wharton Street, Cardiff. Quantities by architects.

S. Shepton & Son	£26,720	7	0
D. Thomas & Co.	26,520	0	0
Price Bros.	26,135	0	0
E. R. Evans Bros.	24,310	13	7
W. H. Ingleson	24,191	1	0
W. Thomas & Co.	24,030	0	0
J. Allan	23,906	6	6
Knox & Wells	23,750	0	0
W. Symonds & Co.	23,500	0	0
Lattey & Co.	23,348	0	0
J. S. Chubb & Co.	23,100	0	0
E. Turner & Sons	22,516	0	0
C. C. DUNN (*accepted*)	22,200	0	0

Note.—One other tender with no name, £22,875.

For erection of a boundary wall, &c., at Northcote Lane, for the Corporation. Mr. W. HARPUR, M.I.C.E., borough engineer.

Knox & Wells	£646	13	0
F. Small	641	4	5
J. Allan	639	4	3
Powell & Mansfield	637	0	0
F. J. Robbin	613	1	3
H. Gibbon	610	0	0
Rees & Thomas	610	0	0
W. H. Ingleson	609	18	0
R. Dinham	593	1	6
G. Griffiths	580	0	0
Handford & Ellsworthy	575	0	0
E. Brown	569	11	3
Price Bros.	568	19	5
D. Thomas & Co.	562	12	7
J. THOMAS, Cardiff (*accepted*)	537	12	5

CARLISLE.

For building a Wesleyan school-chapel at Aspatria. Mr. J. MOFFAT, architect, Whitehaven.
MAXWELL & TOPPIN, Aspatria (*accepted*).

CHELSEA.

For reconstruction of two bath turrets at the infirmary in C Street. Messrs. LANSDELL & HARRISON, archite 38 Bow Lane, Cheapside. Quantities by Messrs. NOR CROFT.

J. Chinchin	£6,500	0	
G. Wade	6,300	0	
Gregory & Co.	5,897	0	
J. Godfrey & Co.	5,800	0	
F. & H. Higgs	5,765	0	
H. Wall & Co.	5,720	0	
General Builders, Limited	5,690	0	
Spencer, Santo & Co.	5,676	0	
W. NORTON (*accepted*)	5,270	0	

DURHAM.

For the works required in erection of a dwelling-hou butcher's shop, stables, &c., at Pity Me, Framwellg Moor, near Durham, for Mr. James Thurkettle. GEORGE ORD, architect, 16 The Avenue, Durham.
W. LODGE, Red Briar, Pity Me, Durham (*accepted*) £810 0

HALTWHISTLE.

For erection and completion of dwelling-house, Haltwhis for Mr. R. Hastewell. Mr. H. HIGGINSON, archite Carlisle.

Accepted tenders.
Coulson & Jackson, builder and slater.
W. Johnston, joiner.
Clarke & Kitchen, plumber.
A. Pendamore, plasterer.
R. S. Kirk, Carlisle, painter and glazier.
Total, £1,794.

LEEDS.

For new factories in Kirkstall Road, for Messrs. Motley Green and the Anti-Vibration Incandescent Lighting Co pany, Limited. Plans and quantities by Mr. WM. SPIN A.M.I.C.E.
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KEIGHLEY.

For various works required in erection of offices, &c., in Scott Street, Keighley. Mr. JOHN HAGGAS, architect, North Street, Keighley.

Accepted tenders.

Hird & Houldsworth, mason.
R. Tomlinson, joiner.
J. W. Thornton, slater.
Sawley & Kaberry, plasterer.
J. W. Clough, plumber.
R. Lonsdale, painter.
Total, £587 11s. 7d.

KIRKBY-IN-ASHFIELD.

For erection of new schools for the Kirkby-in-Ashfield School Board. Mr. LAWRENCE BRIGHT, architect, 9 St. Peter's Church Walk, Nottingham.

W. Bains	£5,070 0 0
G. Caulton	4,980 0 0
H. Vickers	4,970 0 0
T. Barlow	4,950 0 0
W. Maule	4,935 0 0
T. Cuthbert	4,927 0 0
H. Gilbert	4,860 0 0
J. OSCROFT, Nottingham (*accepted*)	4,730 0 0

LIVERPOOL.

For erection of a new hall at Walton Workhouse, for the West Derby Board of Guardians.

Brown & Backhouse	£3,064 0 0
P. Tyson	2,880 0 0
G. Woods & Sons	2,880 0 0
S. Webster	2,789 0 0
W. Hall	2,730 0 0
R. Wearing & Sons	2,700 0 0
J. Paterson & Son	2,699 0 0
G. L. Desoer	2,650 0 0
T. Spencer	2,630 0 0

LOCHAWE.

For building a block of workmen's houses at Ben Cruachan Granite Quarries, Limited, Lochawe.

W. MCDONALD, Airds Crescent, Oban (*accepted*) £724 5 6

LONDON.

For boiler and engine-house and chimney-shaft for electric-light installation at the Northern Hospital, for the Metropolitan Asylums Board.

G. Cross & Co.	£3,470 7 4
Merredew & Wort	3,312 0 0
H. Wall & Co.	3,289 0 0
J. Chessum & Sons	3,266 0 0
General Builders, Limited	3,130 0 0
J. APPLEBY (*accepted*)	2,620 0 0

MAIDENHEAD.

For putting in order and making good All Saints Avenue, for the Town Council. Mr. PERCY JOHNS, borough surveyor.

W. Lee & Sons	£1,382 19 2
F. Talbot	1,368 11 2
FREE & SONS, Maidenhead (*accepted*)	1,360 16 2

MANCHESTER.

For works required in erection and completion of a new club-house at Mossley, near Manchester. Mr. TOM COOK, architect, 39 Victoria Buildings, Manchester.

Accepted tenders.

J. Batley, Mossley, mason, bricklayer and drainer	£1,390 0 0
J. Hewkin, Greenfield, Yorks, joiner	584 0 0
J. Whitehead & Sons, Dob Cross, plasterer	74 0 0
Pickles Bros., Leeds, slater	67 0 0
H. Sutcliffe, Mossley, painter	30 0 0

NORWICH.

For carrying-out the works necessary for the conversion of old silk mill, at New Mills, Lower Westwick Street, Norwich, into a store for the purposes of the Corporation. Mr. A. E. COLLINS, city engineer and surveyor.

Tyrrell Bros.	£1,483 0 0
Blyth	1,460 0 0
Downing	1,258 0 0
Hawes	1,150 0 0
Gill	1,145 0 0
Scarles	1,133 0 0
S. Chapman	1,075 0 0
S. Sendell	1,060 0 0
BURTON & SON, Norwich (*accepted*)	1,020 0 0

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For construction of two underground lavatories in Burton Street and North Street, for the improvement committee. Mr. ARTHUR BROWN, city engineer.

J. H. Vickers, Limited	£3,875 0 0
J. H. Williamson & Co.	3,412 0 0
F. Messom	3,390 0 0
Dennett & Ingle	3,375 0 0
Gilbert & Gabbitass	3,360 0 0
T. Barlow	3,320 0 0
J. HUTCHINSON, Gordon Road (*accepted*)	3,085 0 0

OKEHAMPTON.

For restoring certain stonework, &c., at Oaklands, Okehampton, Devon, for General Holley. Mr. J. ARCHIBALD LUCAS, architect, Okehampton and Exeter.

W. Ball	£1,085 0 0
H. HARRIS, Sharphill, Okehampton (*accepted*)	£1,070 0 0

RAUCEBY.

For erection of the new county asylum at Rauceby, near Sleaford.

Shillitoe	£120,400 0 0
Parnell	116,334 0 0
Wilcox	115,225 0 0
Fish & Son	112,000 0 0
W. Pallinson	108,000 0 0
Hockley	106,478 0 0
Kirk, Knight & Co., Sleaford*	106,393 0 0
How	106,346 0 0
Moss	104,717 0 0
Rudd	100,280 0 0
Hodson	99,900 0 0

* Recommended for acceptance.

RAWTENSTALL.

For manual and team labour and materials required in the excavating, forming, paving, kerbing and flagging Dean Lane, for the Corporation. Mr. A. W. LAWSON, borough surveyor.

J. Moore	£1,791 7 0
P. D. & S. D. HAYES, Stockport (*accepted*)	1,681 10 0

RAWTENSTALL.—*continued.*

For construction of 2,630 yards of 15-inch pipe sewer, together with side connections, manholes and other works in connection therewith, for the Corporation. Mr. A. W. LAWSON borough surveyor.

W. Jenkins	£3,436 0
T. Turner	3,224 3 1
E. Tempest	3,054 4
J. & J. Lee	2,992 0
Etheridge & Clark	2,889 3
H. N. Dawson	2,832 18
J. Moore	2,826 10
P. D. & S. D. HAYES, Stockport (*accepted*)	2,671 15

POOLE.

For building fire station, stables, sheds, dwelling-house, &c at The Green, Parkstone, for the Council. Mr. JOHN ELFORD, borough surveyor.

S. Brown & Sons	£2,898 0
W. H. Gray	2,470 0
T. C. Rigler	1,920 0
I. CROSS, Parkstone, Poole (*accepted*)	1,805 0

REIGATE.

For new roads, sewers and surface-water drainage, South Park Building Estate, for Mr. R. P. Evans. Messrs. BAKER & PENFOLD, architects.

G. A. Franks	£3,500 0
E. & W. Isles	3,450 0
S. Kavanagh	3,247 0
Faulkner	3,095 0
A. & A. Streeter	3,053 15

RICHMOND.

For construction of stoneware pipe sewer and surface-water sewers, and the formation of the carriageway foundations in Manor Grove, Richmond, Surrey, for the Town Council. Mr. J. H. BRIERLEY, borough surveyor.

C. Ford	£524 0
T. Adams	509 16
E. Parry	467 0
B. Nowell & Co.	405 9
Soole & Son	363 10
R. BALLARD, Limited, Child's Hill, N.W. (*accepted*)	350 3

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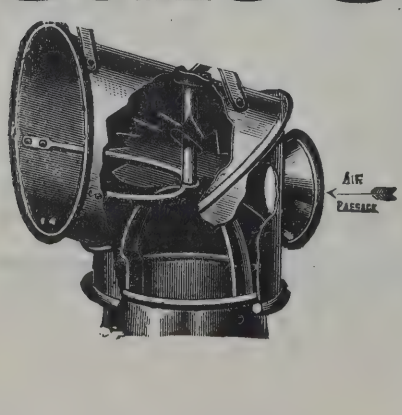
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RUGELEY.

For erection of a new bakery, slaughter-house, stables, &c., on their land in Bow Street and Taylor's Lane, for the Rugeley Industrial Co-operative Society, Limited.

Espley & Son	£1,910 0 0
H. Matthews	1,609 0 0
M. P. Anderson	1,484 0 0
T. MASON, Hednesford (*accepted*)	1,467 9 0

SLIGO.

For erection and completion of a pair of semi-detached villas at Finisklin for, Mr. Alexander Lyons, J P. Mr. W. F. GILCRIEST, architect, Wine Street, Sligo

G. KERR, Sligo (*accepted*)	£1,000 0 0

STRATFORD.

For alterations and additions to the King of Prussia public-house, Stratford. Mr. J. M. H. GLADWELL, architect.

J. & H. Cocks	£915 0 0
W. J. Maddison	825 0 0
A. E. Symmes	800 0 0
T. Welsh & Sons	743 0 0
W. M. NORTON (*accepted*)	699 0 0

UPTON PARK.

For painting, &c, at the schools, Upton Park, for the Guardians of St. George-in-the-East.

J. GIBBS, jun (*accepted*)	£578 18 0

WESTON-SUPER-MARE.

For cleaning and redecorating Emmanuel Church, Weston-super-Mare, for the vicar and churchwardens. Messrs. S. J. WILDE & FRY, architects, Boulevard Chambers, Weston-super-Mare.

T. Palmer & Son	£252 5 0
W. Tucker	199 0 0
KEENE & KEENE (*accepted*)	136 0 0

For erection of new stables, coachhouse and warehouse in Market Lane, for Mr. F. Blackmore. Messrs. S. J. WILDE & FRY, architects, Boulevard Chambers, Weston-super-Mare.

Keene & Keene	£873 0 0
C. Penny	865 17 0
H. A. Forse	795 0 0
W. M. Dubin	785 0 0
C. ADDICOT, Weston-super-Mare (*accepted*)	780 0 0
G. Sprake	730 0 0

WHITEHAVEN.

For building two semi-detached dwelling-houses at Padstow. Mr. J. S. MOFFAT, architect, 53 Church Street, Whitehaven.

R. PEARSON, Cleator Moor (*accepted*).

WHITBY.

For erection of the new parish room, St. Hilda's Terrace. Mr. EDWARD H. SMALES, architect, 5 Flowergate, Whitby.

W. Langdale & Sons	£1,590 0 0
R. Harland	1,548 0 0
J. Braim, Whitby (*accepted*)	1,525 0 0

WILLINGTON QUAY.

For the following works, for the Urban District Council :—New road from Western Road to Slipway Bridge, laying 21-inch pipe sewer, cementing footpath in Ropery Road, flagged footpath in Station Road. Mr. J. FLEMING DAVIDSON, engineer and surveyor.

G. McLaren	£1,789 8 0
J. Wardlaw	1,193 9 11
G. E. SIMPSON, Newcastle (*accepted*)	1,000 14 8
J. Murphy	993 14 5

WORKINGTON.

For works of two houses in William Street, for Mr. W. R. Irvin. Messrs. W. G. SCOTT & CO., architects, Victoria Buildings, Workington.

Accepted tenders.

J. Fletcher, joiner, &c.	£130 0 0
J. Lythgoe & Sons, slater	37 15 0
Armstrong & Reid, glazier and painter	12 0 0

For various works required in erection and completion of a dwelling-house in Gray Street, for Mr. A. E. Middleton. Messrs. W. G. SCOTT & CO., architects, Victoria Buildings, Workington.

Accepted tenders.

R. Brown, mason	£256 0 0
G. H. Chambers, joiner	138 0 0
J. Lawson, plasterer	55 0 0
J. W. Hodgson & Co., plumber	50 12 10
G. Barker & Sons, heating	23 6 0
J. Lythgoe & Sons, slater	22 10 0
G. Davies, painter and glazier	17 2 6

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WREXHAM.

For erection of central stores, Bridge Street and Brook Street, Wrexham. Messrs. MORISON & SON, architects, King Street, Wrexham.

W. Owen	£2,900	0	9
H. A. Jones	2,670	0	0
W. E. Samuel	2,360	0	0
DAVIES BROS., Wrexham (*accepted*)	2,235	0	0

Received too late for Classification.

LONDON.

For new premises at Royal Wharf, Townmead Road, Fulham, for Messrs. Goldman, Phillips & Jay. Mr. GEORGE ASHBY LEAN, architect, Palace Chambers, Westminster.

Patman & Fotheringham	£3,976	0	0
H. Wall & Co.	3,950	0	0
Adamson & Sons	3,579	0	0
Howell & Williams	3,548	0	0
F. Jenkins	3,540	0	0
L. H. & R. Roberts	3,489	0	0

REDHILL.

For alterations and additions to premises, Brighton Road, Redhill, for Messrs. Ind, Coope & Co., Limited. Messrs. HARRINGTON & LEY, architects, 108 Fenchurch Street, E.C.

CHARLES NIGHTINGALE & SONS, Reigate (*accepted*)	£347	0	0

TRADE NOTES.

A LARGE clock has just been erected in the parish church at Peasonhall, Suffolk, which strikes the hours and shows the time on a dial 5 feet across. The work has been carried out by Messrs. John Smith & Sons, Midland Clock Works, Derby.

MESSRS. HAYWARD & SONS have on view at their rooms in Regent Street an extensive array of wall decoration in silk, canvas and paper; the designs are for the most part bold and striking, and some very fine effects are noticeable in the hand work, which may be regarded as a specialty of the firm. Another specialty is their patent invisible joint, which by following to some extent the intricacies and sinuosities of the pattern, avoids the objectionable straight joining.

NEW CATALOGUE.

THE catalogue which has been prepared by the Simplex Steel Conduit Company, Limited, of Coventry Street, Birmingham, contains an admirably lucid description of the excellent system of electric wiring which is the business of the company, illustrated by well-drawn and clearly-printed diagrams in illustration, and sketches of the various appliances and fittings requisite to it and their price. In it will also be found a considerable variety of useful information and serviceable hints on the subjects of electricity and electric lighting.

BUILDING AND BUILDERS.

IT has been decided to build a Welsh Calvinistic Methodist chapel in Holt Road, Liverpool.

THREE detached villa blocks are to be added to the County Lunatic Asylum, Morpeth.

A SITE has been purchased at Blackheath, near Rowley Regis, for the new Congregational church and Sunday schools.

THE contractors for the new pavilion at the Oval for the Surrey County Cricket Club have already received 33,558*l.*, and the account is not yet settled.

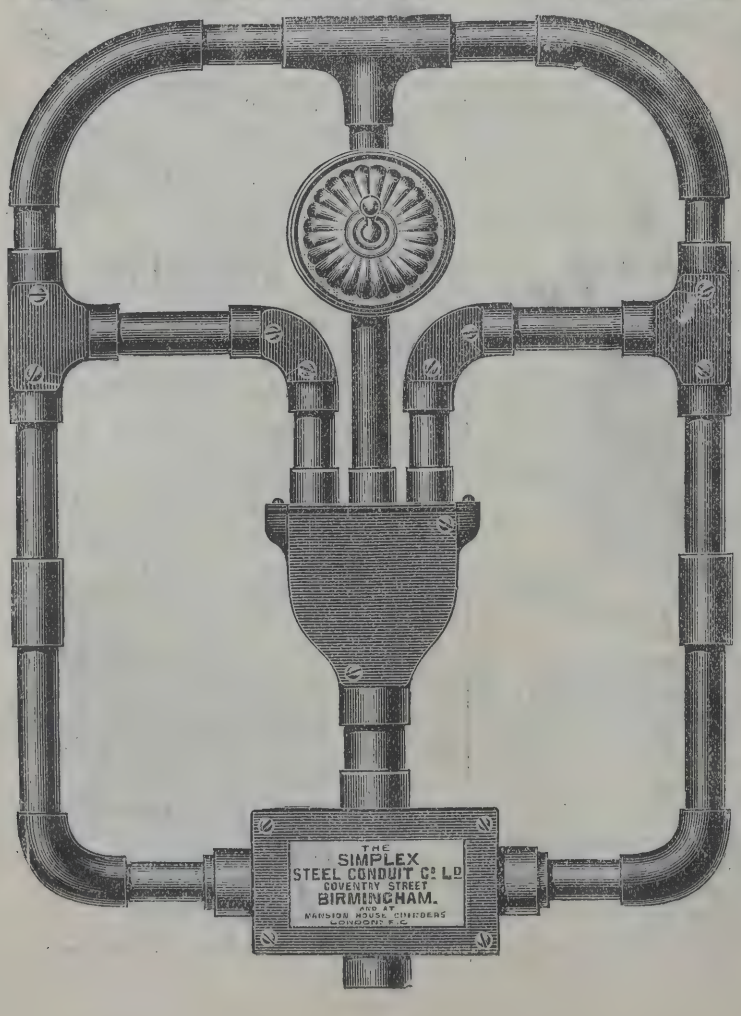
THE foundation-stone was laid on the 19th inst. of an extensive block of buildings which are in course of erection on Snow Hill, and which are designed for use as cold stores in connection with the Smithfield Markets.

THE contractors for the restoration of Peterborough Cathedral have been authorised to proceed with further works at a cost of 964*l.*, chiefly in connection with the pinnacles of the south-west tower.

THE Education Department have sent two epistles to Colne School Board. One authorised them to build a new school. The other intimated that they could not be allowed to suspend building operations for the remainder of their existence as a Board, the Board practically being in default.

THE building trade dispute at West Hartlepool led to a serious outrage there on Monday. A builder's labourer, named Jordan, working on a house in Duke Street in course of erection, was followed by two other labourers, with whom he had some words. They seized him and, it is alleged, threw him to the ground, a distance of two storeys. The man's leg was badly broken, and he sustained other serious injuries. His assailants are in custody.

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20 Bucklersbury, LONDON, E.
Telegrams, "AUDIPHONE, LONDON." 4417.

A remarkable instance of rapid building erection was accomplished recently in constructing the Vincent Building at the corner of Duane Street and Broadway in New York, a fifteen-storey structure on a 110 by 51-foot lot. The building was erected from foundation to roof and the exterior walls finished in four months. The architect is Mr. George B. Post.

The journeymen plumbers and builders' labourers in Wolverhampton threaten to come out on strike on May 1, owing to the refusal of the employers to grant their demand for an advance of ½*d.* per hour wages. The labourers ask for an increase of from 5½*d.* to 6*d.*, and the working plumbers from 8½*d.* to 9*d.*

The plans for converting the Pavilion, facing the Harris Promenade, into a theatre have been passed by the committee of the Douglas Town Council which has charge of such matters. Mr. Frank Matcham, the architect, states that the Pavilion will have a holding capacity larger than the Grand Theatre to the extent of about 300 persons.

A communication has been received from the Board of Trade approving of the plans for the extension of Stonehaven Harbour, N.B. At a meeting of the Harbour Commissioners, Provost Mowat presiding, a letter was submitted from the Public Works Loan Commissioners, in which they declined to reduce the interest on the proposed loan for the construction of the works, the cost of the extension being 11,000*l.* It was decided to ask the Loan Commissioners to forego charging interest during the construction of the works.

VARIETIES.

The Alexandra College, Dublin, is to be enlarged, and a sum of 3,239*l.* towards expenses has been subscribed.

A branch bank is to be erected in Collingwood Street, Newcastle-on-Tyne, for Messrs. Barclay & Co.

An appeal has been issued for aid towards the expenses of proposed structural improvements in the Royal Free Hospital, Gray's Inn Road, which are estimated to cost 8,500*l.*

The judge at the Shoreditch County Court has held that a plumber's workshop is not a "factory" within the meaning of the Workmen's Compensation Act.

The Edinburgh Corporation, having introduced a clause in a Bill giving their officers control of all advertisement stations, the committee have amended it in order to allow of an appeal to the sheriff in case of unreasonable interference.

The Belgian Government has agreed to the holding of a Universal Exhibition at Liège in the year 1903, and it is determined that it shall be of an industrial character.

The Glasgow joiners having struck for a rise of one half-penny advance in wages, before the first day passed a meeting was held in the Builders' Exchange, and the employers granted the increase. The rate is now in the district 10*d.* an hour.

The artisans' dwellings committee of the Coventry City Council have resolved, it is stated, to recommend the erection of a block of tenement property. Two-storeyed flats are suggested on the principle of a rental of 1*s.* per week per room.

The London County Council have approved by a majority of forty the recommendation to construct another tunnel under the Thames to connect Rotherhithe and Shadwell at a cost of 2,198,250*l.*

At the last meeting of the Cranbrook Rural District Council the plans for the sewerage and sewage disposal for the district of Hawkhurst, prepared by Messrs. Sands & Walker, civil engineers, Nottingham, were approved, and application is to be made to the Local Government Board for sanction to the necessary loan for carrying out the works.

The foundation-stone of a new Catholic school-church was laid on the 22nd inst. at Accrington. The land cost 1,500*l.*, and the school-church will entail an outlay of 5,270*l.* more. It will ultimately provide accommodation for 670 children. Later on a church will be erected, together with a presbytery. The whole of the present building will then be utilised as a school. Mr. Hill, of Manchester, is the architect.

Mr. A. A. Hudson, barrister, has given his award in the dispute at Wigan. The carpenters and joiners had asked for an advance of 1*d.* per hour and a reduction in hours from 53 to 49½. The award gives the men an advance of ½*d.* per hour, but no reduction in hours. This will bring the wages up to 2*l.* 0*s.* 10*d.* from 1*l.* 18*s.* 7*d.* The men have also maintained the old conditions with reference to the grinding of tools when being dismissed. It is understood the award does not come into operation until September 1.

The following resolution is to be moved at the meeting of the Birmingham School Board:—"That, in view of the inconvenience caused by prolonged industrial conflicts, it is expedient that the contracts entered into by the Board should be given,

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as far as possible, only to such firms as will undertake to submit all labour disputes to the conciliation tribunal now provided by statute ; and that the sites and building committee be instructed to consider and report as to the best means of obtaining that object."

A MEETING of the parks committee of Newcastle Corporation was held on Monday, when arrangements were made to carry out the wishes of Lord Armstrong by taking over Jesmond Dene from the May term. It was also settled that the next meeting of the committee should be held in the banqueting hall, when they will formally take possession of the new inheritance on behalf of the city.

THE assessors' report has been issued on the competitive plans of a new higher grade school proposed to be built by the Burnley School Board, at an estimated cost of 12,000*l.* The first prize of 50*l.* was awarded to Mr. Quarmby, of Burnley; the second of 20*l.* to Mr. F. W. Dixon, Corporation Street, Manchester ; while the third, of 10*l.*, was divided between Messrs. T. Bell, of Burnley, R. Holt, of Southport, and J. M. Bottomley, Bond Street, Leeds. The assessors were Messrs. Oliver & Leeson, of Newcastle.

MR. ROGERS, factory inspector, has prosecuted a working sawyer in Manchester for neglecting to maintain the guard of a circular saw at the works of his employers, Messrs. Bennett, Hyde Road. The firm had provided saw-guards after an accident, by which a boy was decapitated, but the defendant was found at work without a guard, and the prosecution was, Mr. Rogers stated, the first of the kind which he had ever taken against workmen. It was necessary, however, to warn them of their liability for neglect of safeguards provided by employers. The defendant expressed regret, and the mitigated penalty of 5*s.* and costs was imposed. An engineer employed by another firm was fined 40*s.* and costs for neglecting to maintain the fencing of a gas engine.

THE accounts of the Manchester Corporation Waterworks Department for the year ended March 31 show that the gross income for the twelve months was 312,041*l.* ; the expenditure, including interest on waterworks debt, sinking fund and maintenance of works was 283,461*l*, leaving a balance of 28,629*l.* to be carried forward. The committee are in a position to make a reduction in the public and domestic water rates. The public rate this year will be 1*d.* in the pound, against 3*d.* last year, and the domestic water rate 8*d.*, against 9*d.* A discount of 5 per cent. will also be allowed off all accounts for supplies of water by meter amounting to 10*s.* per quarter and upwards, provided that the accounts are paid within a specified time. These remissions in the water charge amount to 35,000*l.*

MEASURES BROTHERS & CO., Limited, the well-known iron and steel merchants, will be offered to the public in the course of a few days. The share capital will consist of 285,000*l.*, divided into 75,000 Five-and-a-Half per Cent. Preference shares of 1*l.* each and 210,000 Ordinary shares of 1*l.* each; and 75,000*l.* Four-and-a-Half per Cent. First Mortgage Debenture stock. The profits, it is understood, are enough to pay 10 per cent. on the Ordinary shares after all expenses are paid. The business consists largely in the manufacture and sale of iron girders, joists, roofs, bridges, tanks, rails and similar articles, for which the firm has obtained a world-wide reputation, the customers on the books numbering between 6,000 and 7,000, including the British and foreign Governments, H.M. Admiralty, the War Office, Post Office, Crown Agents for the Colonies, railway companies, and contractors and builders in a large way of business.

THE Home and Shelter for Women which has been erected in Great Ancoats Street, Manchester, was opened on the 21st inst. The building, which is connected with the Manchester and Salford Wesleyan Mission, is erected on a plot of land with a frontage of 90 feet to George Leigh Street and 20 feet to Great Ancoats Street. It is four storeys high, and is divided into three separate departments, namely, for casuals, servants' home and temporary home. There is also a coffee tavern and dining-room, which will be worked by the girls of the temporary home. There are sixty-three adequately furnished cubicles, giving accommodation to the various departments Each department will have its own bathroom and lavatory; dayrooms, kitchen and laundry are also provided. There is special accommodation for the matron, and every attention has been given to make the home bright, cheerful and attractive. A separate entrance is provided to each department. The whole of the buildings are lighted by electricity. In the design for the exterior the object of the architect has been to give a purely domestic character to the building, and as far as possible to suggest brighter and more cheerful scenes than are to be found in the neighbourhood of Ancoats. In connection with the mission the foundation-stone of a men's home was laid in November last in Hood Street, Ancoats, by the Lord Mayor of Manchester. The cost of the two institutions is estimated at about 14,000*l.* or 15,000*l.*



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THE PLEIADES OF PROGRESS.

CATHEDRAL SERIES.—DURHAM: FROM LANDING STAGE.

SHIPLAKE COURT, HENLEY-ON-THAMES.

MANSION, QUEEN'S GATE, W.

MR. C. DUNDAS SLATER may be congratulated on having ade another hit in the new ballet which he put on at the ambra on Monday evening. Of kaleidoscopic brightness l variety and with abundance of tuneful music, it was wel-ned by a large audience with enthusiastic applause. It is a le out of the ordinary run of the ballets to which we are ustomed, as the motives which animate the different *dramatis sonæ* are explained by dialogue instead of gesture, and the t, which is of the simplest, shows how an estate agent, his e, son and office boy, all start unbeknown to each other for Day Off" on board *La Marguerite*, and the complica-ns their various flirtations give rise to. Misses Casaboni, ie Seale, Mdlle. D'Alençon, and Messrs. Lytton Grey, Fred rren, Charles Raymond and the Alombi Brothers all did od service, which was thoroughly appreciated.

ELECTRIC NOTES.

E electric lighting committee of Edinburgh Town ncil have resolved to recommend that the Council make no nge on the charge for electric energy for the year from y 15, 1899, to May 15, 1900.

ARRANGEMENTS have been made to connect the electric allation in the house of the Society of Arts with the street ins, and therefore the machinery and apparatus used since electric light was first installed in the Society's house in 3 are now no longer required. It is proposed to offer m in the first instance at a moderate cost to any member of Society who may be contemplating an electric installation he country.

THE BUILDING TRADES EXHIBITION.

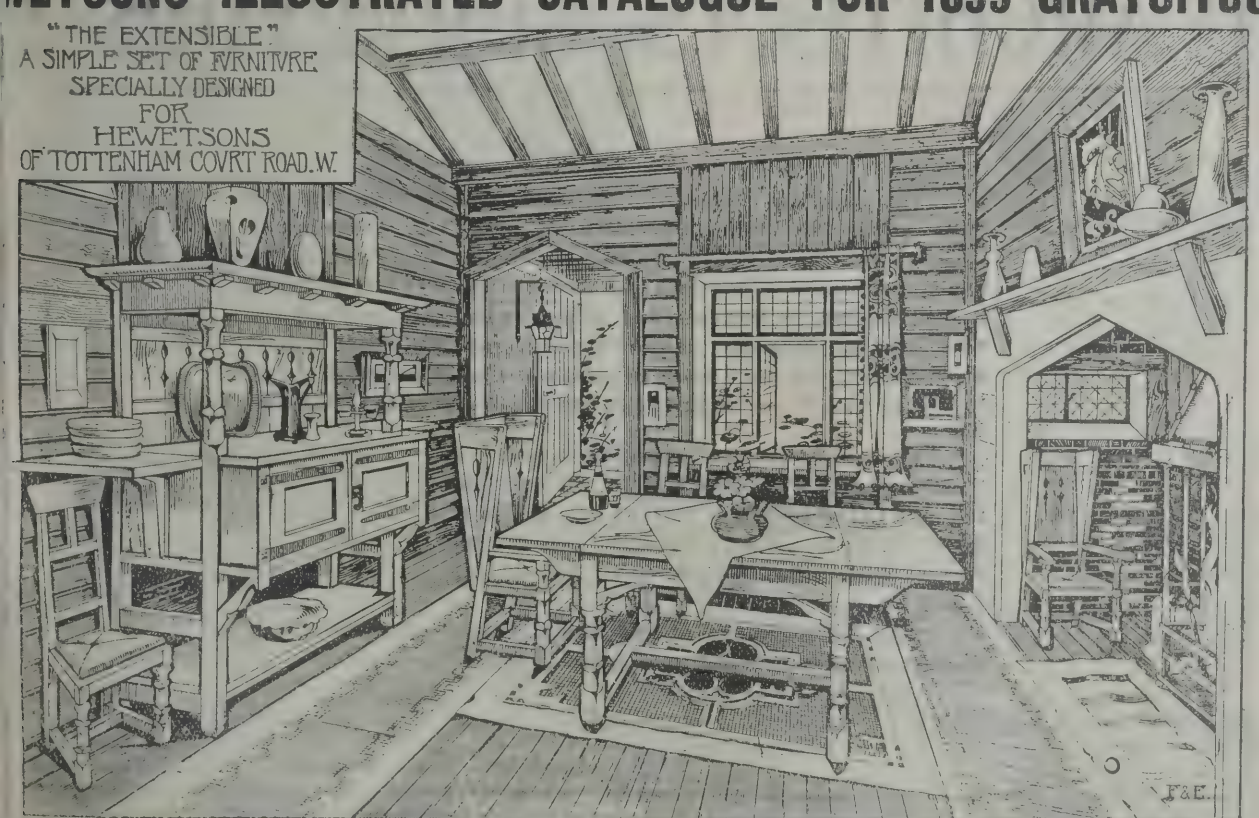
As we foreshadowed in our last issue, the exhibition which was inaugurated on Wednesday last by Professor Aitchison, President, R.I.B.A., beats previous records. At no time in the past have the prominent firms dealing in building materials and wares been so worthily represented, nor, it may be said, *en passant*, has the taste displayed in the arrangement of the various exhibits ever been so satisfactorily employed. It is comparatively easy to arrange an effective exhibit of decorative materials, no doubt, although even in *their* arrangement a correct eye and a deft touch can effect wonders, but to arrange attractively a pyramid of drain-pipes and chimney-pots is "another story," and it is not too much to say that the care evinced in arrangement of the majority of the exhibits reflects credit on everyone concerned.

The opening ceremony, which took place in the gallery, suffered considerably from an oratorical point of view from the din and clatter which, in spite of Mr. Montgomery's requests and admonitions, exhibitors who were late in arranging their stands created in their endeavour to make up for lost time, entirely drowning the speakers' voices, with the inevitable result that Professor Aitchison's remarks were for the most part inaudible. From what could be caught, however, the Professor was understood to refer to the increase in wages during the past fifty years, which he welcomed because it stimulated both production and consumption. But he pointed out a danger which arose from this dearness of labour, and that was the increase of mechanical production, and consequently the production of rubbish. He protested against the insane desire for cheapness above everything else, and appealed for more artistic work in building, coupled with good and enduring workmanship. Mr. J. W. Swann, the president of the Institution of Electrical Engineers, proposed a vote of thanks to Professor Aitchison, who added a few words in acknowledgment.

Mural Decorations Company.

The exhibit arranged by the Mural Decorations Company will be sure to attract attention owing to its prominent position and skilful arrangement. It shows a kind of domed pavilion left purposely incompleted to exemplify the method of construction with the company's terra-cotta lathing, which is in part left exposed, the greater portion, however, being finished with the fibrous-plaster mural decoration from which the company derives its name. A charming enriched cornice is shown with

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flowers in high relief, arranged for electric lighting; and some highly effective panels in basso-relievo decorated in colour also command attention.

Doulton & Co., Limited.

A portion of this stand is allotted to the display of a collection of mantelpieces and fireplaces in glazed faïence. We notice in the designs a successful attempt to depart from the more or less stereotyped fashions that have hitherto ruled in this department of ceramics. The forms are commendably simple, and the colour effects quiet and restful. In the specimens of wall tiling the same desire for simplicity of arrangement and artistic balance of colour is evident. The absence of a high gloss is the distinguishing characteristic of the "Carrara" stoneware, and this will recommend the material to those who dislike the effect of too glittering a surface. In the section for sanitary fittings are strong glazed ware sinks for hospital use. These are arranged so that the bed-pans can be thoroughly cleaned without being handled in any way. This is done by means of a spray and jet, and the valves for these are worked by means of treadle action. The sink, in addition, has a flushing rim, so that the whole surface can be cleaned after using. The baths are varied in pattern and design, canopy, French and sitz forms being among those exhibited. There is one bath which calls for special attention, which is on the same principle as the canopy arrangement, having shower, spray, &c., but instead of the large hood at the back it is merely a skeleton arrangement with a hanging curtain.

Amongst the lavatories are some very highly finished examples with marble tops, friezes, &c., and specially shaped basins. In all cases where fitted with standing waste and vulcanite plug, the outlet is made as large as possible, so as to allow of their emptying quickly. For supporting the tops either ornamental brackets or highly-finished standards are used, so that the whole space beneath shall be quite open. Closets are shown fitted as for use. One which is specially noticeable is the syphonic, which gives a good water area and depth of seal, and possesses great advantages in its simplicity and strength of action. The "Paisley" cistern is fixed with these closets, but in some cases the shell, instead of being made in cast-iron as usual, is made in highly-decorated pottery. Doulton & Company's exhibit includes their well-known stoneware pipes of the ordinary type, and with their "self-adjusting" and "composite" joints, both of which forms have been extensively used for main sewer schemes, and for the drainage of hospitals, public buildi &c. The display of white enamelled fireclay is particul noticeable, and includes lavatories, sinks, &c., all of which samples of excellent manufacture and careful design. Staff shire earthenware, white and cane glazed, is represented selection of closets, urinals, &c., while the Staffordshire bricks also visible on the stand afford further evidence of wide range of Doulton's productions in all classes of cerami

Edwin Palmer.

Mr. Palmer, who is located nearly opposite the U Street entrance (stand 14, row A), shows his patent travel cradle for obviating the use of long ladders and scaffoldin outside painting or repairs. It is a very simple and service contrivance, of which builders and decorators are rapidly covering the usefulness. It can be fixed wherever cradle w is practicable, and by reason of its extreme lightness, e working and capabilities of adjustment it can be used innumerable cases where it would be quite impossible to ordinary boats or ladders.

W. G. & L. England.

Patent sliding and reversible sash-windows are shown by firm. These sashes are made to slide up and down in ordi fashion, but are so constructed that all the fittings are in v and by the removal of two screws the sashes may be insta detached from the frame and reglazed, or new cords attac without disfiguring the paint or disturbing any of the beads.

Aspinall's Enamel, Limited.

This firm, whose name is "familiar in our mouths as hou hold words," occupies its usual central position, the pavi being made conspicuously bright and attractive by means Wapicti and enamel, both of which we have many times occasion to speak favourably of. The Wapicti, as we have t said, is equally suitable for inside or outside work; and regards the latter, we may mention that the company recently brought out a new enamel especially prepared outside work. This will be found even cheaper, more dura and more easy to work than that on which the comp founded its reputation.

TO ARCHITECTS, SURVEYORS, &

The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent") having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

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TRADE MARK.

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CHING'S New Patent Silent Chimney Breast Ventilator.

TO BE HAD OF ALL IRONMONGERS AND VENTILATING ENGINEERS IN THE UNITED KINGDOM

The Anaglypta Company, Limited.

This company is exhibiting a large and varied selection of ir newest and best productions in extra high, medium and reliefs, together with a few choice and special decorations, which they have such a wide and deserved reputation. is stand (No. 65, row C) will undoubtedly prove of great erest to all visitors.

The Moreau Marble Company, Limited,

ow some excellent specimens of their new decorative struction — Moreau marble. This effective decorative terial is not a composition. It is obtained from the quarry blocks of any size of a strength and quality similar to the st Portland stone. After being worked in the original state in which it is quarried, the stone is converted into ble by the patented process with permanent colours, which pletely penetrate the block. It can be produced to corre- nd with any shade of the richest marble, either with natural ing, in self tints, or in solid inlays of any pattern or urs. It will take the highest polish and is suitable for rches, halls, interior and exterior finishings, balustrades or vings, baths, hospitals and wherever natural marble has erto been prohibited by considerations of price.

anitary Lead Lining & Pipe Bending Company, Limited.

This company are showing specimens of their patent lead- d iron pipe, with joints, bends, angles, T-pieces, &c., for n, soil, ventilating, waste and other pipes (Brighton & ning's patents). These pipes and fittings have the ordinary oth and non-corrosive lead pipe as a lining, and are pro- ed by a casing of best quality iron. A perfect joint is ays insured. They are easily and quickly fixed without the of scaffolding. Hot water can be discharged through them perfect safety, and the total cost when erected does not ed that of ordinary 8 lb. lead. This company's system is g used by H.M. Government, School Board for London, ernment buildings, hospitals, institutions and other public private buildings.

Diespeker & Co.

Attention will be attracted to Messrs. Diespeker's exhibit by conspicuous name-board which dominates the hall, and by the excellent quality of work shown, among which will be found a sample of circular skirting and Venetian marble mosaic as executed in the various fever hospitals of the Metropolitan Asylums Board; a sample of circular skirting and border as used in the new Birmingham General Hospital; a design of Roman (cube) marble mosaic as executed at the Hotel Cecil; a design of mosaic floor as executed at the Royal College of Music; a design of mosaic executed at Restaurant Frascati, Oxford Street; a sample of Venetian marble mosaic as executed at the new General Post Office, St. Martin's-le-Grand; samples of Venetian marble mosaic as executed at the new County Infirmary, Bedford; and other specimens, all of which are excellent in point of design, colour and finish.

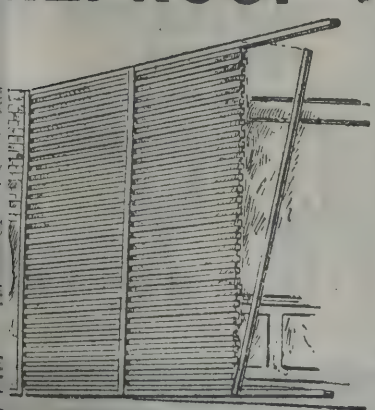
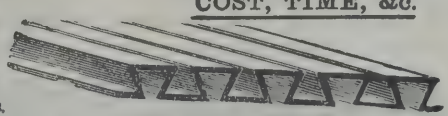
Shanks & Co.

Messrs. Shanks & Co, who occupy their accustomed position in bay 1, make an attractive display as usual, although they do not claim to show any special novelties this time. Specimens are shown of their "Perfecto," "Fin de Siècle," "Independent," "Modern" and "Times" baths; lavatories of various descriptions, in designs simple or elaborate, in marble, slate and fireclay; syphonic and wash-down closets, and their special combination closets, with syphon and single-valve cisterns.

James Gibbons.

Mr. James Gibbons, of Wolverhampton and London, has an excellent exhibit of new designs in brassfoundry and locks. A very special feature of this exhibit is the artistic arrangement and decoration of the stand, which may be described as a symphony in green and yellow, designed by the well-known London manager, Tom Jones, whose panic bolts are so generally used in theatres and public buildings. In this unique exhibit are also many of his new designs and finger plates, letter plates, bar handles, &c. One special exhibit is a new patent lock for hotels, asylums, public buildings, &c. This is so designed that it is impossible for any ordinary key to be made into a master key, as so frequently has been done, and robberies committed thereby. Although the latest patent this firm has produced, we learn that many large orders for asylums and hotels have been secured for these locks. Another lock which deserved attention is the Tom Jones patent "Combined" turn, push and pull, and will no doubt meet with a great demand. At this stand will also be found sample fittings of the

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E.C. Reversible Window Co., Limited, of which Mr. Gibbons is chairman and Mr. Jones managing director. These fittings are used by many of our leading architects.

Charteris & Longley.

Messrs. Charteris & Longley show wood-block flooring in various woods and designs, laid on their well-known patent system, and some admirable specimens of parquetry and joinery. The woods used include jarrah, maple, oak, walnut, mahogany, &c., and some of the patterns in which several woods are employed are very intricate and handsome, and entail a large amount of skill and labour. It is noteworthy that all the timber employed by this firm is thoroughly seasoned by Shapland's patent process, a model of which is shown. By this system the wood is subjected to a special treatment of steam and cold air regulated by fans to preserve the desired temperature, which never exceeds 80 deg., for the proper seasoning of the wood without injury to its fibre. This is found to effectually prevent cracking, twisting, warping, &c.

John Burn.

Mr. John Burn, at Stand 111, Row F, shows samples of slag from the Tees Bridge Slag Crushing Works, Stockton-on-Tees, samples of artificial stonework from the Norton Slag and Concrete Works, and some specimens of Brown's patent perfect sewer-pipe and other joints.

Stiff & Son.

Messrs. Stiff & Son's exhibit at once invites attention to the exquisite specimens of architectural terra-cotta displayed. Among these are columns, capitals (several of which are of noteworthy excellence), panels, &c., and especially a grand semi-circular panel in high relief. Among the minor wares, for the manufacture of which the firm has established such a well-known reputation, are drain pipes, channel pipes, kitchen sinks, latrine ranges, urinals, fire bricks, &c. A photograph is shown, too, of the Government House recently erected at Rangoon, the materials of which are red brick and terra-cotta, manufactured by Messrs. James Stiff & Sons, of Lambeth, who had no ordinary task to perform in supplying about 30,000 cubic feet of terra-cotta, manufactured from drawings made some 7,000 miles away, and sending them out ready for placing. This, however, was all successfully done. The terra-cotta arrived in regular consignments every three weeks, and the architect states that "each piece fitted exactly into the pla intended for it, and no trouble was experienced either fr crooked pieces or bad joints." This happy result, we may a speaks also for the care with which the detail drawings m have been made, and architect and manufacturer may sh the credit.

Moorwood, Sons & Co., Limited.

The central figure of this extensive exhibit is, prope enough, the central hot-plate and cooking range, 9 feet 4 feet 6 inches, with descending flues. This type of range h been specially designed by Moorwood, Sons & Co., Limit for hotel and club work and to meet the requirements of t best French *chefs*. Many other specimens of cooking sto and apparatus are also shown, as well as some handso specimens of sitting-room grates and mantels. One of the a brass grate of elegant design and handsomely carv mantelpiece in dark carved oak, is particularly worthy examination.

Dowson, Taylor & Co.

Messrs. Dowson, Taylor & Co. are showing in one of t eastern bays full-sized working models of their self-acti armour-plated, fireproof door, the automatic manipulation which is very ingenious and efficient. The doors, which a of either sliding or swinging variety, are rendered sensitive the slightest pressure, whether for opening or closing, means of a counterpoise dependent from a link which is fusi at a temperature of 150 degs., the result being that in the ev of such a door being open when a fire breaks out the temp ture soon reaches the necessary altitude, the weight drops a the door necessarily and infallibly slides or swings into place. Fire-extinguishing apparatus is also shown here.

The New Malden Potteries and Brick Works, Limited.

At stand 124, row 1, is an exhibit of specimens of fa brickwork, which were shown at the exhibition of 1851 b predecessor of the New Malden Potteries and Brick Wor Limited, and which were awarded honourable mention there It is in the form of a window-arch which has been removed fr the company's works, and speaks well for the hardness a durability of the bricks of which it is formed, the edges bei for the most part as sharp as when leaving the moulder's han Agricultural drainage pipes, crucibles, slurry-pots, horticult

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Silicate Cotton and Fibrous Plaster Works, Kentish Town, LONDON, N.W

ottery of all descriptions, patent surveyors' ground markers and rave indicators are also shown.

John Rooke.

Mr. Rooke's stand (No. 115) contains specimens of the Veldon stone, an oolitic building stone, and an object lesson s to its durability is supplied by an architrave or panel earing the date 1690, which was taken from Kirby Hall, orthamptonshire, and although discoloured is in excellent reservation.

Geo. Tucker & Son.

This Leicestershire firm of brick and tile manufacturers ow some good specimens of red Leicestershire facings, smooth essed sand stocks, moulded bricks, quarries, roofing tiles, ecial hard bricks for sewers, flower pots, &c.

James Woodward.

Mr. James Woodward, Swadlincote, near Burton-on-Trent, ows a very large and attractive assortment of sanitary ware, cluding his "Kensington" syphonic wash-out basins, Free-an's patent inspection chambers, with improved glazed bottom ocks for the channels and side banks, the advantage being at a glazed surface is presented to the sewage instead of the ual cement one. His brown-glazed stoneware pipes are nspicuous for their smoothness and finish. Strong special inted pipes are shown, the well-known "Archer" for water-gged ground, the "Woodward Double Seal," and Ewing's ccentric shoulder-socket pipe, for securing a true invert in ains and sewers.

Ratner Safe Company, Limited.

In bay six the Ratner Safe Company have an extensive dis-ay of their new safes, both in course of construction, and ished with all the finesse which distinguishes this firm's oductions. The improvement in the Ratner twelve-corner-nt safe, as it is called, consists in bending and flanging the dy thereof. The top, bottom and sides are formed of a ate of steel bent at the corners, and the back and front ges are bent or flanged inwards, and the bolts at front the door and the continuous bolt at back of door oot behind these flanges. The back and the jointless el frame are placed on the inner face of the flanges. Without bending these flanges back, it is impossible either to take out the back plate of the safe or to open the door without unlocking it. The bending of the flange of a half-inch body requires a pressure of about 300 tons. The great advantage gained in this arrangement is the doing away with the outside bands, which are only attached to the body by screws and rivets, and also doing away with outside joints, both of which all safe makers must admit are a serious weakness. This improved construction enables the safe to resist a much greater fall than those made in the usual way can withstand. Another feature of the exhibit is a strong-room door made for the Capital and Counties Bank.

Frederick Jones & Co.

Messrs. Jones & Co. show specimens of their silicate cotton or slag wool for fire-proofing, sound-proofing or heat-proofing floors, walls, partitions, &c., for lining roofs of houses to render them impervious to climatic influences, for protecting iron girders in event of fire, for covering pipes, cisterns and other vessels exposed to extremes of heat or cold, for insulating purposes in cold-air stores, &c. Amongst F. Jones & Co.'s specialties in fibrous and other plaster slabs prominence is given to a special kind which has recently been finding great favour amongst architects and builders. It is very similar to fibrous slabs, but is made in larger sheets and has a finished face, so that the slabs can be fixed at once. These slabs are made with square edges, and can be papered over immediately. At this time, when working plasterers are something of a rarity, Messrs. Jones should have an extensive call upon them. We believe Messrs. Geo. Trollope & Sons have been making use of these slabs on a pretty large scale lately.

N.A.P. Window Company, Limited.

The N.A.P. stand will be found towards the centre of the hall. It is a comparatively small exhibit, but is an epitome of the many forms in which the various patented ideas have been worked out, and the advantages claimed for the casements are the following:—They open for ventilation in the same way as ordinary casements, and each is secured while open or shut by the usual casement-stay and fastener. When it is desired to clean the outside it is only necessary, before swinging the casement inwards, to lower the sill water-bar in the case of the "slip patent." They effect a considerable annual saving on

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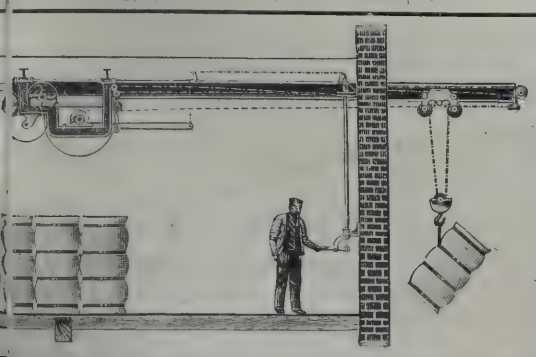
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the cost of window-cleaning. As they open outwards for ventilation fresh air can be admitted without disturbing the window drapery. Repainting or reglazing can be conveniently done from within, and the injury which the use of ladders (carelessly handled) does to the sills and window masonry generally is thereby obviated.

Cliff & Sons.

The display made by this firm is as usual an imposing one, conspicuous among which are examples of architectural terra-cotta, of which there are some excellent specimens shown. Faïence mouldings and panels, too, are well shown. Bricks in variety are of course here, among them being specimens of Tiltman's patents, Shoppee's patent dovetailed and Adams's patent dovetail-keyed bricks, Hall's hanging tiles, "Grip" wall tiles, white enamelled and Yorkshire brown salt-glazed sinks (of every description), closets, lavatories, traps, gullies, pipes, furnace lamps, fire bricks, &c.

Gibbs & Canning, Limited.

One of the first objects to attract attention on entering the exhibition is the handsome and massive porch and portion of wall erected by this enterprising company from designs specially prepared for this exhibition by Mr. C. Harrison Townsend, F.R.I.B.A. It is in buff terra-cotta, is of noble proportions, and has an artistic decoration in conventionalised trees, of which the stems form pilasters and the foliage a frieze. Other exhibits of the company comprise glazed bricks—white, coloured and salt glazed, and in majolica colours—faïence mouldings and panels, terra-cotta and buff building bricks, glazed brick fireplace, Tiltman's patent partition bricks, Tiltman's patent continuous scum trough for swimming-baths, Tiltman's patent scum channel for swimming-baths, Shoppee's patent dovetailed bricks, &c.

Patent Vulcanite Roofing Company, Limited.

At the stand of this company, No. 33, row 8, may be seen specimens of the vulcanite roofing to which we have on several occasions drawn our readers' attention. It has been employed with very satisfactory results in the roofing of a large number of public and private buildings, both in England and abroad. Among these, perhaps, the most important are the Imperial Post Office and the Royal Palace of Justice, Cassel, Germany; Queen's Hotel, Westcliffe-on-Sea; Hydropathic Establishment, Ramsay, Isle of Man; the Mater Infirmorum Hospital, Belfast (where the roof is laid out as a garden), and numerous villas and terrace houses. It possesses the advantages of cheapness efficiency, lightness and durability.

John P. White.

Mr. White is, as usual, showing some very fine specimens of carved chimneypieces in various woods and in all styles. Prominent among these is one specially designed for Sir Henry Burdett by Mr. E. T. Hall, F.R.I.B.A. Other fine pieces of work are from the designs of Messrs. C. E Mallows, C. H. B Quennell, C. F. A. Voysey, Alfred Cox, and a capital example on rather severe lines is by Llewellyn Morris.

Fireproof Partition Syndicate, Limited.

Cunnah-Wright's patent dovetailed corrugated iron sheet are to be seen in use in the building erected in row B (No. 43). They can be used for walls, partitions, floors, &c., and in addition to economy in cost, they possess advantages which are by no means to be lightly regarded, namely:—They are fire, sound, damp and vermin-proof. They can be rapidly erected and save a large amount of space. Sections of Cunnah Wright's patent laths are also shown.

J. C. Moore.

At No. 22, in row A, Mr. Moore shows specimens of his patent window-sash fittings, which appear to be very simple and efficient. Among the advantages claimed for them are the following:—The sashes are made in the usual way and are slung so that they are always bearing on the inner beading consequently they cannot rattle. Both sashes can be regulated in any position with the hand. A self-fastener operates when the sashes are closed, making it impossible to open them from without, while it pulls the meeting rails tight together and insures their being locked. They can also be regulated when high up by bringing the end of the cord down, or at a distance by carrying it to any part of the apartment or building. By stitching the end of a new cord to the old, and pulling the latter out by the other end, it is replaced in a minute by the new. By lowering both sashes to the bottom and turning in the hinged beading, and withdrawing the parting bead, the sashes can be turned inward like a door on its hinges for cleaning, &c. and they are waterproof.

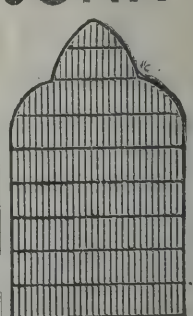
The Wood-Carving Company, Limited.

An attractive display is made by this company of their Saracenic woodwork for Moorish fitments, grilles, screens, &

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The Engraved Wood Company.

The Engraved Wood Company have a tastefully arranged stand on which they show specimens of panels, pediments, dadoes, friezes, brackets, mouldings, &c. These are produced by the company's patent pressure process, and the result has the effect of carving at a fraction of its cost.

S. & E. Collier.

In row D, Messrs. S. & E. Collier are showing some excellent specimens of red, smooth-faced, plain, dun colour and strawberry colour roofing tiles and wall tiles, a machine-made sand-faced tile, a patent rough tile that will vegetate like a hand-made tile, ornamental tiles for vertical tiling, eaves tiles, gable tiles, hip-and-valley tiles, angle tiles for square and octagonal buildings, red garden edging tiles, plain and ornamental red ridge tiles with fast tops, end ridge tiles for hips and intersections, ridge tile finials and terminals, terra-cotta for building construction, mural tiles, air bricks and panels, plain and ornamental chimneypots, &c.

William Griffiths.

Mr William Griffiths, London concessionnaire to the National Opalite Glazed Brick and Tile Company, has erected a pavilion in the walls of which the glazed bricks and tiles are used with artistic and pleasing effect. The principal of the system is absolutely simple. The surface is of glass, and the specialty lies in the roughening of the back, thus forming the key for the cement with which it is united to the brick or tile, or, if circumstances admit, to an existing wall. Many advantages are claimed for this system of wall glazing; among them are that the material is imperishable; it does not by exposure to lamp, frost, or heat, lose any of its beautiful polished surface, neither does it become patchy. There is a saving of nearly 10 per cent. on ordinary glazed work; it is readily repaired, and at much less cost than other systems of tiling or glazed work. Both old and new brickwork can be glazed; and the advantages of having walls glazed after the brickwork is finished are strongly urged, to secure a close joint and avoid a heavy waste in breakages. It is made in a variety of tints, and for beauty and brilliancy is far in advance of the old glaze. The surface being of a higher polish than ordinary glaze, dirt, &c., will not adhere to anything like the same extent. The reflecting power is far superior to that of any other glazing material, the reflected light is greatly increased, and none of its power is lost by exposure to damp.

Stanley Bros., Limited.

Here (at No. 91, row E) will be found a group consisting of salt glazed and blue bricks, other enamelled in white and colours, semi-encaustic paving tiles, roofing tiles, ridges and finials, ornamental red and buff terra-cotta garden vases, &c. Among the latter are some capital classical designs.

Wood & Ivery.

Messrs. Wood & Ivery have sent some specimens of their blue ware in paving bricks, kerbs, channels, conduits, &c. A conspicuous feature of the exhibit is a section of a conduit made of the blue bricks, of which they are supplying no less than 35,000,000 for the Birmingham water scheme.

James Austin & Sons, Limited.

The sash-lines, blind-lines, section-lines, halyard and log-lines exhibited by this company are too well known and of too stable a character to call for a lengthy description; but an inspection of the specimens shown (at 19, row A) makes it obvious that the well-known quality is rigorously maintained.

Mitchell & Co.

This firm has an exhibit near the centre of the hall, which contains a large variety of sanitary appliances in white enamelled fireclay:—Baths, sinks, wash-tubs, lavatories, closets, urinals, drain channels, interceptors, gullies, &c. Sanitary appliances in special glazed vitreous stoneware. Strutt's drain-pipes and fittings, interceptors, gullies, &c. Pedestal closets:—The "Hilton," the "Kent," the "Eclipse." White enamelled fireclay sinks:—The "London," the "Belfast," the "Edinburgh," the "L.S.B.," the "Combination," &c. Mitchell's patent inspection valves (for affording ready access to clearing arm of sewer-gas interceptors). Packingless water valves. Screw-down manhole covers (with removable working parts). A five-stall circular urinal made in one piece of glazed fireclay and a post-mortem table are the greatest novelties, but the firm also show some novelties in panelled glazed fireclay baths in adults' and children's sizes.



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British Non-Flammable Wood Company.

We have had several occasions to speak of the fire-resisting qualities of the wood prepared by this company's system, and we now see for the first time exhibited specimens of the various uses to which it can be applied, in addition to the forms in which we had previously seen it, *i.e.* as timber for house or ship building, &c. Here (at bay 8) may be seen, in addition to floorings, matchboards, laths, wood-block flooring, &c., specimens of skirtings, mouldings, wooden electric casings, balusters, doors, stairs, panellings, window-sashes, wooden mantels, brackets, chairs, stools, tables, wooden deed boxes, all made from the prepared wood which, it is thus demonstrated, can be used for any purpose to which unprepared wood can be applied; also non-flammable window curtains, gauzes and draperies of various kinds.

F. McNeill & Co.

Messrs. F. McNeill, whose stand is numbered 82 in row W, make a capital show with their specialties in patent slag-wool or silicate cotton, which is of great utility for sound-deadening, fire-proofing, insulating of heat and cold, &c., for which latter purpose it is claimed that it is unequalled by any other material whether natural or manufactured. Patent asphalted roofing felt for external roofing, fibrous asphalte damp-proof course, patent metal asphalte damp-proof course, dry hair felt for sound-deadening and for roof-linings to equalise temperature, patent pipe coverings, which are found very efficacious for protecting pipes from frost, or to prevent radiation of heat, &c.

Yates & Hayward.

Against the east wall and close to the Upper Street entrance (in their old position, in fact), the handsome exhibit of this firm includes some excellent designs in stoves and mantels in wood, stone and iron. Among the latter are some new patterns, which are admirable alike from their excellence of design and perfection of casting. The "Quadrant" kitchener is a leading specialty of the firm. This stove, the appearance of which is handsome and suggestive of durability, has a self-adjusting lifting fire, which can be raised or lowered to any point with one hand The movable parts do not come in contact with the fire, consequently no wedging or getting out of order is possible. The range fire cheeks and the back boiler can be taken out without disturbing any other part of the kitchener. Over and under-draught ovens can be made with enclosed iron flues requiring no brickwork setting. It is easily fixed, and is said to be economical of fuel.

John Tann.

Mr. John Tann, who is located under the north gallery, has a representative collection of his widely-known "Anchor Reliance" bent steel fire and thief resisting safes for all purposes; party wall and warehouse doors, plate closet and strong room doors, banker's bullion vault doors, plate closets, all kinds of locks, cash and deed boxes, &c.

(*To be continued.*)

THE METHODIST MILLION FUND.

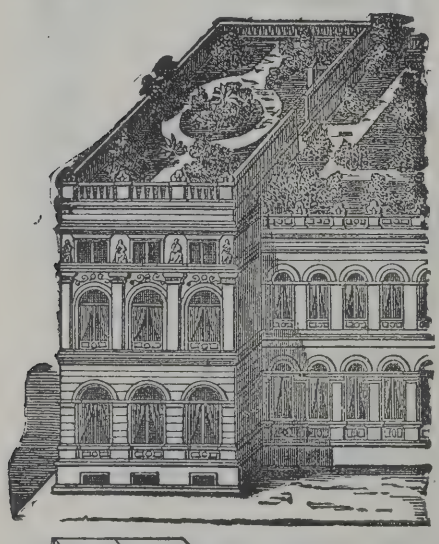
The total amount already promised to the Methodist Million Fund is 714,125*l.*, and as contributions are rapidly pouring in there appears to be very little doubt that before January 1, 1901, when the lists are to be closed, the Wesleyan Methodist Twentieth Century Fund will have reached the sum contemplated by its promoters. Among the various objects to which the fund will be applied are the following:—300,000*l.* to assist in the purchase of sites and the erection of Wesleyan Methodist places of worship, Sunday schools, mission-halls and soldiers and sailors' homes in the United Kingdom; 250,000*l.* for the purchase of a site in West London, near Regent Street or Charing Cross, and the erection thereon of a Wesleyan central hall. The buildings are to contain a large hall to hold 3,000, a smaller hall to hold 1,000, a library to hold 500, with various committee-rooms and offices for the departmental work of the Methodist Church. This hall will become the head-quarters of the West London Mission, whose services are at present conducted at St. James's Hall.

SECURITY AGAINST FIRE.

In the *Times* Lord Fortescue gives the following account of the measures he has adopted for the preservation of a country house in case of an outbreak of fire:—

Having determined to improve the arrangements for extinguishing fire should any break out in my country house Castlehill, I last year made on the hill close behind it a new reservoir (with the provision for keeping it full) holding 50,000 gallons, nearly 50 feet above the highest point of the roof, with a 6-inch pipe leading straight down from it at a very steep

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gle for the supply of several standpipes and hydrants with -inch hose outside the house, sufficient to command all the emises.

But besides these precautions I adopted another, of which heard for the first time last year, which has already secured e the benefit of a substantial reduction in the premiums of e policies I am henceforth to pay. I think I can hardly scribe this recently introduced system better than nearly in e words of the letter addressed by me from Castlehill to the e office, which led it to make a further reduction of about ır-ninths in the premiums payable by me beyond what it was fore prepared to make in consequence of the new reservoir d the stand-pipes, &c., connected with it. These reductions ord a conclusive proof that the company believes in the cacy of the system, which leaves the large stand-pipes and ses as available as ever to discharge large volumes of water equired by the continuance of the fire.

This system has involved at Castlehill two mains inside, at east and west ends of the main building, constantly urged at full pressure, with an inch hose attached on h floor capable of being filled by the mere turn of a valve, l terminating in a copper nozzle of corresponding size. I ve six of these, three at each end of the house, long enough reach between them into every room. All six are so light d handy that any man or woman can easily walk away with her of them after turning the valve, and direct a slender but cible jet from it upon any flame as soon as it is perceived.

I first heard of this system from its author, the distinguished of a far more highly distinguished father, my valued friend nearly half a century, the late Sir Edwin Chadwick, K.C.B. ay the distinguished son, because my friend Mr. Osbert dwick, C.E, who had been my guest here years ago, ried out works of water supply for various towns in various ntries, and had his success in doing so in some of our mies rewarded by the Order of St. Michael and St. George. He told me that, agreeing in the general recognition of the nense importance of saving minutes, and even seconds, in ling with fire when first breaking out, and having satisfied self that even when a fire was happily extinguished pretty n the damage done by the large volume of water discharged n the usual hoses of 2 to 3 inches in size very often greatly eeded that done by the fire, both to the structural decora- s, such as ceilings, cornices, &c., and to the contents of building, such as furniture, hangings, books, &c., he had some time recommended the adoption of the system just described not only for mansions, but also for factories with their delicate and costly machinery. He believed that both as regards expedition in suppressing fire on its first appearance, and as regards the great additional security from extensive damage by water (for which, in case of its use in dealing with a fire, insurance companies are liable), the separate provision of such small constantly-charged hoses would be found decidedly economical, notwithstanding its undeniable additional cost. In confirmation of Mr. Chadwick's view I have observed that the damage done by water at Hyde Park Court is stated to have been considerable.

I should add that the adoption of the system where it is applicable in towns ought not, in his opinion, at all to supersede calling in the public fire brigade, but only to enable the inmates of a house to do something really useful, considering the immense importance of minutes in dealing with fires, before the arrival of the brave and skilful experts of the brigade.

ILLICIT COMMISSIONS.

THE following is the text of the Bill which was introduced in the House of Lords on the 20th inst. by Lord Russell of Killowen :—

Whereas secret commissions in various forms are prevalent to a great extent in almost all trades and professions, and in some trades the said practice has increased and is increasing.

And whereas the said practice is producing great evils, by corrupting the morals of the community, and by discouraging honest trade and enterprise, and it is expedient to check the same and other kindred malpractices, by making them criminal.

Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal and Commons in the present Parliament assembled, and by the authority of the same, as follows :—

I. Every person who shall corruptly by himself or by any other person, and whether directly or indirectly—

(*a*) Give any valuable consideration to, or to the use of, any agent, or

(*b*) Offer to give any valuable consideration to, or to the use of, any agent, shall be guilty of a misdemeanour, and in Scotland of an offence punishable by fine and imprisonment.

II. Every agent who shall corruptly by himself or any other person, and whether directly or indirectly—

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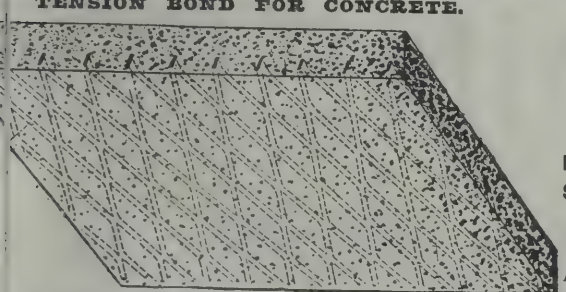
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(*a*) Receive any valuable consideration from any person, or

(*b*) Solicit any valuable consideration from any person shall be guilty of a misdemeanour, and in Scotland of an offence punishable by fine and imprisonment.

III. Every valuable consideration given or offered to any agent by any person having business relations with the principal of such agent shall be deemed to have been corruptly given or offered unless it be proved—

(*a*) That the principal had given his consent thereto, or

(*b*) That the valuable consideration was not calculated or intended and had no tendency to corrupt the agent by inducing him to do or to leave undone something contrary to his duty, or by creating any other undue influence on the mind of the agent.

IV. Every valuable consideration received or solicited by any agent from any person having business relations with the principal of such agent shall be deemed to have been corruptly received or solicited unless it be proved—

(*a*) That the principal had given his consent thereto, or

(*b*) That the valuable consideration if and when given would not have been calculated or intended, and would have had no tendency to corrupt the agent by inducing him to do or to leave undone something contrary to his duty or by creating any other undue influence on the mind of the agent.

V. Every valuable consideration given or offered to any parent, husband, wife or issue of any agent, by any person having business relations with the principal of such agent, shall be deemed to have been corruptly given or offered unless it be proved—

(*a*) That the principal had given his consent thereto, or

(*b*) That the valuable consideration was given or offered not with intent to corrupt the agent, but for some reasonable and honest cause and independently of all business relations with the principal.

VI. Every valuable consideration received or solicited by any parent, husband, wife or issue of any agent, from any persons having business relations with the principal of such agent, shall be deemed to have been corruptly received or solicited by the agent, unless it be proved—

(*a*) That the principal had given his consent thereto, or

(*b*) That the valuable consideration was received or solicited by the parent, husband, wife or issue, without the consent, knowledge or privity of the agent, or

(*c*) That the valuable consideration if and when received would not have been calculated or intended, and would have had no tendency to corrupt the agent by inducing him to or to leave undone something contrary to his duty, or creating any other undue influence on the mind of the agen

VII. The receipt of any valuable consideration, in c sideration or in respect of any advice given, or to be given the recipient to any third person for the benefit of the per making the gift, shall be deemed corrupt, unless it be pro that the fact of such gift, and the nature and particulars ther were made known to every such third person as afores before or at the time of the advice being given as aforesaid in the case of such gift being made after the giving of advice, without previous offer, agreement, or arrangemen give the same, then immediately after such gift shall be ma

VIII. Every gift of a valuable consideration, and e offer to give a valuable consideration to any person in sideration or in respect of any such advice aforesaid, with intent that the same gift or offer shall not be made know the third person aforesaid, or with the knowledge that it not be made known as aforesaid, shall be deemed corrupt the part of the person making the gift or offer.

IX. If any person shall give to any agent any rec account, or other document, in respect of which the princ is interested, which (*a*) shall contain any statement which i the knowledge of the said person false, or erroneous, defective in any important particular, or is in any way ca lated or intended to mislead the principal; or (*b*) shall ot wise, than by mistake or inadvertence, omit to state explic and fully the fact of any discount, rebate, repayment, grat or deduction having been made, given, or allowed, or ag to be made, given, or allowed, or any other fact in relatio the transaction which it shall be for the interest of the p cipal to know, shall be guilty of a misdemeanour, an Scotland of an offence punishable by fine and imprisonmen

X. The omission of an agent to receive some valuable sideration which he was entitled to receive from his princ or to make some charge, claim, or demand upon his princ shall not be admissible in evidence to show that the recei a valuable consideration by the agent was not corrupt, shall be admissible to diminish the sum which the agent be ordered to pay as hereinafter provided.

XI. Where a valuable consideration is given, in consid tion or in respect of any advice given or to be given, and of some services to be rendered or work done, or of any o matter or thing whatsoever, the fact that the valuable sideration was given partly in consideration or in respec

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such services, work, matter or thing, shall not be accepted as proof that the receipt of the said valuable consideration was not corrupt.

XII. Any person on conviction of offending, as aforesaid, shall, at the discretion of the Court before which he is convicted—

(*a*) Be liable to be imprisoned for any period not exceeding two years, with or without hard labour, or to pay a fine not exceeding 500*l.*, or to both such imprisonment and such fine; and

(*b*) In addition, be liable to be ordered to pay to such person and in such manner as the Court directs the amount or value, according to the estimation of the Court, of any valuable consideration received by him or any part thereof, and such order shall be enforceable in the same manner as a judgment of the High Court; and

(*c*) In addition, if such person would otherwise have been entitled to any pension or compensation, be liable to forfeit his right and claim to such pension or compensation.

XIII. When an offence under this Act is also punishable under any other enactment or at common law, such offence may be prosecuted and punished either under this Act or under the other enactment or at common law, but so that no person shall be punished twice for the same offence.

XIV. A person shall not be exempt from punishment under this Act by reason of any invalidity in his appointment, employment or election.

XV. A Court of general or quarter session shall, in England, have jurisdiction to inquire of, hear and determine an offence under this Act.

XVI. If a Court of summary jurisdiction upon the hearing of a charge under this Act is of opinion that the offence may be adequately punished by virtue of the powers of this section the Court shall cause the charge to be reduced into writing and read to the person charged, and then address a question to him to the following effect:—"Do you desire to be tried by a jury, or do you consent to the case being dealt with summarily?" and if such person consents to the case being dealt with summarily the Court may summarily convict him, and at the discretion of the Court sentence him to imprisonment for any period not exceeding three calendar months, with or without hard labour, or to pay a fine not exceeding 50*l.*, and, in addition, order the person convicted to pay such person and in such manner as the Court directs the amount or value, according to the estimation of the Court, of any valuable consideration received by him, or any part thereof, but so that the amount or value shall not exceed 50*l.*

XVII. A person who is called as a witness in any proceedings shall not be excused from answering any question relating to any offence under this Act on the ground that the answer thereto may criminate or tend to criminate itself, or on the ground of privilege.

Provided that—

(*a*) A witness who, in the judgment of the Court, answers fully all questions which he is required by the Court to answer, shall be entitled to receive a certificate under the hand of the presiding judge or member of the Court stating that such witness has so answered.

(*b*) An answer by a person to a question by or before the Court in any proceeding under this Act shall not, except in the case of any criminal proceedings for perjury in respect of such evidence, be in any proceeding, civil or criminal, admissible in evidence against him.

XVIII. If a person having received such certificate as aforesaid, and any criminal proceeding be at any time instituted against him in respect of the offence which was in question in the proceeding in which the said person was called as a witness, the Court having cognisance of the case shall, on proof of the certificate and of the identity of the offence in question in the two cases, stay the proceedings, and may in their discretion award to the said person such costs as he may have been put to in the proceedings.

XIX. Nothing in this Act contained shall prejudice or affect any cause of action or right in equity which may arise from any corrupt payment, or any matter dealt with by this Act, or shall postpone or otherwise affect the maintaining or enforcing of any such cause or right.

XX. The expenses of the prosecution of an offence under this Act shall be defrayed in like manner as in a case of felony.

XXI. In the construction of this Act the following provisions shall apply:—

(i.) The word "agent" shall include every factor, agent, clerk or servant, and also every person employed for the purpose or in the capacity of a factor, agent, clerk or servant, and every architect, clerk of the works, engineer, solicitor, surveyor, lawyer, salesman and foreman, and every person employed in a position of trust or confidence, and shall extend to persons in employment either alone or jointly with any other person.

(ii.) The word "principal" shall include every principal, master and employer, whether individuals or partnerships, companies, corporations, councils of a county or county of a city or town, district and parish councils, boards, commissioners, select vestries, or bodies having power to act under and for the purpose of any Act relating to local government, or the public health, or the poor law, or otherwise to administer moneys raised by public rates.

Provided always that no such consent as is before mentioned shall be given except by individuals or partnerships or by private companies consisting of not more than ten persons.

(iii.) The words "valuable consideration" shall include any money, gift, loan, office, place, employment, fee, reward, benefit or advantage whatsoever, and any forbearance to demand any money or money's worth or valuable thing, and the acceptance of any of the said things shall be deemed the receipt of a valuable consideration.

Provided always that the following things shall not be deemed to be valuable considerations within the meaning of the Act, that is to say:—

(*a*) A vale or gratuity bona fide given as such by a guest to the servant of his host.

(*b*) A gratuity bona fide given as such to a menial or domestic servant or porter for a legitimate service rendered or to be rendered to the donor, in conformity with the scope of the servant's or porter's employment by his master.

(*c*) Meat or drink or accommodation reasonably and bona fide given by way of hospitality only.

(iv.) The words "valuable consideration," when used in connection with the offer thereof, shall include any agreement or promise to give, and every holding out of any expectation of giving any valuable consideration.

(v.) The words "valuable consideration," when used in connection with the receipt thereof, shall include any acceptance of any agreement, promise or offer to give, and of any holding out of any expectation of giving any valuable consideration.

(vi.) The words "solicit any valuable consideration" and "valuable consideration solicited," shall be construed with the following direction, namely:—That every agent who shall divert, obstruct or interfere with the proper course of business or manufacture, or shall impede or obstruct, or shall fail to use due diligence in the prosecution of any negotiation or business with the intent to obtain the gift of any valuable consideration from any person interested in the said negotiation or business, or with intent to injure any such person, shall be deemed to have solicited a valuable consideration from a person having business relations with the principal of such agent.

(vii.) The words "persons having business relations with a principal" shall include every person carrying on, or having carried on, or desirous or intending to carry on, any negotiation or business with, or engaged, or having been engaged, or desirous or intending to be engaged in the performance of any contract with or in the execution of any work or business for or in the supply of any goods or chattels to any principal.

(viii.) The words "advice given" shall include every report, certificate, statement and suggestion intended to influence the person to whom the same may be made or given, and every stipulation, requirement, or condition as to the use of the goods of any third person or otherwise, for the benefit of such third person, and every influence exercised by one person over another for the benefit of a third person.

(ix.) The expression "A Court of Summary Jurisdiction" shall have as regards England the meanings assigned to it by the Summary Jurisdiction Act, 1879, and shall as regards Ireland mean any justice or justices of the peace, stipendiary or other magistrate or magistrates having jurisdiction under the Summary Jurisdiction Acts.

(x.) The expression "Summary Jurisdiction Acts" shall have as regards England the meanings assigned to it in the Summary Jurisdiction Act, 1879, and, as regards Ireland, shall mean within the police district of Dublin metropolis, the Acts regulating the powers and duties of justices of the peace for such district or of the police of that district and elsewhere in Ireland, the Petty Sessions (Ireland) Act, 1851, and any Act amending the same.

XXII. This Act shall come into operation on January 1, 1900.

XXIII. This Act may be cited as the Act to Check Corruption, 1899.

AMERICAN BOLTS AND NUTS.

Mr. Rufus Fleming, the United States Consul in Edinburgh, in a report to his Government, dated March 20, says:—Inquiry has been made at this Consulate by a wholesale agent, handling largely bolts and nuts and like articles, for the name and address of a company or firm in the United States manufacturing bolts (round and square, countersunk heads) and cold-cut nuts. He wishes to obtain this particular combination for the Scottish market. This business man informs me that the American manufacturers are now pushing the Germans very hard for the trade in bolts and nuts in the United Kingdom. The importation of these articles from the United States

began about eighteen months ago. For many years the German manufacturers had little or no foreign competition in these islands for machine-made bolts and nuts, and the British manufacturers could only hold the market for the common square-head bolts. In 1897 bolts and nuts began to come from the United States, and the trade has been growing. Of late it has been increasing rapidly. In this dealer's opinion, should there be no reduction of prices by the German and no increase of prices by the American manufacturers, the latter will soon get the bulk of the trade. The process of gaining the market would be easier, he says, if some of the American bolt and nut manufacturers did not persist in sending the goods in packages of 100 and of 50, although they know that it is the custom in the retail trade here to buy bolts and nuts by the gross and half-gross.

PROPOSED KENSINGTON IMPROVEMENT.

On Monday the Tribunal of Appeal, consisting of Mr. Arthur Cates (president), Mr. J. W. Penfold, and Mr. A. A. Hudson (legal adviser) sat at the Surveyors' Institute, Strand, for the purpose of deciding an appeal brought against the London County Council by the trustees of the Phillimore Estate, Kensington, under the London Building Act. Mr. Macmorran, Q.C., with Mr. Harpur, appeared for the appellants, and Mr. Seager Berry for the London County Council. Mr. Macmorran said the point of the case was that the trustees of the Phillimore Gardens Estate, Kensington, desired the sanction of the tribunal to a scheme for the laying-out of certain streets in Kensington. During his life the late Captain Phillimore, who died in February 1887, let Moray Lodge, Kensington, for a term of eighty years, together with the land surrounding it, on lease. The leaseholder at once proceeded to develop the estate, and borrowed largely to lay out the land from Captain Phillimore. At the captain's death large sums borrowed by the lessee were outstanding and became due to the personal estate of Captain Phillimore. These the lessee was unable to meet, and by an arrangement come to with the Chancery Court he was released from his liability under certain terms. Since then the advisability of dealing with the estate and land had been gone into, and, under advice, the trustees had decided to develop it by laying out streets, widening the existing thoroughfares, and erecting properties more marketable as a letting commodity than those at present existing. The plans of the proposed improvements had been submitted to London County Council, and that body had refused to sanct them. Why, he failed to see, because the public were benefit as much as the trustees of the estate. Mr. E. J. A. Balfour, E Chesterton and Mr. William Weaver, chief surveyor to Kensington Vestry, also gave evidence in support of appeal. Mr. Seager Berry, for the respondents, said London County Council refused to sanction the plans becau according to the general scheme, the proposed streets to formed would not at and from the time of laying-out afford dir communication with the existing streets. The object of Building Act was to prevent such streets being formed. tribunal disallowed the appeal, but made no order as to cost

PATENTS.

[*This List of Patents is compiled specially for this Journal Mr. G. H. Rayner, of the firm of Rayner & Co., C sulting Patent Agents, 37 Chancery Lane, London, W from whom all particulars and information relating Patents may be had gratuitously.*]

Applications for Patents

7452. George Benson, for "Improved bracket for windo blind rollers."

7489. Bernard Liban, for "Improvements in or relating kilns for the manufacture of cement."

7541. John Thornton, for "Improvement in brick-presse

7550. James Rankine Cantley, for "New or improved l for windows and the like."

7561. John Morgan and David Jeremiah, for "Impro ments in chimney-pots."

7640. Henry Gorton, for "Improvements in porta window-seats for cleaning, painting or repairing windows."

7693. William Isaac Belchan and James Gush, for " provements in window and other sashes."

7741. John Thompson, for "An improved building brick

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DELORME
DELACROIX
OZART



THE PLEIADES OF PROGRESS

FROM THE CUPOLA PAINTINGS IN THE HÔTEL DE VILLE, PARIS

BY P. V. GALLAND.

OF THE
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CATHEDRAL SERIES, No. 225.—DURHAM: FROM LANDING STAGE

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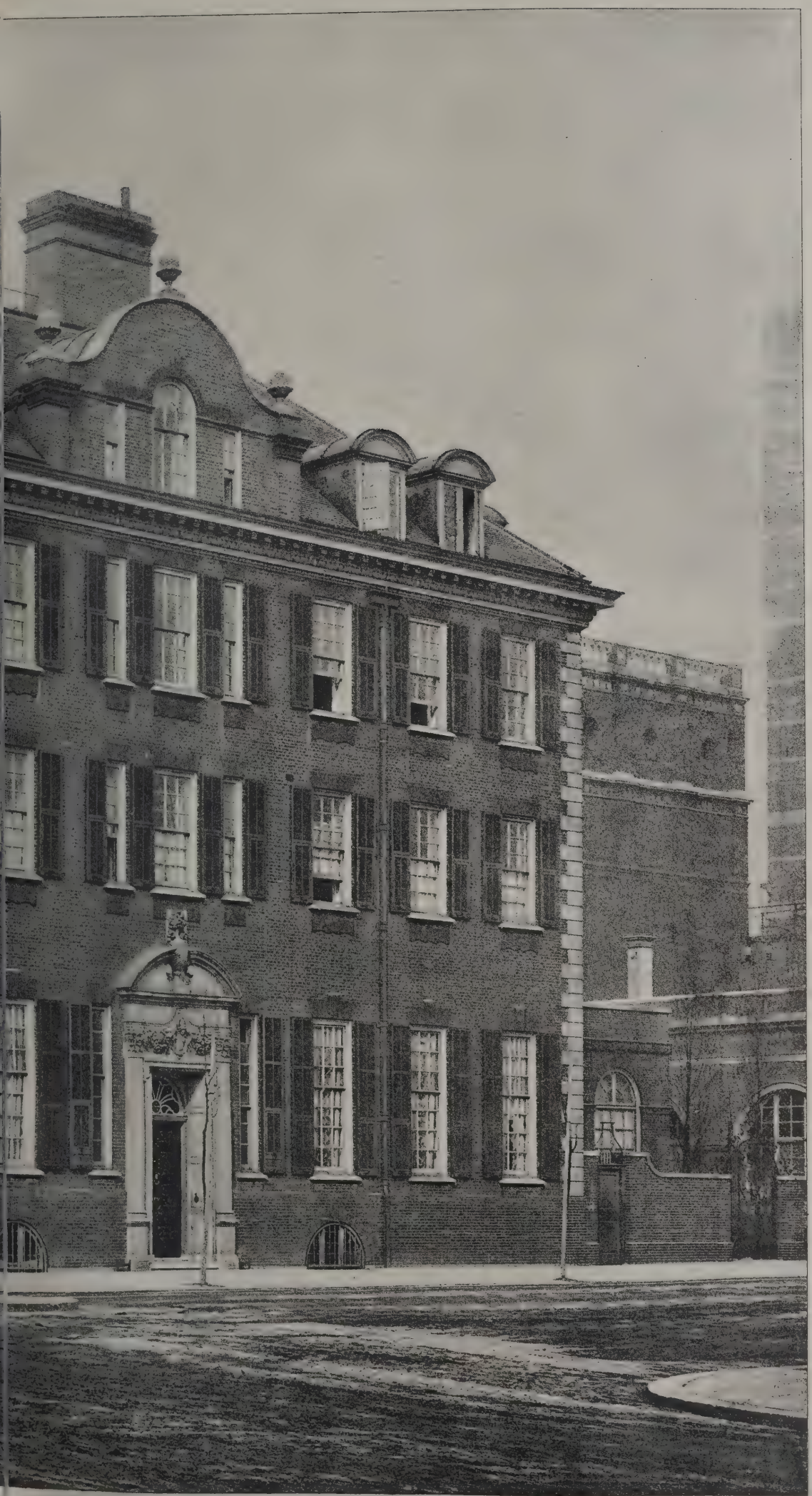


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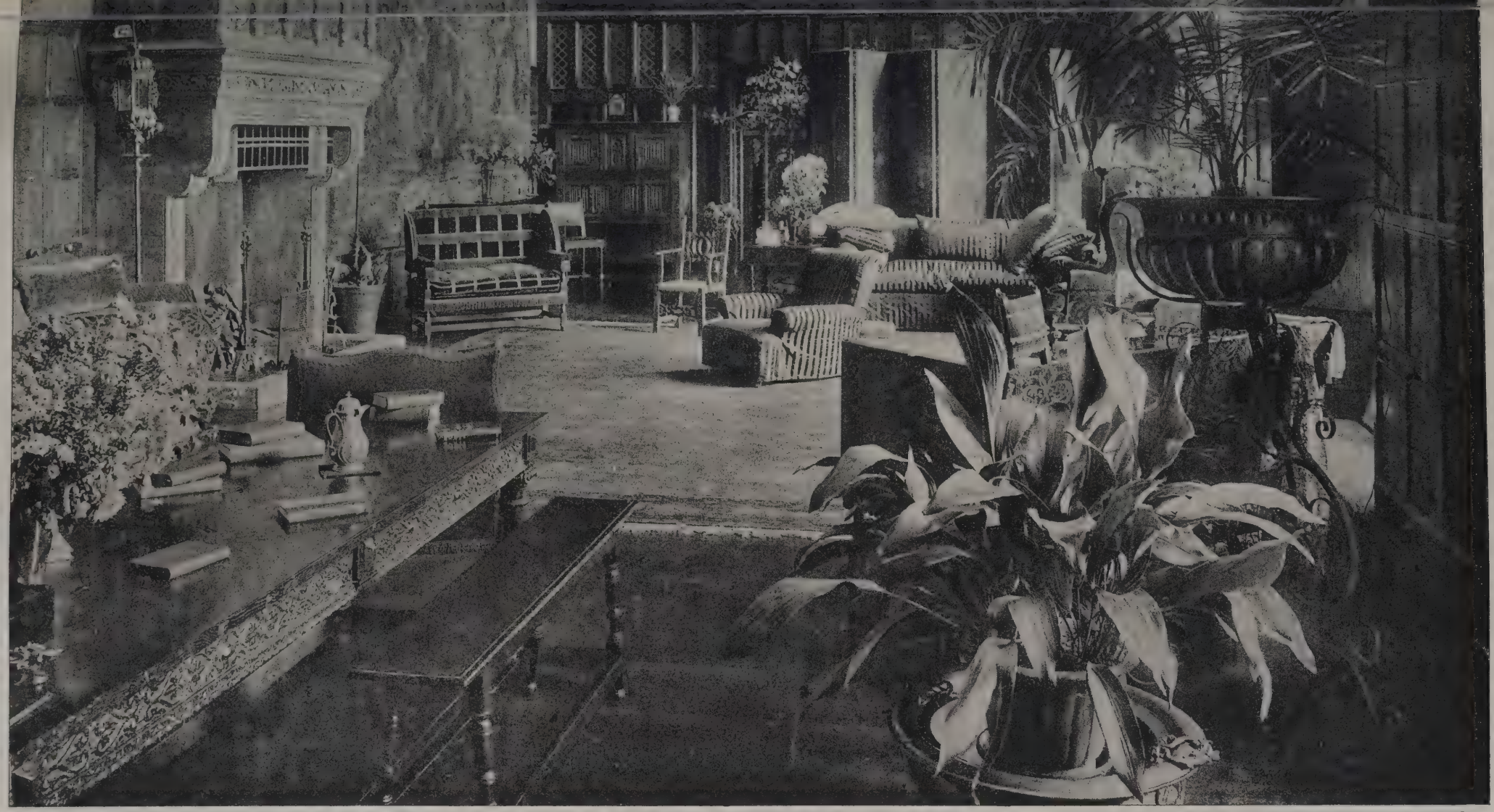


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"SHIPLAKE COURT," HENLEY-ON-THAMES

Messrs. ERNEST GEORGE & PETO. Architects.

The Architect.

THE WEEK.

CH artists are constantly expounding new or revived es of æsthetics in their works, and therefore it is lt to classify all the "isms" which have repre- ives. For each there can be found a logical nstration. One of the latest will be exemplified by emorial of ALPHONSE DAUDET when it is seen in The novelist was a frail little man with a head that most ideal in its intellectualism. The commission for atue has been given to M. SAINT-MARCEAUX. His tention was to follow the usual routine, and set up a on a pedestal to be designed by an architect selected nself. After producing several models with which he ot satisfied, M. SAINT-MARCEAUX resolved to try a experiment. Could not the pedestal be omitted? so it became necessary to find a substitute, as the would appear odd if the feet touched the ground. sculptor, after long pondering over the problem, d to demonstrate to all that a statue was carved out lock of marble, and for that purpose, but contrary to stomary practice, a large part of the unwrought e is to remain, and will be used not only instead of a al but as a support for the right arm, and on the surface es of DAUDET's books will be inscribed. The proposal ceived approval, but when it is found that contours be sacrificed, and that at a distance and from some of view the memorial will appear an amorphous there may be a return to the practice adopted by sculptors, although involving the giving of a com- n to an architect for a pedestal.

CHITECTURAL beauty is not a quality which is recog- y the Legislature or the Courts. Building Acts are in which provisions are made to render many things nsable, but the ugliest house which can be devised rated so long as the provisions of the Acts are ed. The Courts disapprove of trustees investing in buildings which are possessed of architectural on the ground that style is subjected to the laws ion, and the vogue of to-day may be considered us to-morrow. If the authorities of towns en- red to secure more respect for appearances in new gs, we have no doubt powers would be given by he plans of ugly houses need not be approved. But e necessary for the authorities to combine to achieve i. To compel every town to obtain a special Act purpose would entail so much expense, the public e prejudiced against the efforts. The difficulties in of reform were suggested this week in the Eccles Town . One of the members asked whether the improve- nd building committee had power to refuse plans if ations of proposed buildings were of such a character preciate the value of surrounding property, and if the tee could do nothing, would the Town Clerk say the Council could obtain powers in an omnibus eject plans of that description? The chairman of mittee said that body had no power to refuse plans as they were in conformity with the by-laws. They ot, therefore, interfere as between proposed build- l adjoining owners. The Town Clerk stated it was ficult to say what powers the Corporation could One or two municipalities had obtained extra- powers for schemes of street improvement; but of no case in which they had been made to apply all over a borough. In fact we believe there is and a man has a right, so long as he complies with ws, to erect a building which will have an injurious all the property in its vicinity. Why does not les Council endeavour to gain the reputation of a crusade against the perpetuation of ugly s?

AWS are not of much service unless they are en- ithout restriction. Sometimes they are supposed pressive, and if anyone escapes from their operation s jealousy. In Chelmsford a case has occurred ggests that a by-law can be interpreted in more than one way. A building was erected on the site of the old market house, Tindal Street, but the usual procedure of submitting plans prior to the commencement of the works was disregarded. The Town Council should have taken steps to compel respect for their by-laws, but they hesitated. Why there was an exception has not been stated. A committee was appointed to consider the subject, and the opinion of Mr. MACMORRAN, Q.C., was obtained. That gentleman considered that the building was new, and therefore plans should have been submitted for approval prior to the commencement of the works. Moreover, as respects air space and height of top floor, there was no compliance with the by-laws. Although fortified by counsel's opinion the Council continued inactive. Nobody professed ability to understand what was next to be done. The sub-committee to whom the subject was relegated said:—"It must be remembered that, acting upon a former opinion of Mr. MACMORRAN, the town clerk and the surveyor did certainly intimate to the Council and also to the surveyor to the owners, that the building as proposed did not come within the by-laws. Under these circumstances your sub-committee are of opinion that it would be doubtful whether any action taken would now be successful. Your sub-committee are, however, of opinion that in any future case of a similar kind the requirements of the by-laws as to the deposit of plans and other matters should be enforced even if it should become necessary to test the matter by legal proceedings." Everything appears to be in a muddle. The Council may hereafter have sufficient energy to assert the authority of the by-laws, but their action cannot condone the mysterious neglect exhibited in connection with the market house.

AFTER a fortnight's consideration the select committee of the House of Commons have declared that the preamble is proved of the London Improvements Bill of the London County Council so far as regards the Strand and Holborn improvements. It has also been declared that the land south of the Strand is to be excluded from the betterment area, and that the making of the road is to remain in the hands of the County Council. That conclusion was anticipated. The improvement has long been called for, and if further delayed would be an obstacle to the progress of London. The County Council, we suppose, will endeavour to have the thoroughfare made as expeditiously as possible. What is now most desirable is an assurance that the County Council will exercise a controlling power over the style of the buildings which are to be erected along the roadway. The street will be well adapted for the display of good examples of architecture, and for that reason we hope more care will be exercised in the approval of plans than has been customary with some other new roadways.

A THOUSAND years ago there was a diocese of Hexham, but owing to Danish invasions the see could not remain independent, and had to be transferred to Durham. There was a magnificent minster, which was described as "the goodliest church on this side of the Alps." A long account of it was prepared by Abbot RICHARD, but it is so detailed it is hardly comprehensible at the present day. From time to time money has been laid out on the restoration of the abbey, but the results were not always satisfactory. According to Canon GREENWELL, a chantry chapel, which contained some very fine woodwork of the end of the fourteenth century period, was entirely swept away for no reason whatever. The woodwork was ultimately sold to Mr. CRUDDAS. The whole east end of the church had also been taken down, and a very poor unsightly window and east end put in. This was so bad that not very many years afterwards it was removed and the chapel restored as near the original as possible. It is now proposed to expend 3,500*l.* on restoration works, but the Canon says that whatever is done will be well done. There is to be no destruction, and the works, it is anticipated, will not offend the most conservative lover of antiquity. Canon GREENWELL is a member of the committee, and he says he declined to accept the position until he was assured about the character of the measures which are contemplated. He anticipates that Mr. CRUDDAS will give back the woodwork of the chantry chapel, and that it can be replaced in its original position.

PAINTING AT THE ROYAL ACADEMY.—I.

ALTHOUGH it is already generally accepted that this year's Academy exhibition is below the average, visitors need not be afraid of misspending a shilling by going to Burlington House, and those who contemplate the purchase of pictures will find many attractive works awaiting them. Considered as a spectacle the collection may be disappointing, but we are not disposed to believe there is no other way of judging the pictures. The public expect to have dramatic scenes on the canvases. The manner of painting, the composition, colouring and draughtsmanship are supposed to be of inferior importance in London, although elsewhere it is style rather than subject which fascinates. The exhibition does not present many pictures that are impressive by their tragedy or their comedy, and in consequence it is declared to be a failure. It may be granted there is much to be seen which is commonplace, but as compensation there are also works having an interest which, although not shared by the public in general, is, however, genuine.

Take, for instance, a quality which appeals to the majority of our readers. Architecture this year asserts itself in a great many of the pictures. Chief among them is Mr. Alma-Tadema's *Thermæ Antonianæ*, or Baths of Caracalla. The artist undoubtedly had data to work upon, for everyone knows how extensive are the ruins. But the number of theories and the various attempts at restoration are enough to put the baths outside the category of paintable subjects. Mr. Alma-Tadema has accustomed us to elaborate presentations of Roman interiors, but we doubt if he attempted one before which was equally difficult. He has made a great effort and has succeeded in producing a remarkable building, although it is not to be expected that all will be satisfied with the arrangements. Shelley was amazed at the sight of the flowery glades and thickets which extended in ever-winding labyrinths upon the immense platforms and dizzy arches of the ancient structure. But it is more amazing to be told by Roman writers that the roof was altogether supported by bronze or copper railings. A dozen archæologists would have a dozen solutions of the difficulty, and we must not criticise the painter's restoration as if it were one of those produced by the architectural prizemen in the Villa Medicis. It seems to us that Mr. Alma-Tadema has been too loyal to architecture. If the three girls who are chatting in front could be cut out they would form a delightful picture, and as only a part of the great marble column need appear, there would not be heard so many wishes to have it removed as an obstruction. At present there is a divided interest, and the fortunate man who obtains possession of the picture would do well to persuade the artist to make two out of it, the architecture and bathers in one, and the charming English girls in Roman robes, who are comparable with the Fates of the Parthenon, in the second.

On the opposite side of the principal gallery is a small picture by Mr. Logsdail which suggests the advantage of making it plain that architecture, when elaborate, should be allowed supremacy. The *Venetian Interior in the Eighteenth Century* has two grand dames in conversation and a black page waiting at a distance. But they are treated as if intended to be only suggestive of scale. They do not interfere with our enjoyment of the beauty of a room which, if belonging to the declining period of Venice, reveals that the love of splendour was not extinct. Mr. Frank Topham is as much at home amid Italian buildings as his father was in Connaught cabins. In the *Acquittal* we see a young revolutionist who has come out of the gate of a tribunal embracing his sweetheart, while his friends telegraph the news in the old-fashioned way by signs and shouts. The gate could not be more elaborately drawn in its detail by a travelling student, but no more of it is shown than is absolutely required to suggest what has taken place. The artist is not quite so fortunate with the part of the temple introduced in *Nunc Dimittis*. There is no painter who employs architecture with more effect than Mr. Albert Goodwin, and he makes less pretension to figure-painting than did Claude, who was supposed to give his figures away as worthless. To say he is the successor of John Martin will probably be considered as faint praise, but that artist was inspired by grandiose ideas which he did not acquire in any school. In Bunyan's vision of *The S of Mansoul* there were likely to be fewer immense a and less resplendent palaces than Mr. Goodwin revealed to us, but the description and the realis reveal aspirations in common. Both men were drea The *Indian Afterglow: Agra*, is suggestive of soil th near to the internal fire, and the monotony is only br by the descent of a troop of crows. In such a place domes and minarets of the Taj Mahal stand out as s thing more than earthly, and the white marble wit delicate inlaying becomes a vision.

In the *Baile de los seises*, or choristers' dance, in S Cathedral, we have an admirable example of proporti treatment. The building, we need not say, is one of which make it difficult to know where to begin wi representation and where to end. The mere statisti the size, weight and number of interesting objects t found in the interior are amazing. Señor Gonzalo B introduces us within the choir or coro, which in Sp buildings is nearer the centre of the church than is us England and France. We see the great altar, its furn and surroundings, that are on a scale which becom vast a building, and the reja or wrought screen sepa the enclosure from the body of the cathedral. But al details are subordinate to the dance of the boys, wh clad in pink satin doublets with plumed hats. The have a family likeness, and the youngsters appear seeking admiration without much concern for the ant of the ceremony. The dance is the most novel subje the exhibition, but it would deserve its position on ac of the skill shown in the technique.

It is exceptional to have three painters undertakin same subject. Mr. Gow, Mr. John Charlton, and S D'Amato have depicted the *Diamond Jubilee Serv* 1897. The Academician and the Italian artist have their position in front of St. Paul's, and the western p the cathedral becomes the architectural background. represent the moment when prayer was offered b Archbishop of Canterbury. The two pictures corres with the photographic representations of the scene. Charlton selected a point of view more to the south in consequence buildings have to be introduced whic of no pictorial importance, unless as suggesting the ar ments made for sightseers. The three artists have equally laborious and truthful in dealing with the hur of figures congregated on the steps, but as the scen novel and unusually brilliant it is no wonder the pi are considered to be too glaring. Scarlet uniform ladies' summer dresses when seen on a bright day i cannot be subdued, unless the historical value of the sentation is to be ignored, and the three artists shou commended for their courage.

There are many other pictures in which the arc tural element should be considered. In Mr. V King's excellent *Path by the Mill* the long ran brick buildings appears to be taken from reality, a that aid an almost novel character is imparted picture, for the artist generally restricts his pencil to Mr. Leslie's old-fashioned bridge was an architect's for, as it is "hallowed by six centuries of great usefu work of the kind in those days would be entrust church builders. It is well adapted to the peculi peaceful air which surrounds his later pictures: b hope his next structure will appear under another li morning or a night scene would be no less interesting

The majority of visitors will not give much atten the builder's work which is introduced in the pi Architecture must succumb to whatever is dramat such a scene as Charles II. on his knees begging f ness from Lady Castlemaine, and ready to receive on the ear if necessary, which Mr. Frith contribute we fear, receive more attention than the *Baths of Ca* which is opposite. The battle scenes, although th not equal to some of those seen in former exhibitio be likely to receive extraordinary attention becaus show figures in action. Mr. Napier Hemy is usual tent to represent the courage of fishermen along the but his foresight compelled him to paint a smuggling showing a party of freetraders pursued by a revenu and firing from an old-fashioned cannon on the gu of the excise. It is animated enough, and visitors a

speculate about the issues of the race. Joan of Arc in the panoply of war has been revived by Mr. F. Roe. . Blair Leighton shows King Arthur, his queen and ghts at the water gate of the palace, gazing on the barge—

> Whereon the lily maid of Astolat
> Lay smiling, like a star in blackest night.

Many a painter must have wished he had retained the tures of moving accidents by flood and field which a years ago were little prized, but would now be welcomed masterpieces. If, for instance, Mr. Collier could stitute one of his costume pieces for *The Garden of mida*—a young gentleman in evening dress amidst venal uties—it might become the picture of the year. That inction, on account of the scarcity of dramatic works, ms destined to be attained by Mr. Byam Shaw's *Love Conqueror*. It is as brilliantly coloured as an Italian *one*, and the subject is a fantastic combination of gedy and farce. The god is mounted on a charger and els in the long line of his prisoners, who march to death ore him. Under the charge of amorini who enjoy the iation, Helen of Troy, Dante, Cleopatra, Mary een of Scots and other familiar beings appear among captives. In his desire to satisfy all, the painter has hesitated to employ the most popular portraits, and the ngement does not impart dignity to his picture. chel Angelo is seen in profile; Beethoven is the with the closed mouth we see in the common litho- hs. The Knight of the Swan might have stepped off stage. The familiarity will be appreciated by visitors he Academy. But where are Abelard and Heloise? chel Angelo has hardly any claim to appear in such mpany, for his admiration of the Medicean princess is ertain, and the affection for Vittoria Colonna was only onic. Raphael was an undoubted victim, but we e not recognised him. At another time the picture ht be lightly treated, but this year all the visitors will ise that the artist has conferred a favour on them, and nust recognise the care which was taken in the production nany figures. Another picture which at any time would ive attention is Mr. Solomon's *Laus Deo*. It is like llustration of Spenser. The young knight has passed ly through the enchanted wood, where brave men are dallying with Circes. He is riding across the river, a substantial angel holds his helmet while the young ior utters his thanksgiving. Mr. Solomon has never luced a better example of modelling and colouring. was not known as a Mediævalist, but in this work he surpassed his classical exercises. The armour, which ars to be slightly rusted, is manipulated with a success few living artists could rival. It should be considered e most satisfactory work in the exhibition.

Shakespeare has afforded few subjects of late, and year necessity has compelled several painters to e him. Mr. Abbey, by his scenes from "Richard III." "King Lear," proved himself to be an original inter- r. This year he has adopted the hazardous experi- t of illustrating two of the songs rather than scenes any of the plays. He has not had in consequence the ntages which arise from painting figures with whom le are more or less acquainted. The experiment is con- ently most risky. *Who is Sylvia? What is she, that all wains commend her?* shows us a lady very richly clad mpanied by young gentlemen who are proud to be her nts. In his second picture—*O, mistress mine! where you roaming?*—we see a lady who appears demented. s placed beside a standing stone that would have served r for a girl in Druidic costume. The song is Italian, he costumes alone belong to that country. Neither re appears to be completely finished, but both are nce of the success which Mr. Abbey can obtain by le methods. We can suppose a connection between ong and the figures, but if the titles were not supplied dy could guess the subject of each picture.

There are several figure pieces which, if not exciting or erious, are still interesting. One is Mr. Shannon's *s in the Wood*. It is in the French tapestry style, and s two peasant children wandering in a wood. Mr. C. Horsley's *Arbitration* is a dispute between two s in a harem, which is left to the judgment of an dant. Mr. La Thangue has some of his Sussex peasants, which are cold in colour; but to *Cider Apples* he imparts more warmth than he has yet exhibited. Mr. Herbert Draper's *Trailing Clouds of Glory* is not tragic like his *Icarus* of last year, for it represents a fisherman's child in one of those Belgian churches where they admit models of boats as memorials of gratitude. She stands against a column, and her face is illuminated by light from an invisible window. *Favourites of the Hunt*, a lady with a horse and dogs, by Mr. Macbeth, is as charming as a French cabinet picture of the last century. In *Perseus and Andromeda* Mr. Nowell attempts depicting the legend in an original fashion. The victim is not tightly bound to the rock, but carries a chain which allows freedom of motion within a limited distance. The sea monster is not more terrible than the majority of its class. Mr. Clausen has two pictures—*Allotment Gardens* and *Going to Work*—which are in the style associated with his name. Picture-buyers, we suppose, do not wish that he should go outside the familiar groove. Mr. Louis Feldman has introduced a French practice of painting scriptural scenes with the figures in western costumes. In his *Widow of Nain*, Christ appears accompanied by Dutch folk clad in costumes which were worn at a late period. In the *White Cockade* Mr. Lockhart has painted a familiar incident of a lady fastening the Jacobite symbol in her lover's bonnet, regardless of the consequences to him.

ARCHITECTURE AT THE ROYAL ACADEMY.—II.

At one time it was commonly supposed that the days for building cathedrals were over, but when Truro began to rise there was end to the despondency. The erection of an "Archiepiscopal Palace, Canterbury," appeared a less likely event, for cathedrals appeal to a larger number. The new conditions of episcopacy have made such a building necessary, and negotiations have advanced so far as to make a bird's-eye view possible. Mr. W. D. Caröe's houses are generally of the eighteenth century, but in this case he has wisely gone back a few centuries, and in one sketch we can see how well his lines will agree with those of the great Angel Tower. The new buildings will form a group which will be adapted for the tenant, being sufficiently dignified and capable of permitting hospitality on a generous scale, while suggesting that economy has to be considered. Although the palace would be taken as a Gothic building, and if more money were at disposal there would be more signs of the exuberance belonging to the style, yet it is quiet compared to the new Classic of which the "Entrance to Assize Courts, New Law Courts, Cardiff," is a characteristic example. In it we see the fear of long lines and plain surfaces. The inscription on the frieze, "Deo adjuvante, non timendum," has to be divided to allow of the introduction of an armorial shield. The cornice prematurely ends to find space for sculptured figures. Everywhere there are signs of an endeavour to avoid monotony and to seek novelty. It will perhaps be said that Classic or Italian correctness is ignored, but Horace Jones's old courthouse is an example of that quality, and few will say it is preferable to the building which Messrs. Lanchester, Stewart & Rickards have designed. The older Classic is more apparent in the "Design for Memorial Buildings, Singapore," by Messrs. Ashley & Armstrong, and it is curious how fond the authorities appear to be of the style, as if it were impolitic to attempt an adaptation of any local style, because in that way the weakness of the rulers would be revealed. A design for a town hall by Mr. Pawley is of the familiar type—a long range of windows and a high tower. Mr. Lewis Ambler shows a house at Biddenham, Mr. W. T. Walker one at Southgate, Mr. W. A. Pite stables at Highcombe Edge, Hindhead, and also a timber staircase in the house, which is lighted by an œil-de-bœuf; and Messrs. Dawber & Whitwell a "Village Post Office, Broadway, Worcestershire," which is not according to the official pattern. In Birmingham for a long period there was practically an official pattern for schools, because one firm monopolised all the commissions, but the "New Higher Grade School, Deaf School and Pupil Teachers' Centre, Aston," by Messrs. Crouch & Butler, proves the advantage of

allowing several architects to take part in the work. There is no plan to explain the arrangements, but the principal building exhibits very large windows with pilasters between, and there are much smaller buildings at the sides. A mean has been realised between a college and a school without any of the depressing elements which are too common in the Board schools of provincial towns. Messrs. Brewill & Baily's "Presbyterian Church, Nottingham," is free from symbols or ornament that might offend, the tower for that reason apparently is without a spire, but as the battlemented top is arranged as curves, a sky-line that is pleasing is secured. A fine "Clock Tower and Campanile for St. Michael's College, Tenbury," comes from Messrs. Mallows & Grocock; the upper part, we suppose, can be used occasionally by some lone watcher of the skies. The "Clock Tower, Fyvie Castle," by Mr. A. M. Mackenzie, of Aberdeen, is a turret rather than a tower; it is Scottish in style, and is treated to admit of the arms of the owner underneath. Mr. E. P. Warren introduces a sturdy tower as part of his small "Church of St. Martin, Bryanston, Dorset," and around the upper part are several armorial shields; if colours are used for the bearings, for form alone is insufficient, the effect will be pleasing. Mr. Horsley's "Stables, Whitley Hall, Yorkshire," form three sides of a square, and are approached by a very large gateway. The "Four small Country Houses in Southbourne-on-Sea," by Mr. G. A. Bligh Livesay, have variety, and are adapted to the position and use, but the drawing does not do justice to the design. The "Design for a Concert Hall," by Mr. W. S. Bates, from the severe style would appear to be intended for any purpose rather than musical performances, unless restricted to requiems and funeral marches. The "Music-room, Cotlands, Sidmouth," by Mr. R. W. Sampson, is not open to an objection on account of heaviness, and the painted decorations are not out of keeping with the purpose of the erection.

The most important design in this part of the room is Mr. Aston Webb's "Britannia Royal Naval College, Dartmouth." The building stands on a terrace, and the curved lines of the approaches are advantageous as giving contrast with the long line of buildings. There are three floors. The rooms must be all well lighted, for the space between the windows is very narrow, and in the central part serves for thin slips of pilasters. There is some difference in the windows, and as a whole the building appears to have less sameness than is customary with barracks. Near it on the walls are several drawings of houses of various sizes by Messrs. Dawber & Whitwell, Mr. H. C. Clarke, Mr. F. Glennie, Mr. W. Millard, Mr. G. Hornblower, Messrs. Wilson & Talbot, Mr. H. O. Cresswell, Mr. W. R. Jaggard, Mr. J. A. Brand and Mr. H. G. Ibberson. Messrs. Harrington & Leys's "Design for Cardiff New Town Hall" recalls St. Paul's Cathedral by its dome and campaniles. Mr. Caröe's "Reredos, St. David's, Exeter," is Germanic in arrangement of curved lines, and his "Tower, St. Mary Yate, Gloucester," will bear comparison with older examples. Mr. C. H. Fowler's "Chancel, &c., St. Mary's, Oldham," is free from a screen, and a fine window is introduced at end. There are three designs for the "States Hall and Court House, Guernsey." The site is inclined. Messrs. Gotch & Saunders show a plain building with a few very large windows, and curved lines are avoided. The tower is more suggestive of a public building, and is hardly in keeping with the remainder. In Mr. R. F. Atkinson's design, the entrance, with the tower over it, is a fine example of composition in which curved lines are freely used, but the two ranges of heavily rusticated windows seen in the side view are more suggestive of a series of rooms than of a place of assembly. More courage in the expression of use would have been beneficial, although symmetry might suffer. In Mr. Mountford's design there is greater independence, but the domed salle d'attente would satisfy a stickler for precedents. The "Proposed Fire Brigade Station, Bootle," by Messrs. Briggs & Wolstenholme, might well be made to serve as a town hall, and is gratifying as evidence of the public spirit displayed in many of the provincial towns. The difficulty in such buildings is making provision for fire-escapes, and it is not evident from the drawing exhibited. Mr. Hack's "Design for Technical Schools, Sutherland," shows the entrance, that is flanked by rusticated columns, which in the view appear h
The "Newport and Monmouthshire Hospital," by Richard J. Lovell, is the most important building c
class seen this year. It consists of a centre block an
wings with buildings connecting them. As the ar
ample there is no necessity for entrances which have t
reached by ascending several steps, and inconvenien
patients is avoided. The building has a cheerful ap
ance, although it cannot be said much money was expe
on decoration. Mr. Grocock's "Alternative Desig
the Tower of St. Andrew's Church, Bedford," s
skill, and, from the position of the structure, it
appear as if guarding an entrance to a garden.
C. S. Blomfield has an effective house at Abing
Mr. Huntley Gordon a large block of City o
"Abchurch House, Cannon Street"; and Mr. C.
Quennell an "Entrance to House," the last being s
enough as an architectural work, but not easily overl
on account of the novel drawing, which sets importan
the shrubs of a suburban forecourt. Several desig
stained-glass are next encountered.

The "South Hall of Branksea Castle, Dorsetshire,
Italian style. The arched ceiling is lightly painted with
subjects, garlands, &c. The part near window is fo
as a recess by means of arches and grouped col
"No. 27 High Street, Kensington," by Messrs. B. &
Fletcher, is an effort to provide more accommodati
a very narrow site, and is a good example of getting c
difficulty with success. Mr. Davidson has a careful dr
of the entrance to the Trowbridge Technical School, whi
C. M. Shiner represents a doorway at Grays, Esse
what is probably the smallest drawing ever seen i
Architectural Room. Mr. C. Spooner's altar and tri
is courageously plain. The "Port Elizabeth
Library," by Messrs. Bateman & Buckland, is a
brick building, the windows of the ground-floor
arched. Mr. P. Tree has an excellent house with
windows at Hollington. Mr. Paul's lych-gate at W
Fitzpaine is less rough than many later examples.
Matthew's Church, Willesden," by Messrs. Mallo
Grocock, is red brick with a low tower, and wou
truly described as round-arched Gothic in style.
Ralph Knott's font is encased with pilasters, an
cover is surmounted by an angel. The design
sesses originality. Mr. Victor Robertson's "Ske
a Painting of the Four Seasons," which is to be
over and at one side of a chimneypiece, is a
specimen of decoration. Another pleasing exam
Mr. Millier's "Decoration to Walls of a Music-roo
which we see panels illustrative of classic subjects
unambitious but graceful style. The house near A
Normandy, by Mr. C. E. Power, is half-timbered, a
bay windows. The treatment is not inapposite
district, for it is doubtful where timber work origi
"St. Andrew's, Bromley-by-Bow," is a Gothic churc
a belfry that in height is lower than the summit
roof of the building. In another drawing of "St. Ma
Willesden," Mr. Caröe combines the clergy hous
church in a very skilful manner. Among the do
buildings are a farmery at Burton, Sussex, by
Horace Field, house and stable by Mr. T. P. C
son, a gamekeeper's cottage by Mr. F. W. Newm
house at Rickmansworth by Mr. A. Mitchell, and
Windermere by Mr. Voysey, and one at Burley-in-W
dale by Mr. E. Newton. Messrs. James Brooks &
sole contribution this year is a "Design for Eas
Decoration, St. Luke's, Enfield," in which we see
the stained-glass window a painting extending abo
altar. The altar has also pictures in the panels,
liberally used in the paintings, and the design i
interesting. Mr. Paul's screens for Abbey Dore
have the lower parts solid, with carved wood in the upp
The drawings of Colchester Town Hall by Mr. Belch
evidence to prove the inadequacy of a 5 per cent. comm
The detail of main façade gives a surprising amo
variety in brick, stone, iron and marble. In the
chamber a frieze is introduced above the mayor's
which shows a carefully composed interview betwe
Romans and Britons, which is definite enough
followed by a painter. The "New Premises, H
Square," by the same architect, represents a stately

in which sculpture is skilfully introduced above the first-floor windows. The view in the cloister of All Saints Convent, St. Albans, by Messrs. Stokes & Hine, shows three sides of a square, the cloister arches being closed in. Painting will be extensively used in Holy Trinity Church, Roehampton, designed by Mr. Fellowes Prynne. There is a florid frieze over the arching; the screen does not interfere with the prospect. The proportions are satisfactory, and altogether the church deserves commendation.

The "Altrincham Council Offices," by Mr. H. Goldsmith, is of the two-storey cottage type, with only one entrance. The design for the Board school at Littlehampton, by Mr. W. Gillam, presents an unpretentious group, the central part in which is the board-room, rising a little above the sides. Another instance of the employment of a dome is seen in the design for the Port Elizabeth Library, by Mr. Selby. Mr. A. Williams's "54 Parliament Street" is presumably a bank, and the heavy quoins to the windows may therefore be intended to suggest strength. On one side a turret is introduced, and is a gain to the composition. "The Heights, Witley," by Mr. Paxton Watson, could with as much reason be called "The Gables," for there is one over each window. Plainness has been sought after. The design for the Hull public library, by Mr. H. J. Buckland, appears as a two-storey building, the lower windows being arched. The remarkable group of St. George's Church Schools, Mayfair, which are superior to the majority of London Board schools, would appear to more advantage if a better drawing were obtained. Mr. P. A. Robson was the architect. Mr. Champneys's "New Buildings, New College, Oxford," are shown by an elevation, and are in keeping with the general collegiate type of Oxford. Mr. Spooner's "Chancel of St. Michael and All Angels, Little Ilford," is remarkable for the introduction of two angels, one bearing a sword, as guardians of the sanctuary. Next we meet with a country house by Mr. J. Cash, another by Mr. P. J. Marvin, a fine hall with galleries across at Emley Park, Hants, by Mr. H. O. Cresswell; and a large hall with a timber roof wainscotted in Holyrood Schools, Swindon, by Messrs. Silcock & Reay.

"The Lady Chapel, Holy Trinity Church, Chelsea," is shown on a remarkable drawing by Mr. H. Wilson. So much appears mysterious, it does not seem possible that the project can ever be realised. The most prominent object is a sculptured column, which appears to be hung round with shields, and introduces an idea of romance which would be more in keeping with a baronial chapel. In the frieze for the P. and O. board-room Mr. Frank Murray makes good use of ancient boats which could not be distinguished for their swiftness. In the staircase and gallery of Kelly House Mr. W. Leiper, R.S.A., of Glasgow, reveals his power in colour and in treating woodwork. We have a country house and a hall by Mr. G. O. Scorer, and a good example of a London manufactory, with the utmost window space, by Messrs. Roumieu & Aitchison. "The Bridge Lodge and Gates, North Mymms," by Messrs. Ernest George & Yeates, would not satisfy a modern engineer, for a pier is found in the middle of the river, but we suppose there can never be much force in the water. The form is old-fashioned, with recesses on the roadway over the piers, but it is undoubtedly picturesque, and in combination with the lodge and gates forms an artistic composition. There is refinement in Messrs. Wimperis & East's "Business Premises, George Street, Hanover Square;" the lower part is a shop, and the owner has allowed a portion of the window to be obscured for the sake of effect. There is a balcony on the second floor which, with some other features, gives a Parisian character to the building. Mr. J. S. Lee's "Design for a Garden by the River" is in the Italian style, from the architectural character in the terraces and other elements, but there is no means of knowing where the vegetation is to be found.

Mr. Archibald Paul Brevitt, architect, of Wolverhampton, and brother of the town clerk of the borough, died on Tuesday. He was fifty-nine years of age, and had been in ill-health for a considerable period. He served his articles with Mr. Taubshaw, of Stafford, and commenced practice at his native place, Darlaston, removing about fifteen years ago to Wolverhampton.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. G. H. Fellowes-Prynne, president, in the chair.

A unanimous vote of thanks was passed to Messrs. G. B. Carvill, G. Bailey, and Leonard Butler, for their services in preparing words and music, and the performers who had assisted in the production of the "Druids' Elect" on the occasion of the Association's annual soirée.

A second vote of thanks was passed to the Prime Warden of the Fishmongers' Company for allowing members to visit Fishmongers' Hall on April 15, and also to Messrs. H. Chatfeild Clarke and J. D. Crace, who conducted the party over the hall.

Owing to the unavoidable absence of Mr. F. W. Macey, his paper was read by Mr. G. B. Carvill (hon. sec.).

Specifications.

There has been so much recently written upon the subject of specifications, that it is difficult to suggest any new or original ideas, and I fear that the few remarks I have to make may be somewhat wearisome to many present, and seem like going over old ground. But those who have not given the subject any special consideration may find some of the suggestions not wholly unprofitable. And if further excuse is necessary, I do think that to hear a question discussed creates a more lasting impression than that of mere reading.

A specification may be either lengthy or curtailed, according to the particulars given upon the drawings. Some engineers favour a short specification and prefer to put as much written information as possible upon the drawings, one reason for this being that engineers usually supply a number of detail drawings with their contract plans, which enables them to put many notes upon those drawings. On the other hand, architects do not usually supply many detail drawings, consequently somewhat lengthy specifications are necessary. To my mind, either method may be adopted if the requisite information be clearly given.

I can conceive of a set of plans prepared and written up so fully in detail that a specification as a separate document might become unnecessary; this sometimes happens in a certain class of work. On the other hand, I can scarcely imagine a specification so full in detail as to dispense altogether with the plans, unless it related to a very small and simple erection or to general repairs or decorations.

But without further discussing these two methods I would ask you to assume that both plans and the specification are necessary for general work; I will then suggest a form of specification which shall be curtailed and yet shall not detract from a full and clear description of all parts of the work.

A specification should not supersede the particulars given upon the drawings, but should more fully explain those parts which the drawings do not clearly illustrate, or which are in any way obscure. It is impossible to show every detail or give every particular upon the drawings, consequently a full description of those parts becomes absolutely essential in the specification.

I take it that the plans give the general arrangement of the building, and the specification should describe the details of that arrangement. The plans should have figured upon them every important dimension, such as the lengths, widths and heights of the various distinct parts of the building; the thickness of walls, the depth and width of the concrete foundations, the sizes of floor joists, roof and flat timbers, the widths, and heights of doors and windows, and all other similar and important parts and items. It is seldom that plans to a small scale are so accurately drawn as not sometimes to be obscure with regard to the sizes of certain parts unless these parts are given in figures.

The only other particulars in writing to be put on the plans would be the names of the rooms and other parts of the building, together with any notes or references which might assist the description in the specification.

With regard to small scale drawings, do not labour the elevations by showing every brick and slate. Working drawings will be far clearer without too many lines, and there is no need to finish them like a picture. But in the specification I would include everything except the general dimensions of the various parts of the building. Of course the sizes of the joists and roof-timbers are always described in the specification, as well as sometimes being given on the plans; and I see no harm in stating the thickness of the various walls, the depth and width of the concrete under the walls, or any other detail of the building. A specification which is full, but at the same time concise and to the point, will prevent mistakes and misunderstandings when the building is in progress. Need I remark that the specification should always agree with the drawings?

Presuming, then, that the plans are before you, but not in too great detail, and that you have decided to write a rather full specification—what, then, is the first consideration?

You must have a complete knowledge of your subject, that is, a full grasp of the details of building construction and of the value and properties of materials. In other words, you must know what you want to describe, and, knowing that, you must be acquainted with the requirements attendant upon those wants, and you may take it for granted that until you are proficient in these matters you will never be able to commit to writing the proper descriptions needful to the erection of a building. Therefore, I say that a complete knowledge of all the requirements and details of the various trades coming within the scope of the architectural profession is the first consideration to efficient specification writing, and I might also add a knowledge of the various Acts relating to buildings. But it may be said that it is impossible to know everything, and when in doubt the only way is to put a provisional amount to cover any such point, and to obtain afterwards the information from a friend or specialist. This is true, and may be the only course to adopt at the time, but ready and accurate knowledge will benefit all parties concerned.

The question then arises, What is the best way to obtain such knowledge?

I know of only two ways—study and observation. What I do myself is first to read any works obtainable which bear upon any doubtful point, and I would also add that much useful information can sometimes be gained from trade catalogues. I then discuss the matter on every possible occasion with anyone I come across who has any knowledge of the subject, and, further, I keep my eyes open and learn all I can from what is going on around me. You have only to pass down any street where building operations are in progress to gain many practical hints.

You now proceed to write the draft specification. This is often hurriedly written, much being left to alter and supplement when revising for fair copying. This is a great mistake. A draft specification should be written with care and thought. Being fresh to the matter, even so dry a subject creates a certain amount of interest, and if you concentrate your mind upon the subject you will be less liable to omit many small items. Therefore, let the first draft be as complete as possible.

I might suggest that when engaged upon the plans, it will be found of great assistance if notes are made of any obscure item coming under your observation at that time.

Just a reminder here. When sending out a number of fair copies see that they all agree.

There is one matter which I should perhaps have referred to sooner. Should the quantity surveyor write the specification for the architect? In the abstract it seems absurd to ask such a question were not this practice so frequently followed. Personally, I think the architect should write his own specification, and not delegate the work to another. A quantity surveyor cannot know what is in the architect's mind, therefore it is impossible for him to describe fairly that which embodies the architect's best ideas. It is unjust to the quantity surveyor to ask him to attempt to do so. It is also unjust to the client, and the architect has no right to accept payment for work done by another. One other word with reference to the quantity surveyor.

When he takes out the quantities it is usual for him to make notes of any omitted items on the architect's specification. Should he not do so, however, the architect must run through the bills of quantities and adjust the specification to them before the contract is signed.

Reverting to the subject-matter, a full specification will save many an anxious moment. Constant disputes occur with the builder, many extras crop up owing to imperfect wording and omissions—ordinary care would prevent all this. And remember always that a specification is a legal document.

Bearing somewhat on this incomplete description of work, attention might be called to the fact that one so often sees in a specification wording to this effect:—"That the builder is required to perform a certain work all complete," or "all as required," or "as necessary." This generalising shows the architect's ignorance of what is required, and it is not reasonable to ask a man to estimate for something of which you yourself do not know the requirements. Consequently you either get an unfair estimate or an incomplete work, or else a squabble ensues with the builder as to what was intended or required. Should you ever be in this difficulty of not knowing what is necessary, then the best plan is to put a provisional amount and let the item work itself out in execution. Therefore let your terms be definite and clear. Some make a great point as to which is the correct word to use, "provide" or "supply." I think it very unimportant. There certainly is a slight difference; but, at the same time, to provide you must supply, and to supply you must provide.

Agreeing, then, upon this point that a specification must be somewhat full, and consequently lengthy, what then is the best way to curtail the descriptions without detracting from the merits of the document. There are several ways. Many items which will apply to several parts of the building under similar conditions may be generalised. Thus take, for example, the skirtings to a building. A general clause applicable to all skirtings may be inserted, somewhat to this effect:—All skirtings to be rebated to floors, tongued and mitred at angles, tongued at heading joints, housed into architraves, returned and mitred at ends, and fixed to double splayed narrow-framed grounds with dovetailed backings and filling out blocks, and plugged to walls.

The only further description then necessary will be to refer to each particular skirting, such as—Attic skirtings, 7 in. by 1 in. plain deal; first-floor skirtings, 9 in. by 1¼ in. moulded deal; and so on.

Here, then, the description of the fixings to each separate class of skirtings is avoided. In the same way the backings to door and window linings, and many other items where the conditions are similar, may be generalised. Further, if any detail drawings are supplied with the contract plans, which I fear is not often the case, a specification may be much shortened without detracting from its efficiency by merely referring to the detail drawings in question, and at the same time mentioning any particular feature not readily gathered from those drawings. Thus in about three lines may be stated all that is necessary, which otherwise would perhaps occupy a dozen or twenty. But I fear, until it is the custom to supply detail drawings with the contract plans, very much cannot be made of this point.

Here is another way to shorten a specification. Take, for example, the windows to a building, one or two of which are dissimilar from the rest. I would first describe those and then refer to all the others on all floors, in all positions, in the one item, and not describe them to each floor separately. Take, again, the external facings to brickwork. Describe any special facing first, and then the whole of the other facings to all parts in the one item without reference to special position. There are many other items which may be treated in this manner. One more suggestion. The wording itself of a specification may be much curtailed by care and practice. You will never be able to write concisely and to the point until you have written many specifications. Do not labour the wording needlessly nor repeat yourself unnecessarily. In time the requisite language will come simply and quickly.

I want it to be understood that my remarks chiefly apply to the correct form and wording of a specification of which quantities do not form a part of the contract, or which, perhaps, have not even been supplied.

Another important point in a specification is that it should be readily understood and clear. To avoid confusion tabulate as much as possible the various parts of a complete item of work by placing each separate particular under the preceding one. It will take more paper, but then that is always a good fault, for it will make the description clear at a glance. The form of tabulation I would suggest is as follows, which illustrates the description of a roof formed with trusses.

The roof to be formed of, say, six whole trusses and two half trusses, each to be placed 10 feet apart, and composed of the following scantlings, and the whole notched, framed, spiked and strapped together:—

Tie beams 12 inches by 6 inches, resting on 2 feet 6 inches by 12 inches by 3 inches tooled York templates.

King posts out of 6 inches by 5 inches,
Principal rafters 6 inches by 4 inches,
Struts . . . 4½ inches by 4 inches,

and so on. Here it will be noticed that each separate component part of the roof is placed immediately under the preceding one until all the items have been described. Thus, at a moment, the sizes and particulars of any one special part of the roof may be seen.

This form of tabulation will be found much clearer than the method which is so often adopted of running on the particulars of the various items line after line without a break. In the same way may be tabulated the descriptions of floors, windows, doors, and many other distinct items severally composed of many parts.

As another aid to the clearness of a specification, divide the descriptions into many clauses, and do not make the clauses too long, nor omit an occasional full stop. Also keep the clauses well apart, and do not crowd them together; any item will then be quickly seen, and you will not have to question to which part of the building a description belongs.

Conceding this point that a specification should be perfectly clear at a glance, a further question arises, Should the work be divided into separate trade headings? As a general principle this is unavoidable, and I think desirable, but I would also say without hesitation that very many distinct items of work would be clearer and more comprehensible if the various trades relating to them were not separated, but the complete item of work described under the one heading, placed in whichever part of the specification seemed most desirable. Thus, to illustrate:—

Take an iron casement window, with wood frame, lining and the usual glass and fittings. Ordinarily this would come under several trades, but I would describe everything connected with that window under the one heading of, say, joiner—that is, the

iron casement, the wood frame, linings, shutters and finishings, he ironmongery and glass, and with perhaps a cross reference n smith, stating that the iron casements are described in joiner. The builder will see at a glance all the requirements of that window, and the client, if he peruse the specification, will also have an idea how it will look when finished. Another example. Take an iron girder. I would describe under smith and founder the girder itself, the templates, cover stone, any cement packing, felt or lead seating and the painting. Perhaps it might be better to generalise the painting under painter in the one description applicable to all girders and covered up ironwork, and in that case a reference should be put under smith and founder. There will then be no excuse for the painting to this work escaping the builder's attention.

When describing the work to small alterations, repairs, or decorations, it is almost essential to adopt this order of running on the description, regardless of trade headings and formalities. Of course, when work is let to separate tradesmen you cannot adopt this method.

A building contract, which is often referred to in a general way as the specification, is understood to include the conditions of contract, the form of contract—that is, the actual agreement, and the specification of the subject-matter embraced in the contract. The conditions of contract and the form of contract should only embody, so to speak, the actual legal requirements which, taken by themselves, do not affect the description and value of the work and materials. These strictly legal clauses I do not propose to touch upon.

But it will often be found in many specifications that under the leading conditions of contract are placed many clauses which do actually affect the amount of the estimate. This, I think, is a mistake, for at the time of tendering, a builder so often only hurriedly scans the conditions of contract, and when reading them over again, preparatory to signing the contract, may, unfortunately, find there are several items included which he has omitted to price in his estimate. The client does not always see his point, and the builder either has to bear the loss or throw up the work. This remark chiefly applies to a work for which no bills of quantities have been prepared.

But that part of the contract, or, in other words, the specification itself, of the actual work and material, should embody every item which may in any way affect the estimate; therefore, under the General Clauses, or Preliminary Items, as they are often called, I would include the following matters, which are so often to be found only under the Conditions of Contract:—

The date of completion—this requirement may necessitate an extra allowance for overtime or other special employment of labour; the mode of payment—under certain conditions the builder may require to borrow money to enable him to carry on the work between the times allotted for payment; keeping the work in repair for a stated period after completion—this may necessitate an allowance to cover any matter which may crop up under this item; the insurance fees and fees to any authority should also be included under this heading of preliminary items, as also any other matter not coming under a trade heading which may possibly require a price.

Just a hint as to the outside cover of a specification. Put as a reminder in red ink a note of the insurance and date of completion. One is apt to forget these matters.

Then as to the marginal references. It will be found a great convenience to all parties if a marginal note is given to each distinct item of work. It will then be seen at a glance where a "bath casing" is placed or the "spandril framing to a staircase," instead of having to wade through pages of other subject-matter. In addition to the marginal notes, I would put all the principal items under sub-headings, so to speak, in their respective trades; such as all wood staircases under a sub-heading of "Staircases" in carpenter and joiner; similarly, all casement windows under a sub-heading of "Casement Windows," and all other such divisions of work. And when you come to the many minor items which only require a separate clause to each, these might be put under the one sub-heading "Other Items" or "Other Fittings." These sub-headings should be written across the page.

As to numbering the clauses. This I think very important. It will be found of great assistance to be able to refer to the number of a clause in a letter when calling the builder's attention to any special part of the work, as also in the case of cross-references when referring from one part of the specification to another. Each separate clause need not necessarily be numbered, but only each distinct item of work, which may embrace several clauses.

As to marginal sketches to illustrate rather involved parts of the specification, I think in many cases these will be found very useful. I would then suggest that the lithographer take them direct from the architect's sketches. If the specification is typewritten or fair copied in the office, then either do all the sketches yourself or else see for yourself that they are copied correctly.

(*To be concluded.*)

NATIONAL PORTRAIT GALLERY.

THE Trustees of the National Portrait Gallery have received under the will of the late Colonel John Barrow, F.R.S., formerly of the Admiralty, a bequest of a series of portraits painted for Colonel Barrow by Mr. Stephen Pearce, relating to the various expeditions in search of Sir John Franklin.

The portraits comprise a large portrait-group representing "The Arctic Council discussing a plan of search for Sir John Franklin," four large half-length portraits representing Sir Robert McClure, Sir Leopold McClintock, Captain Penny and Sir George Nares, each in the dress worn by him in the Arctic regions; fifteen small portraits of Sir Richard Collinson, Sir Henry Kellett, Sir Edward Belcher, Sir Edward Inglefield, Dr. John Rae, Captain Rochfort-Maguire, Captain J. E. Moore, Dr. Robert McCormick, Lieutenant J. Stewart, Lieutenant Bellot, Sir Horatio T. Austin, Admiral Sherard Osborn, Dr. William Kennedy, Sir Leopold McClintock and Sir Erasmus Ommanney.

In accordance with a decision of the Trustees made with reference to a similar collection of Arctic portraits bequeathed by Lady Franklin in 1892, this collection will be treated as a group or series of portraits either comprised in one picture or combined for one common object.

As, however, in the present state of the Gallery, it is no longer possible to find room for so large an accession of portraits requiring to be hung together, a room in the east wing adjoining the National Gallery will be adapted for the purpose of containing the Arctic portraits bequeathed both by Lady Franklin and Colonel Barrow, to which access will be made through the galleries in the east wing.

The Trustees have also purchased from the widow of the late well-known sculptor George G. Adams a marble bust of Sir William Napier, the historian, and plaster models of Sir Charles Napier, Rajah Sir James Brooke, His Royal Highness the Prince Consort, Lord Clyde, Viscount Gough, Lord Seaton, Lord Brougham, Viscount Palmerston, Sir Henry Havelock, Archbishop Sumner and a portrait in relief of Field-Marshal Viscount Hardinge.

The Trustees have also purchased the following portraits:—William Croft, Mus.Doc., attributed to Jonathan Richardson; William Drummond of Hawthornden, a small panel portrait attributed to G. Jamesone; George Morland, drawn by himself in tinted chalks, and presented to his pupil Elias Childe; and the following gifts have been accepted by the Trustees:—William Eden Nesfield, the eminent architect, drawn in Rome by his friend Jacob E. E. Brandon, presented by Mr. John Hebb, F.R.I.B.A.; John Varley, the water-colour painter, a pencil drawing by his friend William Blake, presented by Mr. Godfrey E. P. Arkwright.

AN OLD FORT AT HILSEA.

AN old fort overlooking Langstone Harbour, and situated under the railway line at Hilsea, about a mile from Portsmouth, has been accidentally unearthed. An inspector of the permanent way in the employ of the London and South-Western Railway Company, when walking on the lines, noticed a subsidence of the embankment. He at once had the side of the permanent way opened, and then found, two feet below the surface, the roof of a disused old fort. Subsequent search has disclosed the fact that not only did this fort cover an area of 60 feet under the railway, but that it was one of a series of fortifications some 200 yards in length. The corridors and embrasures are fairly intact, but in some instances the supporting piers are split and the caps are in a crumbling condition. It has also been ascertained that, except where the railway subsided, the roof is of great strength and well groined. Steps have been taken to shore up the subterranean buildings, and the War Office has been informed of the discovery. The railway line was laid down in 1847, and at that time the military authorities must have been acquainted with the existence of the buildings, but it was probably assumed that, owing to the substantial character of the structures, they could well bear the weight of passing trains. The fort stands at the north corner of Portsea Island, and is loopholed to command a view of the sea, a view, however, which has long since been closed by the extension of building in that direction. The subsidence is supposed to have been caused by the recent heavy rains, but as two feet of water was found in the fort it is probable that the depression has been going on imperceptibly for a considerable period.

A Blue-Book has just been issued showing the amount spent on technical education during the year 1896-97 by local authorities. The total amount expended in 1896-97 was 812,696*l.*, and the estimated total expenditure for 1897-98 was 848,829*l.* These amounts are exclusive of the sums allocated to intermediate and technical education under the Welsh Intermediate Education Act, 1889.

NOTES AND COMMENTS.

BUILDINGS are a kind of property of which any intelligent man can form an approximate valuation, and accordingly they are not of much account with company promoters. They may be introduced among other varieties of property in a prospectus, and in that way help in delusions, but by themselves they are risky elements by which to make out big dividends. It is plain, however, that people can be deceived by considering that buildings with which they are acquainted in some mysterious way can be made to yield extraordinary profits. A case of the kind has occurred in the city of Cork. It possessed a music-hall of a humble description. But it was good enough to inspire promoters with the happy thought of creating a limited company to possess the treasure. The prospectus was drawn up with great skill. Much was left to Celtic imagination. For example, the revenue hitherto derived from the hall was not stated, but the profits were given of music-halls in five large towns, with none of which Cork could be compared. It was also announced that the site was leased at a reasonable rent, and every reader of the prospectus could draw his own conclusion what that signified. The rent in reality was 420*l.* a year, which was an enormous sum for a building site with a public-house license attached in a place like Cork. However, the promoters received 6,500*l.* for their interest in the lease. The building was removed, and nearly 13,000*l.* was expended on its successor. The realities of the case were perceived when it was too late to avoid meddling with them. The only course left was to get rid of the incubus. Tenders were invited for the purchase of the building. Only one was received and the amount offered was almost nominal. The shareholders have therefore lost their money and are saddled with responsibility for a rent of 420*l.* The question now is, Can any means of redress be discovered? According to Mr. T. M. HEALY, Q.C., who is an acute lawyer, "If an action for deceit and misrepresentation is brought against the directors, the result will turn on the narrow issue as to the statement in the prospectus that the site had been leased at a reasonable rent." It will, of course, be very hard to obtain unanimity about the meaning of the expression "reasonable rent," for experts will be found to say Cork is a city with great powers of growth. But the whole case reveals what is possible when skilled advice is not taken about the value of a building as an investment.

THE defective sanitation of the Houses of Parliament must give rise to much amusement among foreigners, for it is apparently an enduring proof of the weakness of organising power in England. If BARRY had been allowed to have his own way his common sense would have devised arrangements for drainage and ventilation which would still be efficient. But he had to succumb to DAVID BOSWELL REID, and the results have been an enormous waste of money in undoing REID'S devices, much inconvenience to members, and an apprehension that the building is the most unsafe in Europe. Dr. PERCY, in trying to remedy the defects, sacrificed a great reputation. Not many years ago Professor CARNELLY ascertained that in the lower regions of the Houses of Parliament myriads of microbes had collected, and several thousands of pounds were expended in an endeavour to free the House from the enemy. Now it is proposed to pump in ozone and disinfect the House of Commons every night. The First Commissioner of Works stated on Tuesday that he had caused the plant necessary for the manufacture and introduction of ozone to be inspected. The methods and practical merits of the process do not appear to be as yet sufficiently established. The cost of a complete installation at the Houses of Parliament would be some thousands of pounds, and the electrical pressure required for working it is no less than 12,000 volts. We grant that the installation would be costly, but it is too late now to revoke. The authorities came to the conclusion there was no necessity to have an architect even temporarily engaged as adviser in connection with the Houses of Parliament. Since then they have had the gratification of trying one experiment after another, and the country has had the gratification of paying for failures. If we suppose the project will require as many thousands of pounds as there are to be volts, the sum will not appear excessive after the waste for which the Office of Works is accountable.

THE reason of the exhibition of the designs for the new Government buildings in Whitehall and Parliament Street was not definitely announced. It was supposed they were intended to elicit suggestions, and were not to be considered as more than careful sketches. But from the reply to a question on Tuesday by the First Commissioner of Works we may conclude that the buildings will correspond with the designs which received the approval of the Government before they were exhibited. Mr. AKERS DOUGLAS said:—"The plans were placed in the tea-room for the inspection and criticism of hon. members. Certain alterations in matters of detail have been suggested, and these suggestions will be carefully considered. Generally the plans have been most favourably received, and I shall proceed with the work without any unnecessary delay." If changes take place they will be simply in detail. The ingenious effort of Lord WEMYSS to utilise the occasion for realising INIGO JONES'S design for the Whitehall Palace, of which only a part, viz. the Banqueting House, was erected, did not meet with much favour from the First Commissioner. He said:—"I have carefully considered the sketch elevation prepared at the suggestion of Lord WEMYSS, and I regret that, although externally attractive as a design for a royal palace, it is unsuitable for Government offices. There would be no useful purpose served in placing this design in the tea-room, unless it is accompanied by a plan and sections showing the nature and arrangement of the accommodation it would provide." Lord WEMYSS, in common with the majority of amateurs, supposes that architectural designing mainly consists in making façades. There is no question of the beauty of INIGO JONES'S work, but he was not thinking of creating a Government office. We must also remember the Banqueting House did not form a part of a principal façade. It was a part that looked on an inner court, and the irrational arrangement of suggesting by the exterior that the building consisted of two storeys, while inside there was only one room, was due to the desire for corresponding with other parts of the court. Great as was INIGO JONES, his designs for special purposes are not universally applicable.

Among the foreign artists that appeared in this country about the time of the Restoration was JOHN VOSTERMAN, who painted a chimneypiece for CHARLES II., and a couple of views of Windsor. As he asked high prices, from 150*l.* to 200*l.* for a small picture, the King failed to patronise him. He lived in an expensive style, and not being able to pay his debts was arrested. In vain he implored CHARLES to grant him liberty, and he was retained until his countrymen subscribed the necessary sum. Afterwards he accompanied the English ambassador who was sent to Constantinople; but as Sir WILLIAM SOAMES died on the journey, the fate of the artist is not known. Like other foreign artists, VOSTERMAN went to Scotland in quest of patronage, and while there CHARLES II. commissioned him to paint a view of Stirling. The picture still exists, and was exhibited last week at a meeting of the Stirling Archæological Society. It was purchased at a sale in Edinburgh. Prior to 1853 it was in Herbertshire Castle, near Denny, and a copy of it was made by Sir GEORGE HARVEY. The landscape is the work of VOSTERMAN, and the figures are by VAN WYCK. The work is in fine condition, and is supposed to be the oldest view of Stirling Castle which exists.

ILLUSTRATIONS.

THE PLEIADES OF PROGRESS.

CATHEDRAL SERIES.—DURHAM: ANCIENT FONT, WITH CANOPY.

ST. AUGUSTINE, PENDLEBURY.

SHIPLAKE COURT, HENLEY-ON-THAMES

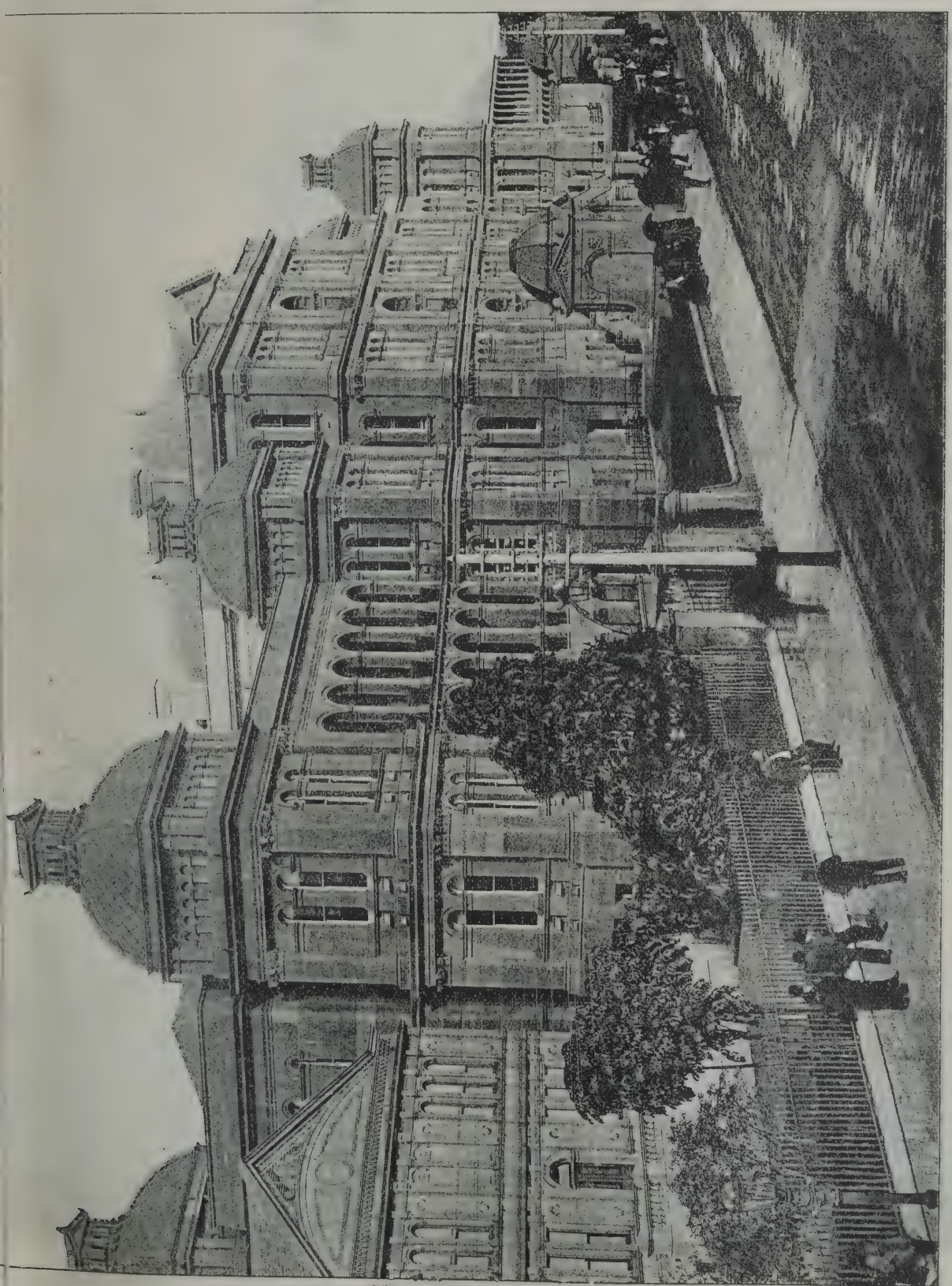
AUSTRALIAN ARCHITECTURAL NOTES.

[From a Sydney Correspondent.]

(*Continued from page* 274.)

THE Sydney Hospital is one of the more pretentious buildings in the New South Wales metropolis, and commenced with a supreme disregard of cost. This led suspension of building operations when the walls were :o the first floor. The refusal of the colonial Government proceed with what was regarded as an unnecessarily expensive undertaking led to a suggestion that brick instead of stone should be employed in the completion of the building, but ultimately it was arranged that stone alone should be used, it being urged that brick would absorb the disease germs. The edifice is admirably designed, with commodious wards and broad, airy passages throughout ; but the loggia system might have been introduced more largely with good effect.

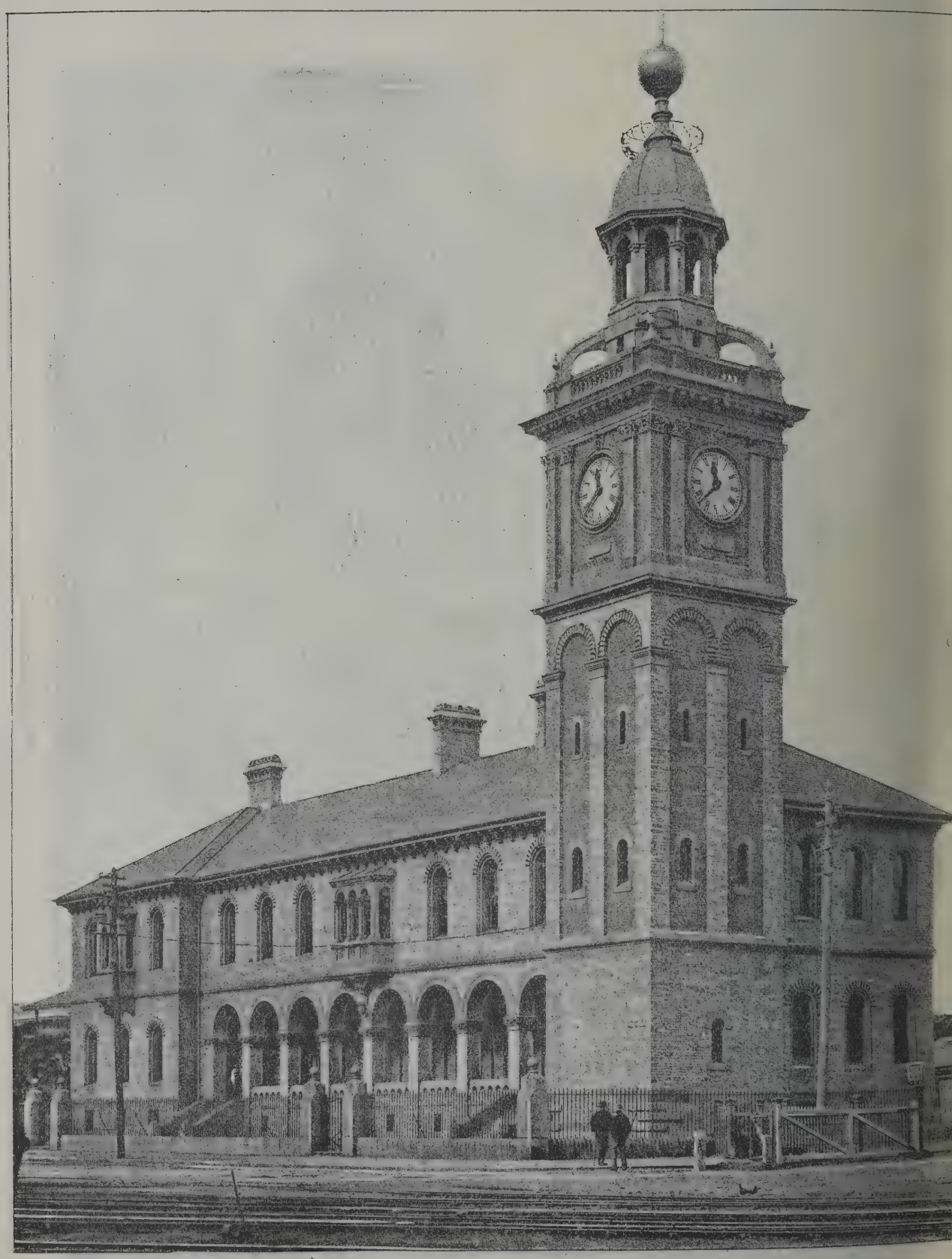
In the later developments of colonial architecture, so far as public buildings are concerned, the predilection for the Italian style is especially noticeable, and in not a few



Sydney Hospital.

instances the general effect is enhanced by the erection of a lofty tower, as in the case of the Customs House at Newcastle, and the Court House and Post Office at Balmain, Sydney. These towers not only assist in breaking the sky-line, but also impart a touch of distinctiveness to the design, redeeming it from the imputation of being common-place. A satisfactory feature in connection with most of the later public buildings is that internal comfort and convenience are not, as in earlier days, sacrificed external show. The purpose for which a particular bui ing is required forms the first consideration, and after t has been provided for the general style of exterior a interior is discussed, and a somewhat harmonious combi tion of utilitarianism and artistic taste obtained.

(*To be continued.*)



Custom House, Newcastle.



Balmain Court House and Post Office.

ARCHITECTS' FEES.

THE case Perry & Reed *v.* Burney & Grimes and Mathams was heard before the Lord Chief Justice and a special ... on Monday. The plaintiffs sought to recover from the ...endants a sum of 1,030*l.* 15*s.* 11*d.* for professional services ...dered by them. The defendants, Messrs. Burney & Grimes, ...343 Strand, and the other defendant, Mr. Albert Mathams, ...e owners of the King's Head Hotel, Margate, and in Sep...ber 1897 they consulted the plaintiffs with regard to altera...ns they proposed to make in the structure of this hotel. The ...ount they were prepared to spend was about 8,000*l.* After ...e negotiation it turned out that it would be necessary in ...uilding the frontage of the hotel to set back the wall, and ...s involved extra expense. The plaintiffs prepared the plans ...d submitted them to the licensing committee and town ...ncil, and they were duly passed. Tenders for the work ...re then invited, and the lowest that was received was 14,790*l.* ...e defendants considered this was too high a price, and ...used to spend more than 10,000*l.*, and they asked the ...intiffs to reduce their estimate. Fresh plans were prepared ... the plaintiffs, and they applied to the defendants for payment ... account. No notice was taken of the application, but the ...fendant Mathams referred the plaintiffs to Messrs. Burney ... Grimes, as he stated he had sold his interest in the hotel. ...ssrs. Burney & Grimes declined to pay the amount claimed ... the ground that the plans were to be prepared on the basis that the alterations to be made were not to cost more than 8,000*l.* They, however, paid 100*l.* into Court to meet the claim against them.

The jury found a verdict for the plaintiffs for 800*l.*

WAKEFIELD CATHEDRAL.

ALTHOUGH the public have not heard much for some time with reference to the proposed enlargement of the Wakefield Cathedral as a memorial to the late Bishop How, we understand, says the *Leeds Mercury*, that the preliminary work is going on steadily, and it is expected that very shortly building operations will be commenced. The owners of the property on the east side of the cathedral have met the committee in a very reasonable spirit, and the four houses and shops required in order to enable the proposed enlargement of the cathedral to be carried out have been secured, and will, it is expected, be swept away. A claim in regard to ancient lights on the north side has also been amicably arranged, and some other matters have been disposed of. The Bishop of Wakefield has lately received several handsome gifts or promises towards the cost of the proposed enlargement, the following being amongst others:—Sir Edward Green, Bart., 1,000*l.*; Mr. M. E. Sanderson, Kettlethorpe Hall, 1,000*l.*; and Mr. Percy Tew, Heath Hall, 500*l.*

DURHAM CATHEDRAL.

AT the annual meeting of the Durham and Northumberland Archæological and Architectural Society, the president, the Rev. Canon Greenwell, delivered an address, which was mainly devoted to what had recently been done in the cathedral. He began by referring, says the *Durham Advertiser*, to the erection of Bishop Butler's monument. He agreed that a prelate of Bishop Butler's eminence well deserved a monument, but the place selected for it seemed most deplorable. Why it was allowed to be put where it was he could not conceive. He believed it was first proposed to put it alongside Bishop Lightfoot's monument. There was not a piece of untouched wall there, and Bishop Lightfoot's being a modern monument, he did not think the placing there of Bishop Butler's would have been any detriment to it. But it was objected to because it would destroy the effect of Bishop Lightfoot's monument. The authorities gave way to this remonstrance, and Bishop Butler's monument was transferred to the other side, where it came in immediate contact with the very beautiful monument to Bishop Hatfield. It did seem marvellous that nobody had protested and objected to the placing of Bishop Butler's monument in such a position, which must prove very detrimental to Hatfield's monument. It was an unnecessary and a wrong thing to do. Some people thought a piece of blank wall was an ugly thing and ought to be done away with. Any person possessed of judgment would know that a piece of blank wall was a most valuable thing in architecture. Well, this piece of wall remained untouched since Bishop Carileph built it in 1093, but had now been absolutely and totally destroyed by the insertion of a monument, which he could not say possessed any claims to merit as a work of art, or in any way adequate as a monument to anyone whatever. He thought that as at Lincoln the cloisters of Durham would have been a fitting place for such a monument. Where it was it was detrimental to the cathedral. Then they had recently had an examination of the grave in which the body of St. Cuthbert, according to the view of some people, rested, and according to the views of others did not. He really could not make up his mind whether the balance of evidence was in favour of one view or the other. He thought on the whole the evidence did lead to its being the body which was there during the Middle Ages, and which was always considered to be, and he thought probably rightly considered to be, the body of St. Cuthbert. Some people had objected to the examination because it was a desecration. He could not agree with that at all. He could not see what desecration there was if they reverently took up the bones of a person about which there was a great deal of doubt, and the examination of which was very desirable in order to settle questions in doubt. He failed to discover anything reprehensible in it. He could quite understand people who took the opposite view, but so far as he was concerned could see no harm in doing what was done. It was never intended that the bones should be seen at all. The examination was made upon the distinct understanding that the coffin made in 1827 was to be removed with the bones inside, and then when the pieces of the original coffin had been recovered replaced as found. But when the cover was removed it was found that the coffin made in 1827, which was a poor piece of workmanship, had absolutely fallen to pieces, and that it was impossible to remove the remains of the earlier coffins without raising the bones. These were taken out with the greatest care and reverence, and had been reinterred in a much more substantial and much better receptacle than ever before. Everything, he repeated, was done with care and reverence, and he did not see that any person concerned need feel any qualms as to being iniquitous people who desecrated graves and had no reverence for the holy people of old. Those present knew that ever since 1827 there had been in the cathedral library a large number of pieces of the original coffin made in 698. That coffin was most liberally covered with a series of sculptures made at that very early period, hence they would see how doubly interesting it was. They had nothing like it, and these sculptures upon St. Cuthbert's coffin possessed a very high interest, not only as showing the mode of workmanship, but also betokening the art they possessed at that time. They did, said Canon Greenwell, possess considerable merit and artistic feeling. He thought it quite possible to arrange these fragments so that he might get an idea as to what was upon the coffin. They did not know more than what Regmald had said; there were figures upon it. He made one or two attempts, but found it was difficult work handling the pieces. Well, these fragments remained until last year, when he thought it impossible to make them worse. Consequently he set to work, and with the valuable aid of Canon Fowler, and the help of others, he had struggled on until he had now got together a very great part of the lid, the two sides and the two ends, and they could now see exactly what the carvings had been. They had thus got the coffin completed up to a certain point, but knew that a great quantity of fragments had been put into the grave in 1827, and as he found no part of the bottom of the original coffin, or of the second lid and false bottom, and felt quite they were still left in the grave, which might also contain s portions with sculptures upon them. It was in order to ob these that the grave was reopened, and he could not think person could object to it as being an improper thing to do was due to the unforeseen occurrence of the utter decay o coffin of 1827 that the bones were interfered with at all. He been able to put together several of the pieces recently found was afraid he would have to be satisfied with that for present. There were thousands of pieces, and if anyone w like to set to work to sort them preparatory to putting t together he would be much obliged. He did not dar attempt it. He would have to be satisfied with having together practically all the parts which contained any sculp upon them at all. Canon Greenwell went on to say that Dean and Chapter had very liberally decided, possessin they did a very valuable collection of Roman altars and c sculptured stones, and a still more valuable collection of conquest and memorial stones, to print a fully illustr catalogue of the collection. An eminent antiquarian Oxford had taken in hand to do the Roman part, and the So of Antiquaries at Newcastle was also helping in the ma whilst he himself undertook to write an account of the pre- quest stones. The President went on to speak very highly o very accurate drawings made or being made by Mr. Footitt, w would be reproduced by one of the photographic processes so common and yet so useful. He thought it would be a desirable thing to add a representation of St. Cuthbert's c in the form of an appendix. Therefore, added to the catal there would be a very accurate rendering of the sculpt that remained on the coffin, and he thought the catal would form one of the most valuable books connected early sculpture in England that had yet been produced. was sure nothing in the world had ever been produced lik Dr. Greenwell then described the part he had taken in getn together the collection of pre-conquest and memorial ste and, to the delight of his audience, told how after being ref possession of a valuable child's grave cover, which shortly af wards was broken up by the sexton's wife to be conve into sand, he subsequently annexed similar specimens a like situation when he came across them. He confessed sins, but firmly declared he would do the same again. Greenwell went on to speak of the desirability of iss another part of the Transactions, for which they had got a siderable sum of money. On behalf of the members he ha ask Canon Fowler if he would write an account of the open of St. Cuthbert's grave, which they should have fully illustre with everything connected with the grave, and with a views far as they could get, of the bones which were found. thought if they very sweetly approached Canon Fowler, h had already undertaken to write for their Transactions account of the old abbey well discovered a year or two ago would consent. Canon Fowler gave a somewhat reluc acquiescence, and the President added that he propose give an account of pre-historic sepulchral remains which a been found in the counties of Durham and Northumberla including the urns recently found near Stone Bridge.

ROUND TOWERS OF IRELAND.*

(*Continued from page* 270.)

Reputed Origin of the Round Towers.

AS regards the word "origin" I fear it is and has been a misleading expression. I would therefore rather con myself to what I consider the period or periods of the probable erection of the towers, but whatever may have been the peo at which the first round tower was erected in Ireland, there hardly be a doubt but that they are a type of a structur structures still older or evolved from some particular ide that the word "origin" pure and simple may possibly date ba to the remote ages of prehistoric antiquity. Places appropriat to religious worship are of very early origin. In the sa writings we have evidence of their existence from the remo periods. Their prototypes are implied in the history of h antediluvian patriarchs, in the altar erected by Noah, in h pillar set up by Jacob which he called "God's House," in h sacrifices of the first diluvian age, as well as in the circl stone set up by Moses at the foot of Mount Sinai, and by Joshua at Gilgal. They are found in the early temple o Egypt, and in the gorgeous tabernacle raised by divine co mand in which the children of Israel worshipped.

The earthen raths and stone circles of Ireland appear t be the first mechanical constructions known to Irish his ry. Within these circular raths and stone circles were sm le circular buildings in the shape of caves and what have ge

* A paper read by Mr. Antony Scott, M.S.A., at the meeti of the Society of Architects on April 27.

termed "beehive cells," hidden beneath the mechanically formed mounds of earth, clay and stones. The outer circles and entrenchments or fosse were the ramparts or the defences. Structures of this kind are to be found all over the country, notably in New Grange, Dowth and Knowth, in co. Meath, near Drogheda. They are said to be sepulchral erections, possibly primitive dwellings or enclosures of the pagan Irish. We go on from these to the dry stone cashels on the south-west coast of Ireland, as at Gallerus in co. Kerry and islands in the Atlantic off the same coast, and in various other parts of the county in mountainous districts. We find the circular cells built of dry stones laid in horizontal courses sloping inwards towards the top in the shape of a beehive and covered on top with a single stone. The cashels appear to be the earliest stone buildings of Christian times, and they consisted of a number of circular detached beehive cells in most instances protected by a circular dry stone wall, as at Dun Angus on the island of Arran, in Galway Bay, at Gallerus, in co. Kerry, and on the Skellig Rock in the Atlantic off the same coast. In the case of the cashel at Gallerus the spaces between the different cells have been filled in with dry stones, and built low, covered passages connect the different cells with the exterior face of the wall which bounds the group of cells, and which appears to have originally stood about 6 feet high. We pass on from these groups of beehive cells to the larger single round or detached circular houses, some of which are still to be found on the south and west coast, for instance, in the island of Lough Lee, in Kerry, and Ardilaune off the coast of Connemara, and elsewhere. There can hardly be a doubt that these circular monastic cells and enclosures were a development of the raths and earlier cells found in the raths constructed by the Pagans of earlier days. These groups of monastic buildings must have also produced the single isolated round houses or churches already referred to.

Now if we examine carefully the remains of all mechanical constructions found in the country in the shape of defences and enclosures whether of earth or stone, as well as all domestic and sepulchral caves, whether of the early Christians or of their Pagan ancestors, we shall find them all circular in plan, and when we come to Christian times we shall find them all developments of and improvements on the circular beehive cell. It is admitted, and as a matter of fact must be admitted by all who have taken any interest in the subject, that more than half the number of towers which at one time dotted the land have perished. The round tower of Annaghdown, co. Galway, built, according to the "Annals of the Four Masters," in 1238, has wholly disappeared, and even tradition cannot point out the site which it once occupied. The first towers built may have been but very insignificant structures, and in confirmation of this I may state that some of those which remain would be no very extraordinary development of the circular stone cells and churches of the early Irish Christians. I consider that there is no need to go to the St. Simon stylite towers in India or Persia, or to search in Eastern or continental countries for prototypes. I have not the slightest doubt as to the original towers having been simple developments of the circular buildings which obtained at the time.

According to Miss Margaret Stokes, who published a handbook on "Early Christian Art in Ireland" in 1887, the type was not peculiar in this country before the eleventh century, and even now she says that twenty-two foreign examples may be added.

The late Viollet-le-Duc, an eminent French architect, attributes the erection of towers in France to the necessity which then existed of protecting the churches from the attacks of the heathen Northmen in the valleys of the Loire and Seine, as well as on the north and west coasts of France, and he remarks that it is in countries which were particularly ravaged by the periodical incursions of the Northmen, that abbatial and even parochial churches were preceded by massive towers, of which, he says, unfortunately nothing but the lower stones are left to us.

Fergusson says, "There is perhaps no question of early Christian archæology involved in so much obscurity as that of the introduction and early use of the towers."

Canon Smiddy published in 1873 a book entitled "The Druids' Ancient Churches and Round Towers of Ireland," in which he puts forward a most peculiar theory respecting the origin and uses of the towers. He says the towers are reed houses; that the idea has come from a reed which grows in marshy ground, and terminating with a conical head is the prototype of the round towers. The use to which he assigns them is for baptisteries. He bases his argument on the pronunciation of the Celtic word "cloicteach," which means "cloic" a bell, and "treach" a house, which he says is confounded with and taken for the "cuile" a reed, "ceach" a house—reed-house. In support of this theory he wanders off to Florence, Pisa and other continental cities which have had baptisteries attached to the episcopal churches, and tries to establish a similarity of construction and uses between the baptisteries referred to and the round towers of Ireland, where none whatever exists. So wild and absurd are the theories put forward that it would be waste of time to follow his arguments for the purpose of showing how groundless they are from start to finish.

The late Very Rev. Canon Ulick J. Bourke, professor of languages, St. Jarlath's College, Tuam, published a work in 1875, entitled "The Aryan Origin of the Gaelic Race and Language," in which he devotes the greater portion of two chapters to the subject of the round towers. He holds that the round towers were built in the early Pagan period by those of the Aryan race who had settled in this Island of Destiny, but that after the Gospel had been preached in Ireland by St. Patrick, he turned the round towers, as he did the Pagan foundations, to the service of Christian rites, and hallowed them by Christian practices and religious associations. This fourth opinion, as he calls it, is that which seems to His Grace, the Most Rev. Dr. Mac Hale, the most convincing and the best supported by reason and authority (p. 352).

His Grace of Tuam was an eminent churchman, and a guiding star in the domain of Irish politics in his day, but I have never heard or known that he took any interest in Irish antiquarian research, and hence it appears to me that Canon Bourke very easily impressed Dr. Mac Hale with his plausible theory of the Pagan origin of the round towers. Besides, His Grace was fast approaching the end of his eventful life at the time the work was published. Canon Bourke brushes Dr. Petrie aside to make room for his own Aryan or Pagan origin idea, and tries to prove from the highly artistic work of early Christian times—for instance, the illumination of the Book of Kells and other artistically illuminated MSS., as well as highly artistic metal works, &c.—that the pagan Irish, the progenitors of the early Christians, were all so far advanced in arts and sciences.

No person who has read Dr. Bourke's book will deny that he was a philologist of distinguished merit, but that is not sufficient proof that he was very well qualified to deal with the subject of the round towers, which the following quotations from his work will more fully explain. Canon Bourke confined the practical part of his examination to an inspection of the remains of the round towers at Kilbannon, near Tuam, Roscane, near Galway, and possibly one or two others in the immediate vicinity of his home. The towers alluded to are but poor specimens of the round towers of Ireland. He goes on to state, at p. 376, "It appears to the writer that the stones of all the round towers have been taken from some two or three quarries, just as in Egypt the stones which went to the erection of the pyramids had been all dug from the same quarries in the Lybian Mountains, west of the Nile." This is the most reckless statement which could possibly be made by any writer in face of the fact that in every single instance the towers are constructed with materials—stones—found in the immediate neighbourhood of these structures.

In Glendalough, co. Wicklow, the stones used for general walling are the greenish mica slate (which is the general formation of the local hills and mountains), mixed with granite boulders, which are to be found scattered over the adjoining hills and valleys, carried there by icebergs during the glacier period. In Ardmore, in the co. Waterford, and Clonmacnoise on the Shannon, the round towers are wholly composed of sandstone; in Kilmacduagh, in the co. Galway, the tower is built with local blue limestone; in Devenish, in co Fermanagh, the exterior of the tower is composed of sandstone grit, found in boulders along the lake shore. The interior is lined with limestone, which does not stand the weather so well. And so in every district in Ireland the same thing occurs. The towers are in every case constructed with stones similar to those which are to be had in the immediate neighbourhood of these structures. In the neighbourhood of Kilmacduah, in the co. Galway, there are hundreds of acres of blue limestone, naked rock, firm and compact, forming an excellent building stone, wholly uncovered by any earth, furrowed and honey-combed by the action of the weather. Similar honey-combed stones are plainly visible in the interior of the tower foundations. Continuing, he says:—"The pillar towers of Ireland are a standing proof of the perfect knowledge in the art of building possessed by the people who at first planned and erected those defiant 'conquerors of time.' Like the Book of Kells, they are even to the present hour abiding proofs of the consummate art which left to posterity such enduring monuments in architecture as well as in the art of dyeing and painting. The ancients had regard to durability, and in this aim they have certainly surpassed all modern schools of science and art. Nothing at the present day can be executed with pencil or chisel that would, like them and the pyramids of the ancient world, stand the 'test of time.'" This is a fallacy which I must strongly contradict, so far as building construction and building materials are concerned. The towers are not at all imperishable, and when I come to consider the question of construction, I shall deal more fully with this point.

Before Dr. Petrie's time the prevailing general opinion was that the towers were of Phœnician or Pagan origin, Buddhist

temples, fire temples, places of sepulture. Many held that they were of Danish origin, or rather built by the Danes. As regards the Danish origin it will be admitted that the Danes were never fully established in Ireland, and for the intermittent periods during which they occupied the country their greater strongholds were Wexford, Waterford and Limerick. If they were the builders of the towers, it might be naturally expected that in the districts in which they had the strongest foothold most of the towers would be found to exist, whereas the contrary is the case, for there are but very few pillar towers in the counties in which they had their most permanent settlements. If these Northmen from Denmark and Scandinavia had built these towers in Ireland, why did they not erect round towers in Normandy, Belgium, Denmark, Jutland and Scandinavia? It is quite clear that the Danes never had anything to do with the Irish round towers, for if they had structures of a similar character would be found in other countries invaded by them, but no monuments of the kind are to be found in the countries named. It is therefore manifest that the Danes never built these towers.

The Very Rev. John Lynch, Archdeacon of Tuam (referred to by Dr. Petrie as the celebrated John Lynch), the author of "Cambrensis Eversus," states that Geraldus ascribes the erection of the towers to the Danes. This is a very great error, as Geraldus says no such thing; he merely states that the towers were erected "*more patriæ*"—"after the manner of the country."

Dr. Petrie says the hypothesis of the Danish origin of the round towers is one which has obtained so little attention latterly that it may perhaps be thought wasting time to show the weakness of the evidence adduced by Dr. Molyneux to support it. Dr. Molyneux's reasoning as to the Danish origin of the sepulchral mounds and forts had failed to make an impression, not merely on the minds of the learned in Denmark, but even on that of his own most intelligent brother; and hence the whole superstructure as to the origin of the towers must necessarily fall to the ground. Indeed, from the whole tenor of the Irish annals it may be seen that the Danes, a rude and plundering people, were far from being the builders of ecclesiastical edifices, and, except in a few of their own maritime towns in Ireland, that almost invariably during their settlement in the country they were the remorseless destroyers of them; and though it might be conceded that on their conversion to Christianity in the fifteenth century they may have founded a round tower belfry in Cork or in any other town which they inhabited, yet the probability is quite against such a supposition, as we are altogether without proof of their having done so. The tower of Cork was connected with the ancient church of St. Finbar, founded in the sixth century, and perhaps coeval with it, and no round towers of this kind have been discovered in connection with any of the edifices which the Danes are said to have founded in Dublin, Wexford, Waterford, Limerick, or elsewhere.

We have it on the reliable authority of French historians that round towers were built in certain districts of that country in connection with churches, for the protection of church furniture, and in districts only which were subject to the periodical incursions of the heathen Northmen. It is quite evident that the building of the towers of Ireland became a necessity during the centuries in which the country was subject to the invasion of these northern hordes.

Mr. Marcus Kane, M.R.I.A., in a work published by him in 1867, entitled "The Towers and Temples of Ancient Ireland," states that there have been 120 round towers in Ireland, and that the remains of sixty can be traced. Mr. Kane has evidently made a close study of the towers, and states that he travelled more than 5,000 miles through Ireland, chiefly on post cars, to inspect, measure and to sketch the then existing remains. His drawings and illustrations are no doubt accurate and well got up, but I fear he has but a poor following as regards his extraordinary theory as to the period and the people by whom the towers have been erected. Mr. Kane proposes to show that the round towers were built by the Cuthites, as he calls the immediate descendants of Ham or Cham, and the progenitors, according to him, of the Scythian race (p. 207). Canon Bourke flatly disputes this point, and states on good authority that the Celts of Ireland (the earliest as well as the latest migration) were the descendants of Gomer, the eldest son of Japhet. The Irish, Welsh and British are all of the race of Japhet's eldest son.

This view is entirely opposed to all those who say that the Celts of Ireland are descendants of the Phœnicians (see "Biblical Geography," by Dr. Rowsen Mullar; Dr. Pye Smyth's "Biblical Encyclopædia"). It would be perfect waste of time to follow Mr. Kane's wild theories and trace them back step by step to the remote cradle of the Scythian race. As a matter of fact the difference between one theorist and another of the Pagan origin champion writers differs only in detail in ascribing the construction of the round towers of Ireland to one branch or other of the human race which had its origin in Asia and spread itself over the continent of Europe at one period or another. The earliest reference to these bell houses, found in the Irish annals and appended to Lord Dunraven's "Notes on Irish Architecture," occurs in the year 950, and merely refers to the tower of Slane as existing at that day, but how long it existed before that date is uncertain. It may be here mentioned that no trace of this tower exists at present, while considerable portions of the monastic buildings and a later abbey church with square tower at its western end remain standing.

Captain Grose, F.S.A., published in 1791 two beautifully-illustrated volumes entitled "The Antiquities of Ireland," and he falls into the same error as other writers who support the Danish origin on the subject, by stating "our round towers are coeval with the chapels, and are also Ostmen productions." Various are the conjectures concerning their origin and use, but from an uninterrupted tradition of 542, I have shown it is more than probable that they served as belfries from the beginning: five or six of them to this day certainly do. If they were erected in times of Paganism, some proof ought to be alleged of the fact of masonry being then known, or to what particular practice in the ancient ritual they referred. The absence of Christian emblems in the architecture of the towers was another argument used by the Pagan origin party in favour of assigning them to Pagan times. But that this is entirely opposed to actual facts is perfectly plain to anyone who takes the trouble to inquire.

So much for the Pagan origin side of the question. I have always maintained that if we had architects and artisans in pre-Christian times capable of constructing such beautiful cylindrical shafts, progressing from coarse spawled rubble, as at Drumcliffe and several other primitive towers, to coarse hewn ashlar with carved and moulded work, as at Devenish, Ardmore, Kildare, and Timahoe, surely they would not confine their skill to the towers alone; they would in all human probability have left us other traces of their skill and workmanship. But what is the fact, besides the round towers alone not a single champion of the Pagan origin theory has ever attempted to point out another single fragment of solid rubble or other masonry work in the whole country which they could say dated from the pre-Christian times. They can point to no pre-Christian erections but the cromlech, the earthen rath, the Druids' altar, the pillar stone and the cairns or mounds of dry stones said to mark the last resting-place of some great Pagan chief, king or warrior.

In the case of the Christian origin theory we have numerous remains of ecclesiastical architecture resembling in every detail the workmanship and material used in the towers, both standing side by side and presenting the same weather-worn appearance. In many instances the tower would appear to present later and better-preserved workmanship, as shown by the unerring eye of the camera. It would be perfect waste of time to trouble you with unnecessary proofs of the true analogy which exists between the masonry of the towers and that of the churches. As a matter of fact, in many instances the tower appears to be much later work than that of the adjoining ecclesiastical buildings. Take, for instance, Ardmore, Devenish and Kilmacduagh. I quote the following hypotheses from Dr. Petrie, p. 107:—(1) That they were anchorite towers; (2) that they were penitential prisons; (3) that they were belfries; (4) that they were monastic treasure houses; (5) that they were watch towers and beacons.

1. *Anchorite Towers.*—The hypothesis that the towers were erected for the use of anchorites, in imitation of the pillar of St. Simon the Stylite, originated with Dean Richardson, of Belturbet, and had been warmly advocated in his edition of Ware's works and in later times by the celebrated architectural antiquaries, Dr. Milner and Mr. King. The arguments adduced in support of this hypothesis rest almost entirely on the supposed agreement in form, size and internal construction between the Irish towers and the pillars of the Eastern anchorites, to prove which Harris is at great pains to establish a uniformity which it will be easy to show certainly never existed. The first point of agreement, as Harris gravely states, consists in both being of a round form. "Those of Asia were in form round, so are ours." This I am forced to concede. Secondly, the Eastern pillars were of various heights, so are ours. This, too, I must allow; but the Eastern pillars varied in height from 6 cubits, or 9 feet, to 36 or 40 cubits in one of greater celebrity, while the Irish towers varied in height from 60 to 130 feet. The only point of agreement therefore is in each class being of various heights, and on the same data Harris might with equal justice have asserted a common origin for any two classes of objects, however differing in other respects. Thirdly, that they were hollow as ours are. This agreement Harris endeavours to establish in opposition to the learned Bollandist who expressly states that the Stylite columns were solid. Various other proofs could be adduced to refute the suggested similarity, but space does not permit, neither does the necessity exist.

2. *Penitential Prisons.*—This theory was first promulgated by Dr. Smyth, the industrious author of some of our county

histories, on the authority, as he states, of Irish MSS., which however he has not named in his works, and they have never yet been brought to light. He (Dr. Smyth) bases his theory on the construction of one or two Latin words ; there is nothing in his arguments to bear out the interpretation or construction which it adduces.

3. *Belfries.* 4. *Keeps of Monastic Treasure Houses.* 5. *Watch Towers and Beacons.*—Dr. Petrie says :—"As these theories are only erroneous in their exclusive application and are somewhere applied conjointly, it is very evident that whatever may have been the original intention of the builders as to the use to which the towers were intended, or that they have in course of time been put to other uses as the necessity arose, it would be rather an absurd assertion to state that the large towers which we see standing before us to-day were built even so far back as early Christian times to hang the tiny little hand-bells which were then in use ; but with later developments of both buildings and bells there can be no possible doubt as to the fact that the towers served as bell-houses."

(*To be continued.*)

TESSERÆ.

Development of Egyptian Architecture.

THE tombs of Beni Hassan may be considered as the earliest types of the mystic styles which pervaded all the monuments of Upper as well as Lower Egypt. The Temple of Abu Simbel is one step in advance upon the sepulchral avenues of Beni Hassan. Here the excavated chambers are enlarged and greater development given to the antechamber. The Temple of Guircheh is a still greater expansion of the primitive idea. The original tomb had subsequently added to it a forecourt and a front pylon or entrance gate, which obtained in all the later temples of any note. These three steps in Egyptian architecture mark the progression of the ideas of the people in that art. Their first construction or, as it may be rather called, architectural formation was a long and narrow passage with occasional enlargements to receive the embalmed remains of the dead, a mysterious and of itself an obscure abode of the departed. But the Egyptians did not stop short here ; these were abodes of the departed, which might vie with the dwellings of the living. The pillars were left to uphold the roof, as in the excavations of our coal, gypsum and stone quarries ; the ceilings now flat, now curved, now inclined to a pitch, and the walls were covered with a profusion of sculptured incisions, painted in various brilliant colours and representing in splendid series the deeds of the king or hero, his judgment and glorification. These pillars were with the Egyptian the original types of their after columns—massive, short and simple in their parts. The same piers more profuse are at Abu Simbel and more embellished, having standing and attached figures of deities in front. The whole surfaces of the interior are covered with sunk sculptures, also enriched with dazzling tints, and the front rendered important and magnificent by the four gigantic sitting gods, who seemed to guard the portal of the sacred excavation, and to preside over the destinies of the river which flowed at their feet. The Temple of Guircheh seems by its propylon and forecourt to keep the respectful worshipper still more remote from the fane, and to induce a preparation of mind ere he enters the hallowed mysteries of the place. We find the four colossal attached figures in front of Abu Simbel removed here to the front of the propylon, detached and independent of the wall, and the solar ray, the emblem of their great divinity, embodied in the obelisk, an additional symbol in the round of mysterious devices in which the Egyptian priests enshrouded their theology. In all the endless successive dynasties and the dominion of varied conquerors, piles of gigantic dimensions, groups of enormous extent and colossal proportions rose on the banks of the Nile ; each ruler seemed ambitious to mark his reign by a stupendous monument of his glory or to propitiate the favour of their cherished gods by successive additions to their vast temples, or by pompous accompaniments, such as propylon, courts, obelisks, colossi and paved ways bordered with endless avenues of multiform sphinxes—Carnac and Luxor, above a mile apart, were united by a stone platform of such a character, and other ways diverged from various parts of the precinct to the several quarters of Thebes. The square pillars of the caverns of Beni Hassan were gracefully rounded in the porches and halls of Carnac and Luxor ; at Thebes the Egyptians called in aid the elegant forms to be found in the plants of the Nile, or in the vegetable productions on its banks ; the bud of the lotus and its developed flower gave features for the general outline of the capitals of the columns, and the palm tree and bundles of reeds occasionally suggested an idea for the shafts of the pillars.

Architectural Style.

Style in architecture is the perfect harmony between the means and the end, which is found in all the ideas and desires of the highest type of man. Refinement of detail is indispensable, largeness and breadth are its natural forms of expression ; but in certain places it may give greater grace to the most intricate and delicate work. It is this noble quality which is essential in good art, and it is as possible to have it in a building as in a man or a beast. The essential condition is that style should be a true and sensible expression of simple and abstract principles or requirements. It has nothing whatever to do with styles of architecture, as we call them, for it is possible that every one of these in succession may afford examples of incontestable style. This, at least, is clear, that a vast chasm exists between architectural designs ; that some are vulgar, affected, mannered, whilst others are natural, simple and dignified ; and that whilst the only admiration ever extorted for the former is that ignorant love of a new thing which is so evanescent and so little to be respected, the admiration of the latter increases as they grow older, and year by year becomes more certain and universal. The popular voice, which finds something worth loving after an age has passed since the construction of a building, is as unerring in the correctness of its judgment as the supposed approval of a new work is fallible and to be mistrusted.

Style in Painting.

Nothing appears to create so much interest among the dilettanti artists, when discoursing upon the merits of pictures, as that peculiar quality of art, execution, commonly designated manner or style. In rhetoric the schoolmen have been able to prescribe laws for composition, which comprehend almost all the rules that learning and reflection could invent for the regulation of literature, and from which it would be deemed a dangerous experiment, even for genius, to attempt to depart. In painting, too, there are some vague laws for composition, but the writers upon this art having been fewer and the academies having settled no general principles nor promulgated their doctrines for the regulation of practice, these laws have never been clearly defined. Hence each individual disciple of every school, as well as every artist independent of academical instruction, has been at liberty to exercise his talent almost without control. Nature is the prototype from which he is allowed to collect his imagery, and to represent her and her attributes with all the license of a poetic fancy or with rigid truth ; for although one painter is justly more admired for his execution than another, yet there are no established dogmas to impede the operations of the pencil ; in portraying whatever the artist may select for imitation, he is free to exercise his art to the full extent of his original feeling in any manner or style of his own. This license constitutes one of the greatest felicities of a painter, wherein he has a manifest advantage over sculptors, architects, poets, musicians and other men of science, being left in so important an attribute of his art the entire exercise of his taste. The varieties of this quality, then, in painting termed style, seem amenable to no bounds ; each artist, according to the faculties of his eye and hand, will be found to vary the mode of execution almost as extensively, perhaps, as we see in penmanship, where, among the thousands copying from the same exemplars and taught by the same preceptors, yet no two will be found to write entirely alike.

Architects and Clients.

Of opportunities in architecture there are two sorts—the most obvious and intelligent one that of having a building to execute which affords some scope for design or the display of taste; the other, that of being not only permitted but encouraged to treat the subject con amore, and to satisfy oneself. To talk of an architect's being left to satisfy himself—though some, by-the-by, seem to be very easily satisfied with themselves—may sound strangely to those who look upon him as little better than a tradesman, not as a professional adviser in art, but a sort of apothecary, who has merely to make up their own prescriptions. Nevertheless, it is so essential an architect should have such liberty granted to him that he who shows himself indifferent to it almost forfeits the name of artist, showing himself to be little better than a mere hireling. Of course, this is to be understood grano salis, according to the circumstances and importance of the case; neither is it to be supposed that employers and their wishes are to stand for nothing in the matter, as if it were of very little moment whether they were satisfied or not. Let employers explain their ideas and urge their own particular views, but let them also listen patiently to those of the artist himself, otherwise they show either that they more than doubt his capacity, or that they shrink from listening to arguments that may convict them of ignorance or of obstinacy. Architects themselves, on the other hand, might sometimes profit by the hints and remarks of their employers, and should feel rather inspirited, certainly not discouraged, when they find their designs strictly scrutinised, instead of all their merits being detected at a glance, in which latter case it may be presumed the merits are rather superficial and not very numerous. Excellently well it is observed by Chateauneuf :—"Undoubtedly it is very pleasant to an architect to meet with

an employer disposed to give him carte-blanche and permission to follow out his own ideas unrestrictedly; yet it is still more delightful to meet with one who, instead of merely passively acquiescing, assents from conviction after deliberate study of the ideas submitted to him, and from the lively interest he takes in them."

The "Liber Veritatis" and the "Liber Studiorum."

The "Liber Veritatis" contains facsimiles, as near as the art of engraving could make them, of sketches of landscapes and sea-pieces, by Claude, being a collection of memoranda of subjects which he had painted, or studies from which he intended to paint, with perhaps loose hints for future composition. The paintings of this great artist for colour, general harmony, truth of aërial perspective and purity of execution are as near perfection as art has yet been known to proceed in the imitation of scenes in nature, as viewed under the influence of a clear atmosphere and serene sky, such as Italy so frequently affords, and which this judicious painter almost invariably chose for the objects of his imitation. Claude's great excellence lay in exhibiting the elegant pastoral. The grand epic style he rarely attempted, and when he did he failed. The bold features of composition form no part of his general attention; hence these sketches, whether touching form, light and shadow, or the leading principles of composition, abstracted of colour and harmony, are the worst exemplars that can be laid before the student who would desire to improve himself in the art of designing landscape. Indeed we feel no hesitation in saying that the work, with few exceptions, is a collection of scraps, some from nature and some from the imagination, forming a series of scattered compositions, which are deficient in sound principles and puerile in design. Turner's "Liber Studiorum," on the contrary, we should recommend to teach those very properties in art of which this work of Claude's is so deficient. The designs of Turner are classed under the heads epic, pastoral, marine, &c., a division not merely in the titles, but maintained with true discrimination of their separate characters, and upon principles that are obviously the result of this artist's great knowledge of composition, as it embraces all that can be represented in one colour, namely, form, light and shadow, proportion, fitness and general effect. This work, which is an honour to the British school, we would, with deference to all the real admirers of what is excellent in ancient art, hold up, in preference to any that has appeared, as the best perceptive book of studies for the amateur of landscape that ever issued from the press.

Elizabethan Interiors.

Previously to Elizabeth's reign the floors were of different materials. From a very early date we find them described as sometimes paved with tiles of various colours, and laid in chequer-work—the hall at Hampton Court was "floored with painted tyle"—they were also of stone; and when boarded floors were adopted they were of coarse substantial workmanship, sometimes, instead of crossing, laid parallel only with the joists, and not depending on them for support. The doors also were of a rude character, being seldom framed, as they were usually covered by the arras; but in Elizabeth's time doors of all kinds were panelled, as well as the ceilings and wainscotting of the walls, and often decorated with painting and devices. The elaborate fretwork of some of the ceilings of the time, ornamented with bosses and pendants, is admirable both in design and execution; and the framed roofs of the great halls were so well put together, and of so ornamental a character, as to form one of the principal features in old houses. The roof of the great hall at Hampton Court is an admirable specimen, though partaking more of the Gothic than the Elizabethan, and has the advantage of being easily accessible to an inquiring observer. Glass windows were another prominent feature in these dwellings. This material, though early introduced into England, was so costly that it was not unusual to take out the window-lights on the departure of the master of the house and lay them up for safety; but in Elizabeth's time it was in general use, and was sometimes carried to great excess. "You shall have," says Lord Bacon, "fair houses so full of glass that one cannot tell where to be come to be out of the sun or cold." And Lysons mentions a window at Collacombe in Devonshire containing 3,200 panes of glass. Stained-glass also was a favourite ornament of the superior rooms of mansions and palaces, adorned with figures in the most splendid colours. It was known as early as the thirteenth century, and was much cultivated in the reign of Henry III. Carpets not having at this time come into use in England except as the coverings of tables, or occasionally as foot cloths for the throne, &c., rushes and sweet herbs appear to have been the substitute, both in public and private houses. Though the private rooms and rooms of state were sometimes matted, yet rushes were the general strewing; Queen Elizabeth's Presence Chamber even was strewed with them, and we meet with constant reference to them in old authors. Footing must have been very insecure on such floors, though it appears they were used even in ball-rooms.

Greek Masonry.

The ancient Greeks were as empirical in their rules upon the proportions of each stone they employed as upon the proportions of the whole design. Thus it may be observed, for example, that the size of the stones in the Erechtheum and in the Parthenon differ in about the same ratio as the one differs from the other. For the actual proportion of the stone itself no direct rule can be given, nevertheless it is found that the geometrical ratio of 1. 2. 4. is by no means unfrequently employed. Symmetry also was considered as necessary in the position of their joints as in the composition of the plan, or the position of their triglyphs and mutules, and these may be observed as occupying the same place in nearly every similar construction. The Greek joint, whether it be executed in marble or in stone, is a thing really to marvel at. It is, indeed, scarcely visible. Its perfection arises from the amount of skill and labour bestowed upon it, and from the peculiar method of working the two surfaces. There are grounds for believing that there was a universal method adopted in all ages by that nation, nor was it confined to the Greeks alone, it having been handed down to and practised by the Romans also, as can be observed in the Coliseum and Arch of Septimius Severus. It, however, at length became either lost or disused.

GENERAL.

Mr. Waterhouse, R.A., as assessor in the Cartwright Hall Competition, has made the following selection:—First prize, 150*l.*, Mr. J. W. Simpson and Mr. J. Milnes Allen, of 10 New Inn, Strand, London. Second prize, 100*l.*, Mr. A. R. Jemmett, of Great College Street, Westminster. Third prize, 50*l.*, Mr. W. H. Pite and Mr. R. S. Balfour, of Upper Montague Street, London.

Mr. John Cassidy, of Manchester, has just completed the model for the bronze statue of the late Sir Benjamin Dobson. It is a very large work, the figure being nearly 10 feet high. The subject is represented in his mayoral robe with the chain of office round his neck; his right hand is extended, holding an eyeglass, while the left, clasping his cocked hat, is pressed to his side.

Subscriptions amounting to nearly 4,000*l.* have now been contributed towards a statue in memory of Mr. Gladstone to be erected in Glasgow. A sculptor and a site have to be selected.

Mr. O. O. Wrigley on Saturday laid the memorial-stone of the Bury Art Gallery and Public Library which Messrs. Woodhouse & Willoughby have designed. The building will cost 21,000*l.* A collection of pictures and sculpture valued at 100,000*l.*, presented by the Wrigley family, is available for disposal in the galleries when completed.

Mr. Arthur B. Potter has offered to the Rochdale Corporation a bust, with marble pedestal, of his father, Mr. T. B. Potter, who represented the borough in Parliament for thirty years.

The Trustees of the Chantrey Bequest have purchased the following pictures:—*Approaching Night*, by Mr. Davis, R.A.; *The Battle of the Nile*, by Mr. Wyllie, A.R.A.; *Off Valparaiso*, by Mr. Somerscales; and *My Lady's Garden*, by Mr. J. Young Hunter.

The Design sent in by Mr. T. W. Aldwinckle has been adopted by the St. Pancras Vestry for the new baths, which are to cost 50,000*l.* The other competitors were Messrs. E. Harnor, F. Pinches, Spalding & Cross, Francis J. Smith, R. Stephen Ayling and E. P'Anson & Son.

The Marlborough College Mission, having built St. Mary's Church and Vicarage at Tottenham, are now completing their scheme by erecting a parochial building, consisting of a church hall, men's club house and caretaker's cottage, the memorial-stone of which was laid by H.R.H. the Duchess of Albany on Saturday afternoon, the dedication service being said by the Bishop of London. The whole group of buildings is from the designs of Messrs. Cutts. The Duchess takes a great interest in this mission, the late Duke having been a governor of Marlborough College.

The Post Office authorities have offered to purchase Blackburn Town Hall for the sum of 30,000*l.* The Corporation, before accepting, are considering the feasibility of altering the building to suit present requirements.

Mr. Francis Cross, who was an authority on subjects relating to the archæology of the Canterbury district, died on April 27.

The Trustees on the estate of the late Provost Orchar, architect and engineer, Broughty Ferry, who bequeathed to Broughty Ferry his collection of books, works of art and violins, valued at 12,936*l.* 10*s.*, have made application to the Treasury for a remission of the estate duty, and they have received intimation that the duty would be remitted.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT

In view of the many difficulties which are certain to rise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading Rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s. by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed 3000*l.* Mr. S. Stead, Municipal Offices, Harrogate.

PLUMSTEAD.—July 27.—Designs are invited for proposed new municipal buildings and public library, at a cost of about 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

SALFORD.—June 6.—Premiums of 30*l.*, 20*l.* and 10*l.* are offered for designs for laying-out the site of the Infantry Barracks, and for erection thereon of public hall, shops and model cottages. Borough Engineer, Town Hall, Salford.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ALNMOUTH.—For building house and stabling. Mr. George Reavell, jun., architect, Alnwick.

ANNAN.—May 27.—For building Brydekirk Library Hall. Mr. Wm. Thorburn, Schoolhouse, Brydekirk, Annan.

BANGOR.—May 13.—For alterations at the workhouse. Mr. Richard Davies, architect, Bangor.

BARNARD CASTLE.—May 10.—For building five houses. Mr. F. H. Livesey, architect, Bank Chambers, Barnard Castle.

BARNSLEY.—May 11.—For building a house. Mr. Geo. Moxon, architect, 26 Church Street, Barnsley.

BARNSTAPLE.—May 13.—For reconstructing portion of river wall. Mr. J. Bosson, Municipal Buildings, High Street, Barnstaple.

BATTERSEA.—June 7.—For supply and erection and carrying out of work in connection with the electric lighting of the parish. Vestry Clerk, Municipal Buildings, Lavender Hill, S.W.

BECKENHAM.—May 13.—For building first portion of a church. Mr. A. H. Hoole, architect, 21 King William Street, Strand, W.C.

BEDMINSTER.—May 8.—For rebuilding the Engineers' Arms, St. John's Lane. Mr. Henry Williams, architect, 24 Clare Street, Bristol.

BEESTON.—May 11.—For building Wesleyan chapel. Mr. Robert Lowe, St. John's Grove, Beeston.

BEXHILL.—May 15.—For building electric-lighting station. Mr. A. H. Preece, 13 Queen Anne's Gate, Westminster.

BRISTOL.—May 15.—For building a school for the School Board. Mr. H. J. Jones, architect, 12 Bridge Street, Bristol.

BRISTOL.—May 16.—For building retaining walls. Mr. T. B. Yabbicom, 63 Queen Square, Bristol.

BUCKFASTLEIGH.—May 9.—For building cottage. Mr. S. K. Mills, Great Western Railway Company, Paddington Station, London.

BURNLEY.—May 13.—For paving, kerbing, channelling, &c., of thirty-one streets and twenty-nine back streets. Mr. G. H. Pickles, Town Hall, Burnley.

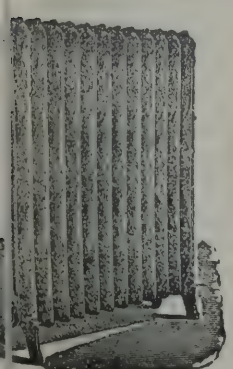
CANNOCK.—May 20.—For building classroom, &c. Messrs. Bailey & McConnel, architects, Bridge Street, Walsall.

CHELTENHAM.—May 30.—For reconstruction of the Montpellier Baths. Mr. Joseph Hall, borough surveyor, Cheltenham.

CHERTSEY.—May 16.—For street drainage works. Mr. J. F. Stow, engineer, Windsor Street, Chertsey.

CLITHEROE.—For building six villa residences. Messrs. Briggs & Wolstenholme, architects, Richmond Terrace, Blackburn.

COUNDON.—May 11.—For building dwelling-house. Mr. F. H. Livesey, architect, N. E. Bank Chambers, Barnard Castle.



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ESTIMATES FREE.



DARLINGTON.—May 30.—For erection of electric-lighting station The Borough Surveyor, Town Hall, Darlington.

DARTMOUTH.—May 14.—For repairing and painting the market buildings. Mr. T. O. Veale, borough surveyor, Dartmouth.

DERBY.—May 8.—For extensions to electric-lighting station. Mr. Arthur Eaton, architect, 6 St. James's Street, Derby.

DUBLIN.—May 9.—For erection of a station building in timber and goods shed. Engineer-in-Chief, G. N. Railway Co. (Ireland), Amiens Street, Dublin.

DURHAM.—For building three stone houses. Mr. J. Seed, Hill Top, Esh, Durham.

EGHAM.—May 13.—For making-up roads. Mr. W. Menzies, Englefield Green, Surrey.

EPSOM.—May 8.—For supply and erection of electric lighting plant. Mr. W. C. C. Hawtayne, 9 Queen Street Place, London, E.C.

FINCHLEY.—May 15.—For building new hall, &c., for the Y.W C.A. Mr. W. Hollis, Church End, Finchley, N.

FLEETWOOD.—May 16.—For supply of electric-light fittings, &c. Mr. Thos. Barton, Ainsworth Street, Blackburn.

GLASGOW.—May 16.—For works in building ten tenements for the Corporation. Messrs. Frank Burnet & Boston, architects, 180 Hope Street, Glasgow.

GRIMSBY.—May 20.—For erection of buildings and chimney shaft in connection with electricity works. Mr. Marshall Petree, borough engineer, Grimsby.

HALESWORTH.—May 9.—For rebuilding front portion of residence and business premises. Mr. H. S. K. Stanford, Halesworth, Suffolk.

HERNE COMMON.—May 15.—For alterations and additions to the workhouse. The Master, The Workhouse, Herne Common, Kent.

HETTON-LE-HOLE.—May 8.—For building boundary wall at the churchyard. Mr. G. S. Forster, surveyor, Hetton-le-Hole, R.S.O, Durham.

HORWICH.—For building nine houses and a store. Mr. E. W. Dyson, architect, 17 Lee Lane, Horwich.

ILFORD.—May 8.—For building public offices and larg hall. Mr. Benjamin Woollard, architect, 16 Finsbury Circu London, E.C.

IRELAND.—For repairs to roof and walls of Donamor Castle, co. Roscommon. Messrs. E. G. Armstrong & Mahor Ahascragh, co. Galway.

IRELAND.—May 13.—For converting the old Bridewell a Baltinglass into a town-hall, reading-room and ball cour Mr. E. P. O'Kelly, Town Hall Company, Baltinglass.

KEIGHLEY.—For additions to Home Mill. Mr. John Hagga architect, North Street, Keighley.

KEIGHLEY.—For building a shop, &c. Messrs. John Judso & Moore, architects, York Chambers, Keighley.

KEW.—May 16.—For constructing a filter bed in Kew Gardens. Clerk of the Works, Kew Place.

KIRKBRIDE.—May 10.—For building chapel and school Messrs. W. E. Scott & Co., architects, Victoria Building Workington.

KIRBY MUXLOE.—May 22.—For constructing sewers, & Mr. J. B. Everard, 6 Millstone Lane, Leicester.

LEEDS.—May 20.—For building a parochial institute, M Henry Walker, architect, 8 Upper Fountaine Street, Leeds.

LEWISHAM.—May 16.—For building two libraries. M John Andrews, 13 Basinghall Street, E.C.

LEYTONSTONE.—May 10.—For constructing water towe Mr. F. E. Hilleary, Guardians' Offices, Union Road, Leyton stone.

LLANDEGFAN.—May 17.—For building chapel, schoolroom &c. Mr. Joseph Owen, architect, Menai Bridge.

LONDON.—May 8.—For erection of the superstructures o and for painting new bandstands at Battersea Park an Victoria Embankment Gardens, for the London County Council. Particulars at the Architect's Department, 13 Spring Gardens, S.W.

LONDON.—May 8.—For supply and erection of boundar railings and gates, including stonework of coping, steps, &c at Nelson Recreation Ground, Kipling Street, S.E., for th London County Council. Particulars at the Architect's Depart ment, 13 Spring Gardens, S.W.

LONDON.—May 9.—For alteration of existing building o the Bluecoat School and building additional schoolrooms, &c Messrs. Beazley & Burrows, architects, 17 Victoria Street, S.W

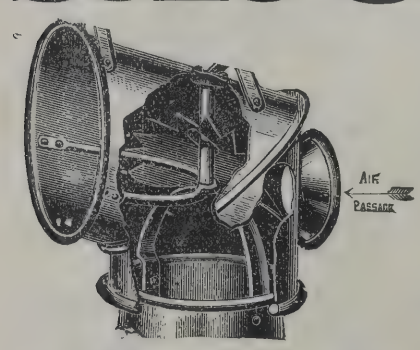
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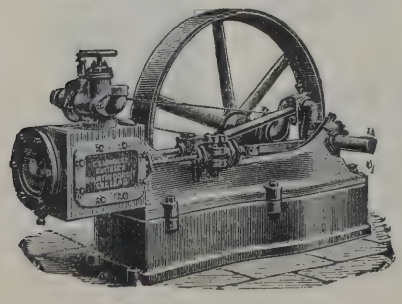
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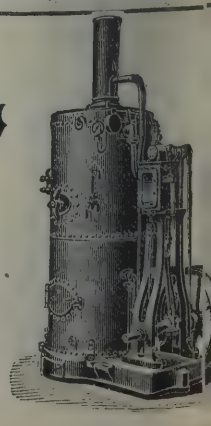
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[Mention this Journal.]

LONDON.—May 10.—For erecting electric-light building. Mr. H. Mair, Town Hall, Hammersmith.

LONDON.—May 16.—For supplying and fixing additional plant at the Regent's Park electricity works. Chief Clerk, Electricity Department Offices, 57 Pratt Street, N.W.

MANCHESTER.—May 12.—For extension of branch post office. H.M. Office of Works, New Bridge Street, Manchester.

MANSFIELD.—May 24.—For building a new lock-up at Shirebrook, near Mansfield. Mr. J. Somes Story, County Offices, St. Mary's Gate, Derby.

MILFORD.—May 13.—For building parish church and presbytery. Mr. M. A. Hennessy, architect, 74 South Mall, Cork.

MORECAMBE.—May 15.—For building three detached villa blocks at the County Lunatic Asylum. Mr. John Cresswell, architect, Moot Hall, Newcastle-on-Tyne.

MORETON-IN-MARSH.—For building four cottages. Mr. A. W. Drury, secretary, Loyal Good Intent Lodge of Oddfellows, Moreton-in-Marsh, Glos.

MORTLAKE.—May 9.—For building seventy-six workmen's dwellings. Mr. G. B. Tomes, Urban District Council Offices, High Street, Mortlake.

NAPLES.—July 10.—For construction of harbour and docks Public Works Department, Rome.

NEW CROSS.—May 24.—For building chimney-shaft and altering boiler-house, for the Metropolitan Asylums Board. Mr. E. Stanley Peach, architect, 28 Victoria Street, S.W.

NEW MALDEN.—For building offices and stables. Mr. C. T. Lewis, Cambridge Road, New Malden.

NUNEATON.—May 11.—For building new Theatre Royal. Mr. C. W. Smith, architect, Nuneaton.

PORTSMOUTH.—May 19.—For building drill-hall. Mr. Alfred H. Bone, architect, Cambridge Junction, Portsmouth.

RAINHAM.—May 13.—For additions to premises. Secretary, Rainham and District Co-operative Society, Limited, Rainham.

RIPLEY.—May 15.—For additions to school. Mr. C. Hodgson Fowler, architect, The College, Durham.

RUSKINGTON.—May 13.—For boring and tubing well. Mr. Jesse Clare, C.E., Sleaford.

RYTON-ON-TYNE.—May 14.—For rebuilding the Jolly Fellows inn. Mr. T. C. Nicholson, architect, Blaydon, Newcastle-on-Tyne.

SALFORD.—For building school. Names only to Mr. Ogilvie Duthie, School Board Offices, Chapel Street, Salford.

ST. MARY CRAY.—May 9.—For building fire brigade station. Mr. R. G Mullen, 96 High Street, Bromley, Kent

ST. MAWES.—May 10.—For building the Ship and Castle hotel. Mr. Silvanus Trevail, architect, Truro.

ST. STEPHEN'S-IN-BRANWELL.—May 8.—For building Board school. Mr. Sampson Hill, architect, Redruth

SCOTLAND.—For alterations at the Roxburgh District Asylum, Melrose. Messrs Sydney Mitchell & Wilson, architects, 13 Young Street, Edinburgh.

SCOTLAND.—May 11.—For building a large villa, Kingussie. Mr. A. Mackenzie, County Buildings, Kingussie, N.B.

SCOTLAND.—May 12.—For additions to boys' school, Illogan. Mr. Sampson Hill, architect, Green Lane, Redruth

SCOTLAND.—May 12.—For constructing service-tank, laying water-pipes, &c., at Netherwood, Dumfries. Messrs Leslie & Reid, 72A George Street, Edinburgh.

SHEFFIELD.—May 9.—For the works in the erection of Public Elementary school. Messrs. Holmes & Watson, architects, St. James's Chambers, Church Street, Sheffield.

SHREWSBURY.—May 17.—For building eight cottages and constructing new street. Mr. W. Chapple Eddowes, borough surveyor, The Square, Shrewsbury.

SOUTHAM.—May 13.—For laying main drains, constructing manholes, &c. Messrs. Charles Nelson & Co, Stockton

SOUTHAMPTON.—May 17.—For construction and delivery of a steel passenger and carriage floating bridge. Mr. C. W. Murray, Oriental Place, Southampton.

SOUTHAMPTON.—May 23.—For constructing sewers. Mr. W. B. G. Bennett, borough engineer, Southampton.

STAFFORD.—May 11.—For alterations and additions at the Guildhall, building cottages, &c. Mr. W. Blackshaw, Borough Hall, Stafford.

STOCKTON-ON-TEES.—May 15.—For building offices for the South Durham Steel and Iron Co. Mr. J. J Wilson, architect, West Hartlepool.

SUDBURY.—May 8.—For making-up about one mile of streets. Mr. T. W. A. Hayward, Town Hall, Sudbury, Suffolk.

SWINTON.—May 8.—For erecting a brick building for sludge-pressing machinery at the sewage works. Mr. T. S. McCallum, 52 Corporation Street, Manchester.

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TANTOBIE.—For building five houses at Tantobie, Durham. Mr. T. Ernest Crossling, architect, Stanley, R.S O.

TENDRING.—May 23.—For building infirmary wards. Mr. F. Whitmore, architect, Chelmsford.

TODMORDEN.—May 9.—For constructing brick and earthenware pipe sewer, with manholes, &c. Mr. C. R. Pease, Town Hall, Todmorden.

TREDEGAR.—May 10.—For extension of and also reseating English Baptist chapel. Mr. E. T. Morgan, architect, 13 Park Row, Tredegar.

TYNE DOCK.—May 17.—For building 34 houses. Mr. C. N. Wilkinson, North-Eastern Railway Company, York.

TWICKENHAM.—May 10.—For works in connection with widening road. Mr. F. W. Pearce, Town Hall, Twickenham.

WALES.—May 8.—For repairs and alterations to the British School, Govilon, Abergavenny. Mr. Edward Edwards, The Cwm, Govilon.

WALES.—May 9.—For laying 12-inch sewer of glazed socket-pipes, with manholes, ventilators, &c, at Bedwas. Mr. John Powell, 131 Stow Hill, Newport.

WALES.—May 10.—For building swimming-bath and gymnasium at Port Talbot. Mr. Frank B. Smith, architect, Port Talbot.

WALES.—May 15.—For enlarging the Llandaff, Llandaff Yard and Maindy National schools. Mr. G. E Halliday, architect, Cardiff.

WALES.—May 30.—For building asylum at Talgarth. Messrs. Giles, Gough & Trollope, 28 Craven Street, London, W.C.

WESTON-SUPER-MARE.—May 8.—For building library and Museum. Messrs. H. F. Price, Wilde & Fry, architects, Weston-super-Mare.

WESTON-SUPER-MARE.—May 13.—For the completion of the Government School of Science and Art. Mr. Hans F. Price, architect, Weston-super-Mare.

WHITEHAVEN.—May 12.—For restoration of Hogarth's Church. Mr. J S. Moffat, architect, Whitehaven.

WITHINGTON.—May 13.—For building an office in the town's yard. Mr. A. H. Mountain, Town Hall, Withington.

WIVELISCOMBE.—May 15.—For alterations and additions to police station. Mr. W. J. Wilcox, 1 Belmont, Bath.

WHITEHAVEN.—May 15.—For building Wesleyan chapel. Mr. A. Huddart, architect, 22 Lowther Street, Whitehaven.

YORK.—May 10.—For building two houses. Messrs Penty & Penty, architects, Lendal Chambers, York.

NATIONAL REGISTRATION OF PLUMBERS.

THE annual meeting of Registered Plumbers was held last week at Glasgow. The vice-president of the Council (Mr. John Gordon, architect) was in the chair. The annual report gave full details of the educational work carried on by the Council in theoretical and practical plumbing classes in Glasgow and Ayr, and dealt with other matters connected with the registration movement. After the adoption of the report and elections to fill vacancies on the District Council, Sir John Neilson Cuthbertson presented the bronze medal of the Worshipful Company of Plumbers and the various prizes and certificates gained by journeymen and apprentices in the Glasgow and West of Scotland district in connection with the Exhibition held in Glasgow last year; afterwards delivering a stimulating and instructive address to the prize-takers and the younger members of the trade, for which, on the motion of the chairman, he received a cordial vote of thanks.

Sir Jas. Russell, M.D, presided over the annual meeting o the East of Scotland District Council held in Edinburgh. The chairman, in moving the adoption of the report, said that they had now recognised for some years that to render the move ment effective and to secure for the public the benefit it was calculated to give them, registration was necessary It was not intended to compel anyone to come into the movement, bu it was felt to be absolutely necessary that those who came under a guarantee of competency and discipline should have their status marked out by Parliamentary imprimatur. Bailie Pollard, in seconding the motion, said that in public-health matters things had greatly improved during the last forty years, and the plumbing trade had made a great advance. There was a great deal less misery, sickness and death now than there was forty years ago, simply through the improve ment that had taken place in the plumbing trade. There was a spirit of scientific application to work in the plumbing trade now which used not to prevail, and it was fruitful of most excellent results to all classes of the community.

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TENDERS.

ABERDEEN.

or works of a new public school at Mile End, for the Aberdeen School Board. Mr. A. H. L. MACKINNON, architect, 245 Union Street, Aberdeen.

Accepted tenders.

J. Gauld, mason	£5,965 0 0
A. Hall, carpenter and joiner	3,229 0 0
Stephen & Gibb, plasterer and cementer	968 0 0
J. F. Anderson, plumber and gasfitter	610 0 0
J. Mason & Son, painter and glazier	447 17 10
G. Bisset, steelwork	406 17 11
G. Bisset, ironwork	229 13 0
Adam & Co., slater	169 15 0

ASHTON-UNDER-LYNE.

r alterations and extension to the New Jerusalem church and school. Messrs. J. H. BURTON & J. A. PERCIVAL, architects, Ashton-under-Lyne.

E. MARSHALL, Ashton-under-Lyne (*amended tender, accepted*) £689 0 0

Eight tenders were received.

BATH.

r additions and alterations to the Wesleyan chapel, Oldfield Park, Bath. Messrs. T. P. SILCOCK & S. S. REAY, architects, Octagon Chambers, Bath.

. Uphill	£1,543 16 10
. Wibley	1,134 10 0
. Webb	1,094 0 0
rwood & Morris	987 0 0

BATHGATE.

r an infectious diseases hospital for the Bathgate district, to be erected between Armadale and Whitburn, Linlithgowshire. Messrs. JOHN MELVIN & SON, architects, Alloa.

Accepted tenders.

Wilson & Wallace, West Calder, builder	£2,749 9 11
. Gillon, Whitburn, joiner	1,310 0 0
. Rolland & Co, Dunfermline, plumber	613 0 0
. Easton, Bathgate, plasterer	458 0 0
. Easton, slater	350 0 0
. Munnoch, Broxburn, painter	87 7 4
. Bryden & Sons, Edinburgh, bellhanger	17 14 4

BILLINGHAY.

For proposed cloakrooms and other alterations to be carried out at the Billinghay Board school, for the United District School Board.

D. Mackears	£164 14 11
J. Saxby	124 0 0
J. B. NEWTON, Boston (*accepted*)	118 0 0

BIRMINGHAM.

For enlargement of All Saints Church, King's Heath. Messrs. J. P. SHARP & Co., architects, Birmingham.

W. H. GIBBS, Birmingham (*accepted*) . . £2,630 0 0

CARDIFF.

For construction of roads and sewers at Cathays Park, for the Corporation. Mr. W. HARPUR, borough engineer.

H. Gibbon	£13,842 16 9
J. Allan	10,980 19 4
Barnes, Chaplin & Co.	10,970 16 10
F. Ashley	10,948 1 8
T. Morris	10,619 3 4
E. Osmond	10,427 18 8
C. Davies	10,398 12 3
Jones Bros.	10,189 13 3
T. REES, Ely (*accepted*)	9,926 12 9

For erection of an Oddfellows' hall and institute at 6 Charles Street. Messrs. R. & S. WILLIAMS, architects, Wharton Street, Cardiff.

W. H. Ingleson	£2,388 0 0
J. Allan	2,310 0 0
A J. Howell	2,305 0 0
Cox & Bardo	2,300 0 0
Knox & Wells	2,300 0 0
Price Bros.	2,292 0 0
H. Gibbon	2,283 0 0
D. Davies	2,280 0 0
G. Couzens & Co.	2,277 4 2
Jones Bros.	2,210 0 0
Rees & Thomas	2,150 0 0
G. Griffiths	2,140 0 0
Turner & Sons	2,038 0 0
F. Small	2,007 0 0
J THOMAS, Cardiff (*accepted*)	2,000 0 0
J. E Evans (*withdrawn*)	1,800 0 0

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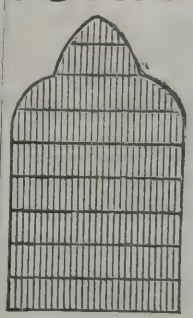
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CAISTOR.

For erection of a new schoolroom adjoining the Congregational church. Mr. J. H. COOPER, architect, Lincoln.

H. A. EASTOR, Caistor (*accepted*)	£498 7 0
Towle & Son	463 0 0
S. Phillips	410 5 4
H. & R. Mawer	395 0 0

CHELMSFORD.

For building a small house at Rainsford End, for Mr. Alfred Miller. Mr. CHARLES PERTWEE, architect, Bank Chambers, Chelmsford.

E. West	£573 0 0
F. Weight	495 0 0
W. Drury	467 0 0
J. GOWERS, Chelmsford (*accepted*)	460 0 0

CHISWICK.

For renovations at the Chiswick School of Art, for the Middlesex County Council. Mr. H. T. WAKELAM, county architect.

D. D. HEATH, Chiswick (*accepted*)	£456 10 0

ENFIELD.

For widening Turkey Street bridge for the Middlesex County Council. Mr. H. T. WAKELAM, county engineer and surveyor.

G. BELL, Tottenham (*accepted*)	£927 0 0

HALIFAX.

For rebuilding and enlarging St. Paul's Spiritual Church, Alma Street. W. G. GRAY & SON, architects, 28 George Street, Halifax.

W. Greenwood & Son, mason	£515 0 0
C. J. Norvell, joiner	264 16 0
R. P. Stafford, plumber and heating	114 16 0
A. Firth, slater and plasterer	91 0 0

Total, £985 12*s*. Painting, &c., not let.

HASTINGS.

For building stables, loose boxes, &c., at Rock-a-Nore, Vine Farm, St. Helen's, and Silverhill, for the Corporation. Mr. P. H. PALMER, borough engineer.

Stables at Vine Farm, St. Helen's.

D. SNOW (*accepted*)	£860 0 0

Stables at Silverhill.

BARTON & HONEYSETT (*accepted*)	795 0 0

HARROW.

For enlarging boys' school at Greenhill for the Harrow Un District School Board. Messrs. HOUSTON & HOUST architects, 5 York Buildings, Adelphi, W.C.

Pearce	£3,520 c
Haynes	3,420 c
General Builders, Limited	3,290 c
Bailey	3,190 c
Spiers	3,130 c
Rackham	3,075 c
Batchelor	2,935 c

IPSWICH.

For alterations in the water services and sanitary arrangem at St. John's Home, for the Ipswich Board of Guardia

F. H. Orvis	£170 c
B. BIRD, jun., Ipswich (*accepted*)	139 c

For building an addition to one of the wings of the new w house, for the Ipswich Board of Guardians.

H. J. Linzell	£1,365 c
Grimwood & Sons	1,351 c
MERREDEW & WORT, Stevenage (*accepted*)	1,240 c

LONDON.

For construction of underground conveniences in Cam Broadway for men and in Bonny Street for women.

	Camden Broadway.	Bonny St.
R. Ballard, Limited	£2,297 0 0	£1,247 c
R. Merton Hughes	1,974 0 0	987 c
General Builders, Limited	1,890 0 0	980 c
Merredew & Wort	1,864 10 0	947 1
GEORGE JENNINGS (*accepted*)	1,666 0 0	866 c
B. Finch & Co., Limited	1,646 0 0	829 c

For alterations at the Guildhall, Westminster, for the Midd sex County Council. Mr. H. T. WAKELAM, cou architect.

PHILLIPS & SON, Paddington (*accepted*)	£275 c

For erection of a new courthouse at Willesden, for the Midd sex County Council. Mr. H. T. WAKELAM, cou engineer and surveyor.

COWLEY & DRAKE, Willesden (*accepted*)	£5,250 c

For alterations to the Tottenham Polytechnic. Mr. H T WAKELAM, borough engineer and surveyor.

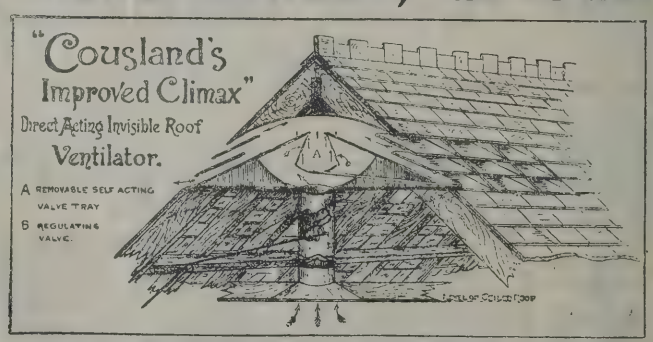
R. PORTER, Tottenham (*accepted*)	£2,228

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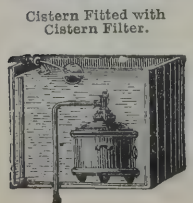


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LOUGHBOROUGH.

or various works required in building a new temperance hall, café, committee-rooms, &c., in the cattle market, for the Loughborough Temperance Hall and Café Company, Limited. Mr. ALBERT E. KING, architect, Baxter Gate, Loughborough.

Goodband & Franks	£2,943 0 0
Scurr, Jowett & Co.	2,435 0 0
Barker & Son	2,422 0 0
W. F. Harding	2,420 0 0
W. Moss & Son	2,410 0 0
MAIN, KENDAL & MAIN, Loughborough (*accepted*)	2,399 0 0

MALLING.

r laying water mains from the workhouse gates to the doorway.

C. Brattle, 3-inch pipes, £24 10*s*; 2-inch, £20 15*s*.
Mid-Kent Water Company, 3-inch and 2-inch, £35.
H. PYE, East Malling (*accepted*), 3-inch, £16 19*s*.; 2-inch, £14 18*s*. 4*d*.
R. Dann & Co., 3-inch, £37 13*s*. 4*d*.; 2-inch, £35 10*s*.

MULLION.

r erection of a new Board school, with offices, boundary walls, &c., for the Mullion School Board.

Mason.

H. George & Sons	£448 0 0
. Harry	420 10 0

Carpenter.

. H. Mathews	350 0 0
. Williams	350 0 0

Whole work.

. Williams	1,150 0 0
VINN & SON, Helston (*accepted*)	1,089 10 0

NEEDHAM.

building a new bridge over the river Waveney, at Needham Hill, to consist of brick abutments and steel troughing (span 14 feet, roadway 12 feet wide), for the Norfolk and East Suffolk County Councils. Messrs. T. H. B. HESLOP, Norfolk county surveyor, Norwich, and H. MILLER, East Suffolk county surveyor, Ipswich.

. Chandler	£455 0 0
J. BRETT, Harleston (*accepted*)	453 0 0

POOLE.

For alterations and repairs to the public baths on the east shore, for the Council. Mr. JOHN ELFORD, borough surveyor.

T. C. RIGLER, Longfleet, Poole (*accepted*)	£145 0 0

SHEFFIELD.

For alterations to premises in Ellin Street, for the committee of the Ecclesall Industrial and Provident Society, Limited. Messrs. HALL & FENTON, architects, 14 St. James Row, Sheffield. Quantities by the architects.

C. Portass	£374 5 0
H. Boot	367 0 0
C. Farrow	348 11 0
Vasey & Son	339 0 0
Allen & Banks	335 10 0
E. Neson	332 0 0
A. Turner	330 0 0
Martin & Hughes	319 0 0
C. H. Greeam	316 10 0
Abey & Son	308 10 0
T. Margerrison	304 0 0
W. HANCOCK, Horam Road (*accepted*)	273 0 0

STOCKPORT.

For private street works, for the highways and sewers committee. Mr. JOHN ATKINSON, A.M.I.C.E., borough surveyor.

Worthington & Pownall	£1,153 3 8
P. D. & T. D. Hayes, Stockport (*accepted*)	1,110 6 2

TEDDINGTON.

For alterations, &c., at Teddington courthouse, for the Middlesex County Council. Mr. H. T. WAKELAM, county engineer and surveyor.

W. SLARK, Twickenham (*accepted*)	£346 15 0

TROON.

For construction of sea-wall.

D. Cuningham & Son	£7,571 16 3
John Adams & Co.	7,491 0 3
Thomas Christie	7,449 10 0

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WALES.

For erection of 40 houses at Aber, Bargoed, for Messrs. the Powell Duffryn Steam Coal Company, Limited. Mr. Geo. Kenshole, architect, Duffryn House, Ystrad Mynach.

T. Evans	£10,549	0	0
C. Jenkins & Sons	8,270	0	0
D. W. Rosser	8,265	0	0
Marsh & Wride	8,210	0	0
W. Harris	8,107	0	0
L. Davies	8,075	0	0
W. T. Morgan & Sons	8,045	13	0
Jones Bros.	8,026	10	0
J. C. Richards	7,889	10	0
W. Williams & Sons	7,840	0	0
Davies Bros.	7,613	3	0
James & Sons, Rhondda Valley (*accepted*)	7,555	0	0

For erection and construction of a new Sunday school, class-rooms, organ chamber, &c., for the committee of Twrgwym C.M. chapel, Upper Bangor.

W. & O. Pritchard	£2,543	0	0
W. Jones	2,340	10	0
D. Owen	2,225	0	0
W. Parry	2,100	10	0
Jones & Williams, Bangor (*accepted*)	2,062	5	0

WEST KIRBY.

For erection of an engine-house, &c., at the waterworks, West Kirby, Cheshire, for the Hoylake and West Kirby Gas and Water Company, Limited. Messrs. Charles H. Beloe & Frank E. Priest, engineers, 13 Harrington Street, Liverpool.

R. Allen	£1,565	0	0
T. Lea	1,098	0	0
J. Price	1,048	0	0
C. Burt, Liverpool (*accepted*)	900	0	0

WISHAW.

For laying pipes for water-supply.

Contract No. 3.

W. G. Flett, Lenzie (*accepted*)	£7,659	0	0

Contract No. 4.

J. McEwan, Wishaw (*accepted*)	8,979	0	0

Received too late for Classification.

BOURNE.

For alterations to house, North Street. Mr. F. G. Shilco architect.

T. Hinson	£225	0	
H. Chappell	157	0	
Gelsthorpe & Sons, Bourne, Lincs. (*accepted*)	155	0	

BURSLEM.

For erection of Board school at Sneyd Green.

J. J. Longden, Burslem (*accepted*)	£7,297	0	

HULL.

For foundation and paving of the Holderness Road section the Hull electric tram system.

Bruton & Son	£26,391	5	
P. Smith	24,272	+	
Turner, Heason & Mitchell, Manchester (*accepted*)*	19,933	5	

* Afterwards the firm declined the contract.

Mr. E. A. Sandford-Fawcett, of the Local Governm Board, conducted an inquiry at the Huddersfield Town H relative to the application of the Corporation of that borou for power to borrow 50,000*l.* for electric-lighting purpos The Town Clerk (Mr. F. C. Lloyd) mentioned that the bala of loans under the Sanitary Acts was 88,815*l.*, all in respect electric lighting. Some of the machinery which would have be paid for out of the proposed loan had already been order because they had to wait so long for delivery, but no payme had been made. The annual rent of the land on which electric-lighting station stands was 315*l.* 15*s.* 8*d.* Alderm Calvert, the chairman of the electric-lighting committee, plained that the reason of the application was the rapid increa in the number of consumers. They had had recently decline a number of applications because they had not necessary plant and no further money to spend. The profit the undertaking during the year ended December 31, 18 was 2,437*l.* 1*s.* 3*d.*, and the whole of this amount was tra ferred to depreciation and contingencies fund.

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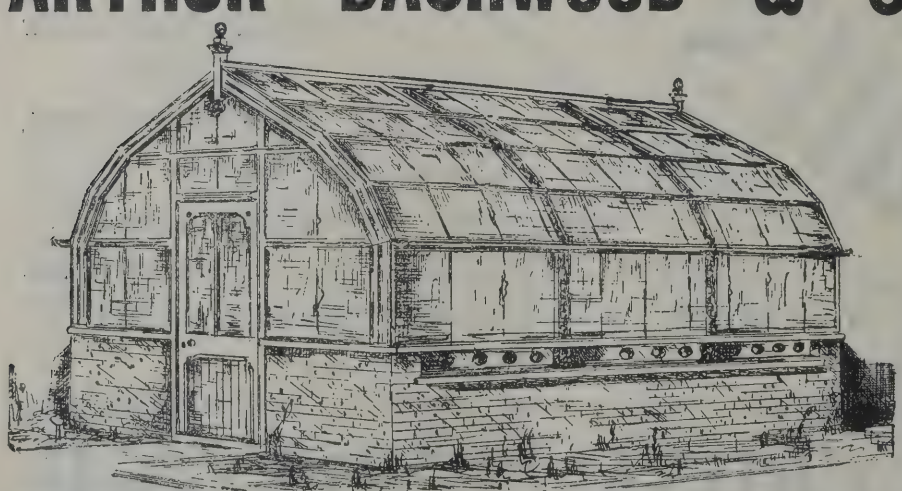
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TRADE NOTES.

MESSRS. MELLOWES & CO., of Sheffield and London, have recently completed the roof glazing of the new S.E. station at Maidstone and also new S.E. station at Addiscombe Road on their Eclipse imperishable system.

THE new schools, Mold, are being warmed and ventilated by means of Shorland's patent Manchester grates, the same being supplied by Messrs. E. H. Shorland & Brother, of Manchester.

THE Kilpedder and Graystones Presbyterian church, co. Wicklow, at present in course of erection (Mr. H. J. Lundy, architect, Dublin), is being ventilated by means of Mackay's patent direct-acting invisible roof ventilators, manufactured by the sole makers, Cousland and Mackay, 150 Hope Street, Glasgow.

IN the early days of the typewriter prejudice in official circles against its use was extreme, notwithstanding the undoubted advantages to be derived from it. The appearance, however, of the elegant, light and compact Yōst, with its beautiful characters and wonderful ink-pad, was the signal for the abolition of this adverse feeling. Shortly after it was put on the English market it was adopted by the Emperor William, the King of Wurtemberg, the Emperor of Austria, the Duke and Duchess of York, and many other members of royalty and aristocracy. The latest addition to the list of eminent users of the Yōst typewriter is President Loubet, who is loud in his praises of its efficiency.

THE thirty-seventh general meeting of the shareholders of the London and Lancashire Fire Insurance Company was held on the 27th ult., when the annual statement and balance sheet for the year ending December 31, 1898, were submitted. The net premium income amounted to 836,497*l.*, the profit on the working of the business to 35,016*l.* and the interest on investments to 37,529*l.* The total surplus on the year's operations was consequently 72,545*l.* Out of this amount a dividend (including the interim already distributed) of 12*s.* per share has been declared, and the remaining balance of 21,485*l.* is added to the reserve funds, which, together with the paid-up capital of the company, now amount to 1,207,480*l.*

A SMALL hospital is to be erected at Gummerfield, Stocket, by the Aberdeen County Council. The cost will be 3,619*l.*

BUILDING AND BUILDERS.

A BUILDING to serve as a branch of the Bank of Ireland is to be constructed at the corner of Anne Street and Oxford Street, Belfast, at a cost of about 11,000*l.*

THE Warwickshire County Council have decided to erect six cottages for constables to be built on part of the land adjoining the Erdington police station, at an estimated cost of 1,470*l.*

ON Monday the members of the Amalgamated Society of Carpenters and Joiners in Ludlow came out on strike for an increase of wages. The strike affects all the builders, &c., in the town.

DISTRICT offices are to be erected in Hamilton for the Lanark County Council. A site having a frontage of 135 feet will be required, of which a part will be obtained by using ground occupied by the existing police buildings.

MR. JAMES OSBORNE, contractor, Ayr, is to complete the scheme for supplying the villages and outlying farms with pure water from the Loss Burn, on the Ochils, for the sum of 8,996*l.* 4*s.* 9*d.*

THE masons of Perth lately made application for an increase of ½*d.* per hour on the present rate of wages, which are 8½*d.* and 9½*d.* an hour. The employers have declined to accede the demand, and it is thought that the men will resolve on a strike.

THE foundation-stone of the new Phillips Memorial Homœopathic Hospital, at Bromley, was laid on Saturday. The estimated cost of the building is about 6,000*l.*, towards which about 4,000*l.* has been collected.

THE Stockton joiners have accepted the master-builders' offer for a settlement of the dispute, namely, ¼*d.* per hour advance, subject to the condition that a conference be arranged, with a view to drawing up a scheme to establish uniformity of conditions in Middlesbrough, Stockton, Thornaby and Hartlepool.

THE committee of the Leeds Builders' Exchange Club have leased new and more commodious premises in the new block of buildings opposite the Corn Exchange. Since the establishment of the club some six or seven years ago the membership has steadily increased until at the present it has reached considerably over 300.

IT is intended to enlarge the church of St. Katharine's, Milford Haven, which was built about 100 years ago by the great Lord Nelson, to whose memory a stone is erected inside

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the church. The enlargement will consist of an extension of the chancel to a distance of 40 feet. The expenditure will amount to about 2,300*l.*, exclusive of a new vicarage, which is also to be erected at a cost of 1,100*l.*

A BLOCK of twenty-two cottages will shortly be built by the improvement and buildings committee of the Manchester Corporation at Miles Platting at a cost of 4,872*l.* The City Council is recommended by the committee to make application to the Local Government Board for their sanction to a scheme for providing forty new dwelling-houses upon land in Miles Platting, for the accommodation of persons of the labouring class who will be displaced by the making of the new street from the junction of Long Millgate and Ashley Lane to Charter Street, and to the borrowing by the Corporation of the sum of 10,000*l.* for this purpose.

VARIETIES.

THE Great Eastern Railway Company have always been endeavouring to facilitate communication between the British Isles and the Continent, and this year, improbable as it may seem, they hve improved upon their continental service. The Harwich route is now the shortest to Berlin and North Germany. The new route will bring more prominently before tourists than hitherto some Dutch towns of considerable interest. By the completion of a new railway skirting Rotterdam it is no longer necessary for the North German express to touch Amsterdam, but enabling it to run *via* Rotterdam, Gouda, Utrecht, Amersfoort, Deventer to Oldenzaal, the Dutch frontier town, and thence on to Bentheim, Rheine, &c. In conjunction with the service greatly improved connections have been inaugurated to other parts of the Continent.

A NEW chain of office, which is to cost 200*l.*, and a badge, which is to be a blaze of diamonds and artistically enamelled, to cost 400*l.* more, will be provided for the Lord Provost of Edinburgh. Four firms of manufacturing jewellers are competing for the work.

THE Carpenters' Company purpose holding their annual examination in carpentry and joinery at the hall, London Wall, on Wednesday, June 14, and the three following days. Certificates and medals will be awarded to the successful candidates. Lectures on the subjects treated in the examinations will be given on Thursday evenings during May, and on Thursday, June 1.

A PROVISIONAL agreement has been entered into for the purchase by the Manchester Corporation of a site for a new chief fire station within a short distance of Stevenson Square. It adjoins the Newton Street police station. The area to be acquired is 814 square yards, and is bounded by Hilton Street, Newton Street, Bradley's Court and Little Lever Street. It is covered at present with cottage property. The purchase is subject to the approval of the Local Government Board.

ELECTRIC NOTES.

THE electric light will shortly be installed in the Memorial Hall, Farringdon Street.

THE District Council of Ilfracombe have decided to light the town with the aid of electricity, and to carry out the work without a contractor.

AT Blackpool the year's receipts from the electric lighting was 15,580*l.*, expenses 8,044*l.*, gross profits 7,464*l.*, interest 5,324*l.*, available balance 2,140*l.* In view of the expenditure upon new cables three years ago the charges for electric light could not be reduced.

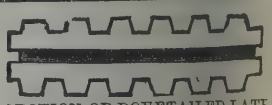
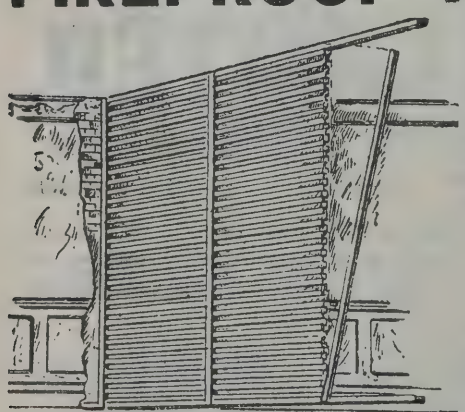
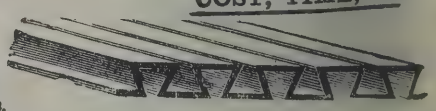
PROFESSOR KENNEDY has prepared plans and specifications for the electric lighting of the new pavilion of the Edinburgh Royal Infirmary. He has informed the managers that he does not intend to accept any fees for his labours.

THE Corporation of Newcastle-on-Tyne intend to engage an electrical engineer to advise them and prepare the necessary plans and specifications in connection with the overhead system of electric traction for the new tramways.

THE Bradford Council have modified the charges for supply to electric motors. Consumers who engage to use current continuously through the day hours are to be charged only 1*d.* per unit, instead of 2½*d.*, as previously. A "unit" is the equivalent of 1¼ horse-power for one hour. Thus a consumer may have current equal to 5 horse-power for 4*d.* per hour.

THE Leamington Town Council have been informed that the Board of Trade are prepared, under certain conditions, to grant a provisional order for the lighting of the borough. The conditions, which are now under discussion by the electric-lighting committee, have, it is understood, reference to the rights of the Midland Electric-Lighting Company, which for many years has been supplying light in the borough under an agreement with the Corporation.

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A SPECIAL meeting of the Exmouth Council was held on the 20th ult., when Mr. F. H. Taylor, of the firm of Messrs. Taylor & Field, consulting electrical engineers, of Westminster, attended. After going into the advantages the town possessed for electric lighting, Mr. Taylor suggested a small installation for say 2,000 to 3,000 lamps. A special committee of the entire Council is dealing with the matter.

THE tramway committee of the Liverpool Corporation recently decided to extend the electric system of trams to other parts of the city. Following on that decision tenders were invited for a large supply of cars, and these have now been adjudicated upon by the committee. On the experimental line the committee have had an opportunity of judging as to the efficiency of both German and American cars, and it is a significant circumstance that the extensive order for new electric trams is to be placed with an English company. The successful tenderers are Messrs. Dick, Kerr & Co., Limited, of London, who are to supply eighty electric cars at a cost of 490*l.* each. The total amount involved in the contract is thus 39,200*l.*

AT the annual and bi-monthly meeting of the Dawlish Council, the question of the electric lighting of the town was brought up. Mr. Taylor, of Messrs. Taylor & Field, electrical engineers, of Westminster, attended. In view of the high price of gas and other local circumstances, he considered that an electricity scheme had a good future before it.

ACCORDING to the *Bristol Mercury*, the electric-light committee of the Corporation have resolved upon a new departure in taking continuous current right through Bristol. The mains will be taken through the central streets so that any one on the route of the mains will be able to secure a supply of power at a moderate cost, and from the electric committee point of view this will provide a day load, which the committee have been anxious to obtain. Already applications have been received, and at the Royal Hotel, College Green, the directors are going to put up a passenger-lift in the well of the large staircase, to be designed by Messrs. Waygood & Co., and erected under the superintendence of Mr. Frank Wills, the architect. This lift will be worked by the electric continuous current. It was stated that the committee's customers for all purposes have now reached a total of 1,000, and the number of incandescent lamps is close on 70,000, irrespective of arc lamps for street lighting. Cardiff is just considering the desirability of following the example of Bristol in this respect.

THE BUILDING TRADES EXHIBITION.

EXIGENCIES of space and the brief time at our disposal prevented our noticing in our last issue all the exhibits at this thoroughly interesting and comprehensive display, into which nothing of an irrelevant nature has been admitted, and where it is perhaps not too much to say everything is good of its kind.

Some particularly interesting exhibits are to be found in the gallery. The principal credit, we are informed, is due to our enterprising contemporary, *The Surveyor*, which has certainly been instrumental to a great extent in the success of this part of the exhibition. Most of the exhibits here are of stone, road-paving and similar classes of materials. We were particularly struck with an exhibit of

The Hard York Patent Stone Company.

This firm, whose works are at Lightcliffe, near Halifax, have an interesting exhibit of their new patent "Non-slip" stone which should be of interest to all engaged in the building trades, as the uses to which it can be put in all building operations seem to be unlimited. We cannot do better than enumerate some of the many advantages we think are justly claimed for it. It affords a perfect foot-hold, and does not under stress of wear and under any circumstances become slippery. It copes and works like natural stone. Being made under hydraulic pressure of over 1,000 tons it does not laminate like natural stone. It presents a surface equal to that of a polished flag and a natural stone-like appearance. It contains no air cavities, is non-porous and frost-proof. It will wear alike through the entire depth of slab. These results have been achieved by imitating nature. In the process of manufacture she subjects her materials to great pressure and binds them together. In the manufacture of the "Non-slip" stone the "Silex" chippings are reduced to fine particles, perfectly mixed with various patented ingredients, and the slip run into 3-inch moulds, then put under hydraulic pressure of over 1,000 tons, thus preventing warping or twisting of the stones while maturing. The surplus water is expressed; the action of the ingredients quickened and enhanced, all air cavities eliminated, and a perfectly solid slab 2¼ inches thick, of several sizes, produced. Throughout the whole process of manufacture special patent machinery is used—the stone being thoroughly broken and ground to

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NOTICE OF REMOVAL.

During the Rebuilding of the Strand Premises, which have been occupied by "THE ARCHITECT" for the last 30 years, the Editorial, Publishing, and Advertisement Departments have been removed to

Imperial Buildings, Ludgate Circus, London, E.C.

even texture, and automatically mixed in proper proportions. The "Non-slip" stone is admirably suitable for window and door heads, sills, jambs and mullions, square and moulded steps, landings, coping, water tabling, decorative panels, or any purpose for which an artificial stone can be used. We see many thousand yards have been laid in the principal thoroughfares in the most important cities and towns throughout the country, and it is greatly in demand both for durability and its other qualities. A great quantity has been supplied for several large and important Government buildings in different parts of the country; in districts where a good sound substitute for natural stone is required nothing better can be used, and judging from the interest shown in their stand we feel confident it is worthy of the attention of all users of natural hard York stone either for footway pavings, steps, landings, &c.

The Norton Stone and Concrete Co.

The Norton stone is a hard artificial stone of fine texture and a good grey colour, and examples are here exhibited of the various architectural and building uses to which it can be applied. Among these we see window and door sills, and jambs, columns and pilasters with their respective caps, corbels, cornices, string-courses, chimney-pieces, steps, kerbs, flags, &c. This stone, as we have said, is hard and of fine texture, moulds well and is extremely durable, as is testified by an experience of some twenty-five years. The specimens shown here are all marked in plain figures, and these are marvellously low. The works of the company, of which Mr. John Burn is the manager, are at West Hartlepool, Norton, Stockton-on-Tees, and Eagles' Cliff. The Norton Stone and Concrete Co. are manufacturers of all kinds of concrete work either cast or *in situ*, including fireproof flooring, footpath pavement, steps, landings, sills, mantels, and every description of architectural work. The works have recently been very much extended, so as to enable the company to keep pace with the ever increasing demand for the goods; this perhaps is the best evidence that the greatest care is exercised in the selection of the materials and in ensuring accuracy in manufacture.

The Owen Stone Company, Limited.

The Owen Stone Company, to the high quality of whose artificial sandstone we had the pleasure of referring on the occasion of the inauguration of the works at Worplesdon, Surrey, some two years since, are showing some very pleasing examples of the uses to which this stone can be put. They have a pair of plain but massive gate-piers, a very richly carved mantelpiece and panel, a memorial stone, &c., as well as some blocks of the stone wrought and unwrought. The Owen stone is of pleasing colour and texture, is easily worked when new, but hardens rapidly with age, and consequently should prove very durable.

Stripso.

This is a preparation for removing paint or varnish, or both, from wood or other material. It will also effect the not easy task of removing smoke-stains from marble; in short, its detergent qualities seem to be as varied as they are powerful. Stripso is easily used. It is simply laid on the wood and washed off after a few hours, when the wood will be ready for fresh treatment. Stripso was shown by Mr. Evan Davies, of Fowke's Buildings, Great Tower Street, E.C.

The Nottingham Patents Company.

Several useful patents were shown by this company. One of them was Norris's patent chimney-pot for the prevention of down-draughts, and consequently smoking chimneys. Then there is an inspection and test-pipe for drains, which is a simple and effective contrivance, while also for drains is a patent air-inlet valve, which, like all the devices that are shown by the Nottingham Patents Company, display considerable inventive skill, as well as regard for usefulness.

Beck's Door Check, Limited.

The device shown by this company is one of considerable ingenuity, and would be of service under many different conditions. It is shown in three forms. That marked "A" is for doors which open one way only; "B" is for doors opening both ways, and "C" is a combined check and closer. One useful point in connection with these springs is that the door may be regulated to remain open at any angle. They are all of them clever inventions, easily attached, and presenting no protuberance of any kind anywhere.

The Italian Artistic Tile Company.

The wares exhibited by this firm, whose stand is in the Gallery No. 3, are such as would afford pleasure to the most fastidious artistic eye, prominent among them being their *gris flammé* architectural details in terra-cotta, the peculiarly quaint rich and artistic effects of which are produced—as their name

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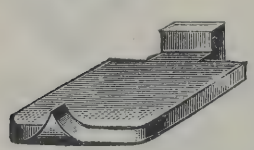
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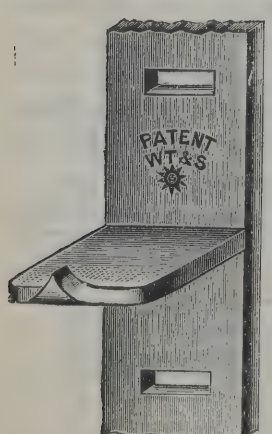
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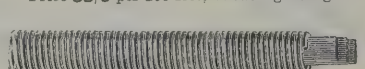
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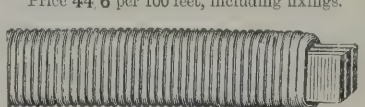
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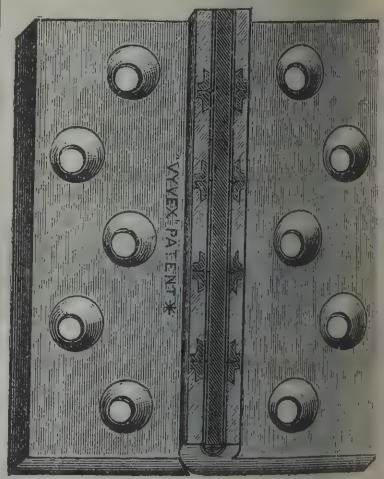


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ILLUSTRATIONS.

THE PLEIADES OF PROGRESS.

EDRAL SERIES.—DURHAM: ANCIENT FONT, WITH CANOPY.

ST. AUGUSTINE, PENDLEBURY.

SHIPLAKE COURT, HENLEY-ON-THAMES.

s—by a special method of firing. No colouring matter d, but by this process the clay acquires a beautiful red green effect very suggestive of the patina of a choice e—an effect which is heightened by the very low glaze it takes. Specimens of this ware in panels, keystones, re shown, and their suitability to architectural decoration r obvious. We may, moreover, mention that in the build- hich gained this year's premier architectural prize in this material was largely used with charming effect. The re also showing excellent samples of their *cloissonné* tiles utiful designs. The most noticeable feature about them vever, the remarkable beauty of the glaze, which is quite ional. It does not craze and is of perfect colour. Glazed cotta, balustrades, mosaic, &c., are also on view here.

H. Herrmann, Limited.

is characteristic of this company, their stand again pre- in appearance of artistic continence and refinement which too rarely observed on this side of the Channel. On delicately carved easels of the Gothic, Renaissance and XV. periods respectively are exhibited a small series of panels of exceptional grace and refinement both of and finish. These are all executed by hand. We have eral occasions had reason to speak of the excellence of rving executed by this company from the designs of cts and others, but the art work here shown is a new ure to which they are devoting great attention, and sly with very gratifying results.

Walter J. Pearce.

Pearce shows some brilliant effects in modern leaded and stained-glass, the beautifully decorative effects of are produced by the artistic mingling of plain, cathedral, or painted and American and Venetian opalescent All these varieties do not necessarily appear in any one specimen, but by their judicious combination and the elegant and artistic designs employed very excellent results, embodying charming effects of light and shade, are obtained.

Messrs. Foy, Morgan & Co.,

Of Bishopsgate Street Within, as agents for the Canning Jarrah Timber Company, have an interesting display of goods made out of Jarrah, which wood has hitherto been chiefly employed in this country for paving purposes only, but the adaptability of it for such superior purposes as mouldings, skirtings, flooring, handrails and balustrades, is emphasised in a remarkable degree by the numerous exhibits here, which comprise in addition a model staircase, an artistic mantelpiece and an exceedingly fine carved panel, besides various small objects in the natural as well as polished state. As agents for the Kauri Timber Company (New Zealand), Messrs. Foy, Morgan & Co. also exhibit several polished panels of Kauri pine of considerable width and entirely free from knots, in addition to a fine carved figure-head framed and a variety of specimens of moulding in different patterns, matchboards, balusters and other turnery work, all of which present a creditable appearance.

Ashton & Green.

This firm's stand, which is in the north-east corner of the gallery, contains a handsome variety of marble, slate and wood chimneypieces, stoves, tiles, kitchen ranges in operation, baths, castings, and sanitary goods generally. If we are not in error, the principal novelty is A. & G.'s heating and ventilating stove, which is being made for and supplied to the offices of H.M. Government, and which presents a handsome, comfortable and substantial appearance.

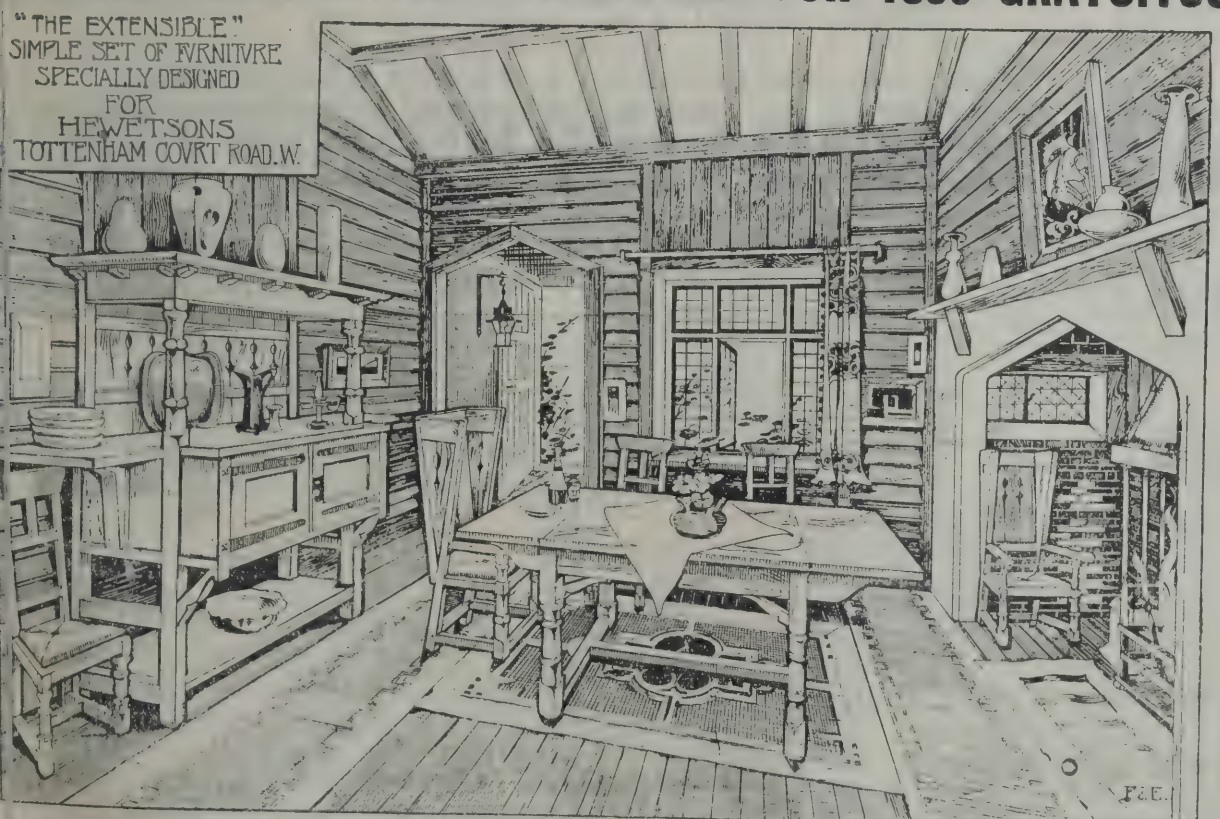
Wade Disinfectant Syndicate.

The syndicate are exhibiting their patent self-acting Government disinfector for use in water-closets, urinals, &c., also in road-watering vans, ensuring a uniform supply of disinfectant. The syndicate appear to have a fair show of reason in claiming that this is a hygienic protection, practically securing the user an immunity from typhoid, diphtheria, and other diseases due to drains.

E. S. Hindley.

The engines and machinery for which this maker is so well known are not largely represented here. He is, however, showing under the south gallery a steam saw bench and a couple of engines of powerful appearance and beautiful finish.

ETSONS ILLUSTRATED CATALOGUE FOR 1899 GRATUITOUS.



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C. A. Zadig & Co.

The adjoining space is occupied by this firm, which have sent a portable railway, some portable side steel tipping waggons, &c.

Ames-Crosta Sanitary Engineering Company.

At stand 73, row D, are shown Crosta's patent surface-water gullies, which are being extensively used by the London vestries and boards of works, the cities of Liverpool, Birmingham, Nottingham, Belfast, &c., the Isle of Man Commissioners, the borough of Windsor, and by health resorts, corporations, railway companies and urban and rural authorities of Great Britain and Ireland, and in the approaches to numerous important buildings, including the Hôtel Cecil, London, the Hôtel Métropole, Folkestone, &c.; Ames & Crosta's patent self-adjusting pipe-joint, for which the following advantage, among many others, is claimed: perfectly sound gas and water-tight joints, which will stand pressure, can be quickly made by ordinary workmen under all conditions with clay and cement, which are the cheapest and most reliable jointing materials; and Ames's improved manhole cover, which is a deep cover with reduced contact between cover and frame, thus preventing the former from corroding fast in the frame. A shallow seating is provided, the cover from the seating being set back clear of the frame and carried down the full depth of the frame, with a flange on the bottom coming in contact with it.

Wm. Brown.

Mr. William Brown—the bricklayer steeplejack—is quite a celebrity in Lancashire, whence he hails. He is credited with having ascended more steeples, spires and factory chimneys than any competitor. He is exhibiting here all kinds of apparatus necessary for his difficult and dangerous avocation, models of mill chimneys (laddered and staged), apparatus for use in connection with lightning conductors, weather-cocks, &c., and other interesting paraphernalia.

George Jennings.

Mr. Jennings has a large and representative selection of the improved sanitary and building appliances for the excellence of which he has a well-established reputation. We did not notice anything sufficiently novel to require special description, but each object is of its kind excellent, and the kinds are numerous, as baths and bath valves, water-closets, lavatories, sinks, urinals, warm fresh air ventilating grates and stoves, air-bricks, bounding bricks, stoneware drain-pipes, damp r courses, grease-traps, yard sinks, syphons, and every de tion of stoneware and terra-cotta goods.

Somerset Trading Company, Limited.

A small roof has been constructed by this company to h the application of their new method. Roofing and plain barges, hips and valleys, patent "Rainbar" tiles, finials, courses, machine-made ridge tiles, &c., are also shown.

Oates & Green.

Messrs. Oates & Green have an excellent exhibit of sa ware, the specimens shown including their white or salt- Taper urinal, which is made in one piece and has no cr in which dirt, &c., can accumulate. It is also of ver appearance and should for various reasons "catch on." firm's combined water-closet and tipper box is also sho well as the patent Kroyvert waste water-closet, rang latrines, a collection of channel syphons, white, cream, an glaze lavatories with stands; white, coloured, salt and m bricks, &c.

Mark Gentry.

Mr. Gentry always has a good show here, and this tion is no exception to the rule. His "M. G." brand facing bricks, rubbers, arch bricks, moulded and en bricks, panels, tablets, &c., are of remarkable richnes uniformity of colour, and the designs of his ornamental are very clear and sharp.

Rockhill Bros.

The "Rockhill" patent hot-air stove shown by M Rockhill has a handsome and comfortable appearance. a hot-air setting entirely constructed of fire-bricks, no iro whatever other than C. I. front. The bricks used are m and made for the special purpose of constructing these which are guaranteed to heat 10,000 cubic feet of air, a effect a great saving of fuel.

Petrifite.

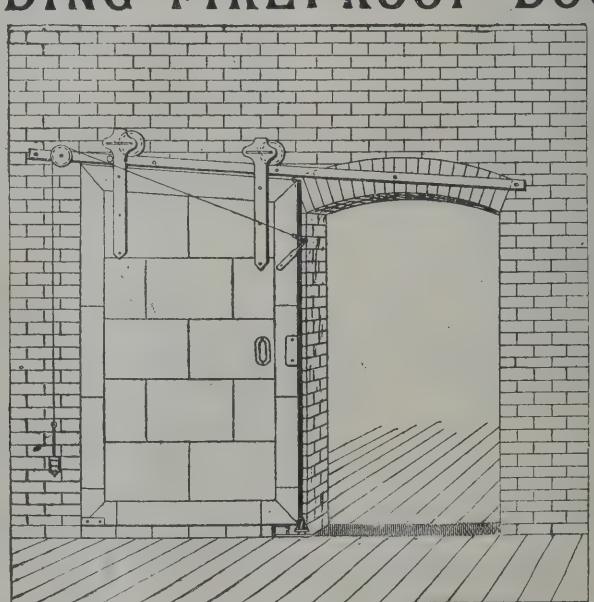
Considering the unpromising materials from whi material is made, it is astonishing to see the results ob Specimens are here shown of the uses to which it c applied, uses as various as internal brick and lath wo inflammable floors laid in monolith, which are said cheaper than wood floors, steps and balustrades, im marble (and a good imitation, too) pedestals, table-top many other things useful and ornamental.

DOWSON, TAYLOR & CO., Ltd., Engine
LONDON AND MANCHESTER.

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FIRE AT THE WORKS OF THE ANAGLYPTA CO., DARWEN, LANCASHIRE.

The door we fitted in these works, although subjected to a heat intense enough to melt brass taps and fittings near it, withstood the heat perfectly, and can now in our works in Manchester, fit for duty. The metal sheets have expanded without becoming detached, whilst the wood is simply charred to a depth of about ⅛ of an in.

FULL PARTICULARS AND ESTIMATES FREE

Sissons Bros. & Co., Limited.

e made reference a week or two since to the utility and ibility of Hall's patent "Sanitary Washable Distemper." at stand 15, row A, may be seen a model of a villa ted both internally and externally with the distemper. It d in various appropriate colours for ceilings, cornices, walls and dados, and for stencilling or hand-painting. os of the latter, two artistically executed groups of flowers own which conclusively prove with what facility the per can be worked.

Joseph Wedgwood & Sons, Limited.

ssrs. Wedgwood have erected a pavilion which forms an ive feature of the exhibition, decorated as it is, both e and inside, with glazed tiles of excellent design and In the interior is a complete decoration for a room in Adams" style, entirely ceramic, treated in four tones of which at once convinces one that tile decoration can be restful enough for ordinary living rooms." With this is iced with pleasing effect original jasper plaques, having ts upon them modelled by such great masters as Flax- Tassie, Hackwood, &c. Their beauty needs no descrip- This style of decoration is particularly suitable for hall, ng or billiard rooms in private houses. A notable e of the room is the handsome oak mantel, into the portion of which is inserted a beautiful jasper frieze enting the "Twelve Dancing Hours following Aurora" he original models of Flaxman, and another in the lower n, the subject of which is "The Nine Muses," also ne original moulds. There are also a collection of vases, ens of all classes of tiles for walls, floors, &c.

Ventura Syndicate, Limited.

e Ventura Syndicate are manufacturers of Hitchen's machine-made "Fibrous Plaster Slabs," specimens of they exhibit. The advantages which are claimed for aterial are that lathing is dispensed with, the rapidity hich houses may be made habitable, the absence of dust t, which always accompanies lath and plastering, and ed sanitary conditions, as the slabs are perfectly sanitary , and they can be fixed on stud walls, close down to the g, upon which the skirting can be nailed without any g out, thus leaving no room behind to allow vermin to or dust to accumulate, as there is with most old- ed plastering.

Ewart & Sons.

At stand 27, row A, Messrs. Ewart have a representative show of their baths, geysers and boilers for baths, &c., and a series of their well-known ventilators in copper and other metals.

Thos. Ash & Co.

At Messrs. Ash's stand examples are shown of their patent "acme" chimney-cowls, "acme" ventilators, air-inlet ventilators (Tobin's), &c.

B. Hainsworth.

Ventilators are also shown by Mr. Hainsworth, the most noticeable being the ornamental crown X.L. single tube outlet ventilator, adapted for Gothic structures, including mansions, churches, schools, public halls, &c. It is fitted with regulating valve, which is worked by means of a cord and pulley fitted in ventilator. Plainer varieties are here also, as are inlet wall-brackets, wall-panel inlets, &c.

Lyte's Metallic Woven Stair Tread Co., Limited.

Lyte's metallic stair treads appear to possess the advantages which are claimed for them, *i.e.* security against slipping, durability and neat and ornamental appearance. They are cleanly, and the lead being woven with the steel throughout cannot work out of the wire mesh, they offer no long surfaces of metal to polish and become slippery, and can be adapted to any steps. They are inexpensive and, we understand, have been supplied to numerous public and business premises in London and the provinces.

A. C. W. Hobman & Co.

A staircase in Clifton stone, mosaic steps and landings, mosaic paving tiles, table tops, &c., are shown by Messrs. Hobman, as well as window sills, balusters, moulded cornice, and specimens of their various well-known pavements.

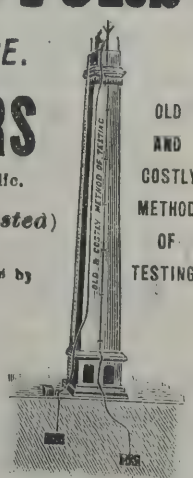
Cranstone Engineering Works, Limited.

This firm is represented by specimens of their quick hand hoists, pulley blocks and chains, gin blocks, hand-power warehouse lift, friction hoist, patent friction clutch, model hydraulic lift, &c.

Robert Adams.

A good display without any noticeable novelty characterises Mr. R. Adams' stand. There are the usual varieties of floor and overhead door-springs, reversible window fittings, fanlight, lantern light and skylight gear, weather-tight casements, &c.

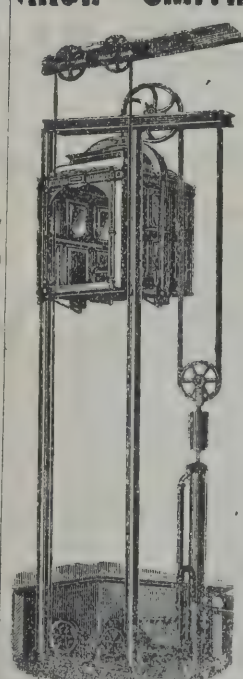
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The United Asbestos Company.

Excellent designs in high relief ceilings, friezes, &c., in asbestos, and known as the "Salamander" decorations, are contributed by this firm. As we have pointed out on several occasions, this decoration, while possessing the advantage of being fireproof, is as rich in effect as expensive plasterwork, the cost is materially less, and the work can be proceeded with with a rapidity which cannot of course be attained in plastering. We understand, too, that the prices have been further reduced.

Rowland Hodges.

The hydraulic check double-action floor-spring hinge shown by Mr. Hodges is worked by a powerful spring, the effect of which can be regulated at will by the mere turning of a screw. The door to which it is applied can by turning a nut be made so heavy as to require considerable force to open or so light as to yield to the touch of a child.

The "Dreadnought" door check and spring, for overhead fixing, is also capable of regulation in a similar manner, and possesses the advantage, in which we understand it is unique, that the door can be opened to its fullest extent—*i.e.* turned back against the wall, if necessary—without in any way interfering with the working of the spring. Fanlight gearing, indicating bolts, door furniture, cabinet and builders' brass-work, &c., are also shown.

J. C. Broadbent & Co.

Messrs. Broadbent & Co. show specimens of the different forms in which they supply their silicate cotton or slag wool, and have brought a model of a house, in which is demonstrated the ways in which it can be used for sound-proofing and preventing the spread of fire, and the stopping of radiation of heat or cold.

Thomas Potterton.

Examples are shown by Mr. Potterton of his patent ranges, boilers, safety valves, &c, and explanatory models and plans of his patent system of house-heating by means of the kitchen boiler.

Joseph Kaye & Co.

Kaye's locks, bolts, latches and handles are too well known to require any special description; they are, however, showing a little novelty in a drawer which can be locked, but cannot be unlocked, without a key. This contrivance seems simple and efficient, and should prove useful in banks and offices.

Brilliant Sign Company, Limited.

A bright and attractive display has been arranged b above company, who show a large variety of designs and in their "Brilliant" concave metal letters for fascias, stall tablets and windows, wood, brass, glass, enamel and letters, &c.

The Welsbach Incandescent Gaslight Company.

This stand forms, as usual, a brilliant and attractive po light, especially in the evening. We do not, however, anything especially new this time. The latest thing i chimneyless burner, which is made in various sizes. advantage and pleasing appearance of this has, however, its introduction had ample time to become familiar to th of the least observant.

D. Anderson & Son, Limited.

A model wooden lattice roof is shown by Messrs. And and specimens are also here (66, row D) of roofing, lining other felts; silicate cotton or slag wool in various showing its application for sound and fire proofing building insulating cold-air stores; silicate pipe cloth, for co steam and other pipes; samples and models showing Anderson's patent hair fabric, for covering hot and cold pipes and to prevent freezing, and for covering brine ammonia pipes; cow hair, plasterers' hair, &c.

M. T. Medway.

The space occupied by Mr. Medway's exhibits is, as not a large one, only dinner-lifts and hydraulic gears shown, and in these we do not notice any new features for special mention.

The London Hoist & Chain Company.

The same may be said of this firm's exhibits, which c of a selection of patent pulley-blocks and chains, quick hoists, warehouse cranes, crab winches, friction hoists, lifts, dinner and luggage lifts, and trucks.

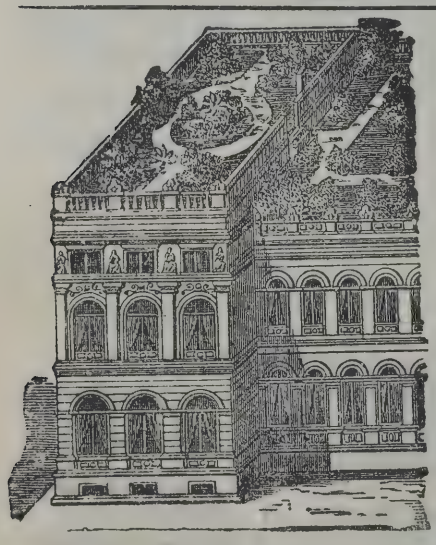
Moule's Patent Earth Closet Company, Limited.

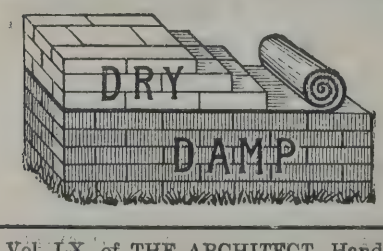
This company shows specimens of the well-known cl the advantages of which have been too long before the to require special comment.

G. B. Kent & Sons.

The unobtrusive glass case sent by this firm contains excellent samples of their painting and varnish brushes, tools, ground brushes, &c.

McNEILL'S FELTS Roofing, Inodorous, Sarking, Dry Hair, Damp Cour
McNEILL'S SLAG WOOL (Silicate Cotton), for Fireproofing Soundproofing.
AS SUPPLIED TO H.M. GOVERNMENT, WAR OFFICE, ADMIRALT
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Since the introduction of the patent Vulcanite Roofing into this country it has bee by a great number of leading architects for Public and Private Buildings, Hotels, Schools, Theatres, Mills, Warehouses, Breweries, Shops, Villas, Dwelling-houses, &c.

The temperature of the rooms immediately beneath the roof is more even in winter a than under any other roof. When properly laid repairs are never required, and all guaranteed. The roof-surface can be used as a garden, or for any other purpose. T construction is less than even for a slate or tiled roof.

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Mosaic Manufacturing Company.

At stand No. 52, row B, the Mosaic Manufacturing Company, of Pentonville Road, N., are exhibiting a number of very fine samples of Roman and Venetian marble mosaic, and the original designs of many of the floors recently executed by this firm are also on view. Appropriately, too, their stand, which has been formed so as to give a pathway from rows to A, is paved with Roman mosaic in black and white.

John Knowles & Co.

Immediately under the clock is the well-arranged and attractive exhibit of this firm. In the centre is a handsome portal in Ketley red brick and terra-cotta (which we understand has been sold to Messrs Gillow & Co.), flanked on either side by an extensive range of sanitary pipes and appliances, traps, interceptors, gullies, chimney-pots, varieties of the Aquarius closet—for which the following advantages are claimed: (1) That the outlet is adjustable to any position; (2) that the joint is submerged and must be perfectly sound, otherwise the water will reveal the defect; (3) that the joint is so simple that an unskilled workman can make it, and when made is actually the strongest part of closet; and (4) that it affords the easiest possible inspection. There is also a large variety of fireclay stove cheeks, fire-tiles, &c.

Broad & Co., Limited.

The patent sanitary sink is again the central feature of Messrs. Broad's stand, which, however, includes a large variety of white mounted ware in channel pipes and bends, gully and grease traps, sewer-gas interceptors and other drainage accessories. This company is also exhibiting an excellent "impermeable" drain pipe, channel pipes, bends and gully traps manufactured of cream Bristol ware. Engineering bricks, white-glazed, blue, red and stock bricks are likewise to be seen here.

Threlkeld Granite Company, Limited.

The ornamental granite tiles exhibited by this company in Row C are prepared from crushed granite and Portland cement. They are shown in various designs and colouring suitable for floors, dados, halls, &c., in public or private buildings. Some of the mosaic patterns are good, and the colours are bright. Great durability is claimed for these tiles. Granite concrete flags for paving are also shown. They are 2¼ and 2½ inches in thickness, and are suitable for footways, stables, &c.

Ernest Smith.

Mr. Ernest Smith is showing his patent iron joint for stoneware pipes and connections for main sewers and house drains, and for low-pressure water mains. An obvious advantage which is claimed for this joint is that a length of sewer can be tested immediately the last joint is made, and should a joint leak it can be made tight with a caulking tool while the sewer is under test.

Limmer Asphalte Paving Company, Limited.

This company has on view a specimen of their stabling and roofing asphalte, and samples of the materials they employ and supply, as raw mineral Montrotier Seyssel rock asphalte, mineral rock mastic asphalte, Montrotier Seyssel mastic asphalte, mineral rock asphalte powder, Montrotier Seyssel asphalte powder, refined Trinidad, mineral (Scotch) shale, refined bitumen, Bridport grit, &c.

George M. Callender & Co.

exhibit specimens of their pure bitumen damp-course, their pure bitumen sheeting, as applied to lining reservoirs, railway bridges, cellars, &c., their damp-resisting solution, and models, sections and plans in illustration.

Nottingham Patents Company.

This firm show a patent chimney-pot for preventing down and increasing up-draught, patent inspection drain-pipe, by means of which a drain can be unstopped without ground being broken, and a patent flap-valve air inlet to drains.

Crossley Bros., Limited.

The gas and oil engines exhibited by this company are sufficiently well known, so that any description at our hands may be dispensed with

William Johnson & Sons.

A model of their patent steam lever brick and tile press is shown by this firm, and a Dragon patent crusher, 9 inches by 6 inches, with Dragon steel jaws.

Kirchner & Co.

Wood-working machines are shown by this firm. Their exhibit comprises a tenoning machine, bandsaw, new four-cutter, planing and moulding machine, hand-planer, panel-planer, sash mortiser, automatic knife-grinder (24-inch emery wheel), combined spindle moulder and recessing machine, &c.

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The "A.A."
REVERSIBLE SLIDING SAFETY SASH FRAMES.
WIND PROOF. WATER PROOF. DUST PROOF

No Projecting Beads.
No Parting Beads.
Centre Hung.
Reversed Instantaneously.
Sashes Entirely Removed in One Minute.
No Rattling.



BOTH SASHES REVERSED, For Cleaning, Painting, &c.

The Sash ONLY is Hung.
The Sash ONLY is Movable.
STRONG, PRACTICAL, NEAT.
GUARANTEED 5 YEARS.

The "A.A." Reversible Window Co.,
21 Buckingham Street, Strand, W.C.

J. Sagar & Co.

Messrs. Sagar likewise show specimens of their wood-working machines, including their "Premier" planing-out-of-twist, jointing, squaring-up, moulding and thicknessing machine for hand and roller-feed (this machine will plane from one-sixteenth to 7½ inches thick, and up to 20 inches wide), and their vertical spindle moulding and shaping machine for working with cutters through the spindle in the French style, or with grooved collars and square cutter-blocks. In this machine the spindle is arranged to work right or left at option, and fitted with roller-feed gear for straight work. Their new pattern builders' power-mortising and boring machine, with compensating connecting-rods for letting the chisel gradually into the mortice by foot-lever, will take timber up to 12 inches by 5 inches, mortise up to 1¼ inch wide, and bore holes up to 1¼ inch diameter. It is fitted with self-coring chisel. Several others are also shown.

Colthurst, Symons & Co., Limited.

Plain tiles, nibbed and holed for nailing, size 10½ by 6½, are shown on a miniature roof by this company. The tiles are made under steam pressure and are of great density and strength. The company's improved interlocking Roman tiles are to be seen here too. These tiles so clip each other that it is claimed that they cannot strip in the roughest weather. Samples of plain and ornamental ridges and finials are also shown.

The Mansfield Patents Company, Limited.

The patents referred to in the name of this company are all of a sanitary nature and, according to the samples exhibited, include improved action silent cistern, flushing cisterns, radiators, &c., patent chimney-pots (Robinson's patent), improved pedestal washdown basin, "A" connection for making a gas and water tight joint to a closet outgo, "B" block for making a perfect connection between the lead soil-pipe and the drain, "C" cap for connecting lead pipes to iron soil-pipe junctions, and a sanitary iron pipe junction for connecting lead and iron soil-pipes.

G. & F. Couzens.

Messrs. Couzens do not appear to have brought any novelty up with them, their exhibit consisting as usual of sanitary fittings and appliances, including their patent ball valve interceptor and syphon ventilator intended to obviate flooded basements.

Lewis Told

has only a small show, consisting of some excellent sample of Dundry freestone from the Dundry Quarry, near Bristol.

Farnley Iron Company, Limited.

Specimens of salt-glazed bricks built into a wall are shown by this company, as well as loose bricks of the same description, coloured glazed bricks, Picking's patent twin-arch partition tiles, architectural terra-cotta in bricks, panels, &c., a glazed fireclay post-mortem table, and a large variety in glazed fireclay sanitary sinks, urinals, wash tubs, lavatory basins, water-closets, slop hoppers, channel pipes, and some excellent samples of porcelain baths.

Rowlands Castle Brick and Tile Works, Limited.

This exhibit comprises samples of the red facing bricks moulded and ornamental bricks, rubbers or cutters, roofing tiles (hand-made), ridge tiles, chimney-pots, finials and terminals, panels, diapers, pateræ, key bricks and terra-cotta work manufactured by the company.

Arthur Lee & Brothers, Limited.

The Acme patent system of slating and tiling is illustrated at this stand (109, row F). The object of this invention is to construct slating and tiling in a new and improved manner, so as to procure a better appearance and to effect a large saving of labour and material. The system consists in removing a portion of the slates or tiles at opposite corners, and of so placing the slates or tiles that a perfect lap is obtained on all sides of them. Ordinary roofing slates from the Old Bangor Slate Quarries are also shown here.

Lignomur Company.

Some handsome patterns in the wall decorations prepared by this firm are very effectively shown at their stand (51, row B). Among them are ceilings, friezes, fillings, dadoes, &c. Several advantages may be placed to the credit of this method of mural decoration. It has a bold effect, which it retains when hung. It is easily hung, has a white finish and is inexpensive, or comparatively so.

Granite Silicon Plaster Company, Limited.

Specimens of granite silicon plaster are shown at the stand of this company. This plaster, which is being largely used by H.M. Government, is reputed to dry quickly, to set exceedingly hard and not to crack in process of or after drying.

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THE LARGEST MANUFACTURERS OF WOOD CHIMNEY-PIECES IN THE KINGDON
ESTABLISHED OVER 20 YEARS.

T. W. Palmer & Co.

The specialties of this firm consist of unclimbable iron railings and entrance gates, garden hurdles, galvanised cisterns, troughs, hay racks, &c, wire fencing of various kinds, galvanised iron fencing and steel palings, of all of which good samples are shown by them.

The Valveless Syphon Company

show flushing cisterns and ball taps, the "Waterwitch" horizontal syphon cistern, the Neptune vertical syphon cistern, the Kirkstall syphon valve cistern and the "Waterwitch" ball tap.

Candy & Co.

Messrs. Candy & Co., whose goods are well known, have an excellent and comprehensive show near the centre of the hall, where they exhibit capital specimens of white and coloured glazed bricks, stoneware sanitary pipes and fittings, buff terra-cotta facing bricks, architectural terra-cotta, fire bricks, lumps and tiles, garden vases and tiles, edging tiles, buff chimney-tops, salt-glazed bricks, ventilating bricks, engineering bricks and channels. Messrs. Candy & Co. make rather a specialty of their granite vitrified paving-bricks, which are made from granitic clays. For these bricks the following advantages are, and as it seems justly, claimed :—They are bright in appearance and, being impervious, are washed clean by every shower which falls upon them ; they resist a crushing strain of 445 tons to the foot ; they are damp and frost proof, and are vitrified throughout. At the same time they are, we are informed, cheaper than any other permanent paving in the market. Some of these bricks were laid over twelve years since in Leadenhall Street by permission of Colonel Haywood, C.E., and although about 30,000 persons pass daily over them, they are said to show no signs of wear. They are largely in use for footways, sidewalks, terraces, promenades, markets, wharves, stables, &c, and, from a sanitary point of view, should be valuable for stables, as they are not affected by uric acid and will not hold contagion. On account of the sharp points of infusible silica contained in the granitic clays, this paving does not become slippery in wear.

Mejer, Greenwood & Sons, Limited.

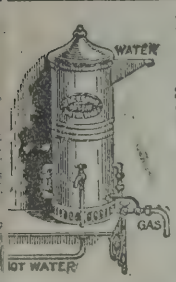
The object of Messrs. Mejer, Greenwood and Sons' exhibit is to illustrate the merits of "Vernoline," a water-paint which is thoroughly washable, sanitary and odourless, and dries quickly with a flat finish The walls of the stand (48, row B) are covered with decorations in various styles, among them being a figure panel which was executed three years ago, and of which the colours are as fresh as when applied, notwithstanding that, as we are assured, it has been washed several times with soap and water, to say nothing of the innumerable applications of wet sponge at exhibitions, and so forth. We may add that the colours are numerous and good and the cost small.

"Gasorcoal" Stove.

The exhibition displays many examples of improvement in the multitudinous details appertaining to the science of building, but to our minds no more surprising thing is shown than the specimen of the Gasorcoal stove at stand 92A, row E. The object of the stove is aptly described in its appropriate title, but it must be seen to properly appreciate the remarkably simple and practicable manner with which its object of combining the convenience of both a coal fire and a gas fire in one grate has been achieved. As it appears to be capable of ready adaptation to existing fireplaces, the invention should work a revolution in domestic stoves, for it will doubtless prove a fuel economiser, and should therefore be welcomed in every household. It combines in one circular stove a gas-grate and a coal-grate placed back to back, and separated by a fire-brick of any desired shape. When used as a gas-stove it looks like any ordinary gas-stove, and when burning coal it cannot be distinguished from the usual coal-grate. After using it as a gas-fire, if it is desired to burn coal, it is only necessary to open hinged tiled cheeks and to rotate the stove sufficiently to enable the coal-grate to be brought round to the front. Apparently any desirable form of gas fire, pattern of coal-grate, chimneypiece, and any kind of hearth may be employed. The gas connection is concealed from view, and all usual sizes will shortly be obtainable from the Gasorcoal Stove Company, 159 Victoria Street, Westminster, S.W. The advantages presented by the "Gasorcoal" stove over the ordinary grate scarcely need enumeration, but in affording as it does the choice of an alternative fire in the following circumstances, it can scarcely fail to prove welcome in every room.

In bedrooms the gas stove may be temporarily lit during the morning or evening toilet, or when retiring for the night. During autumn, winter or spring the gas stove may be temporarily lit, and in case of illness a coal fire may be used all day. In the breakfast-room or dining-room (after spring cleaning or during the chills of autumn) the gas fire may be lit during meals only, while in winter the coal fire may be used daily.

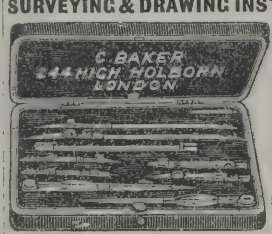
In the drawing-room on "At Home" days the coal fire may



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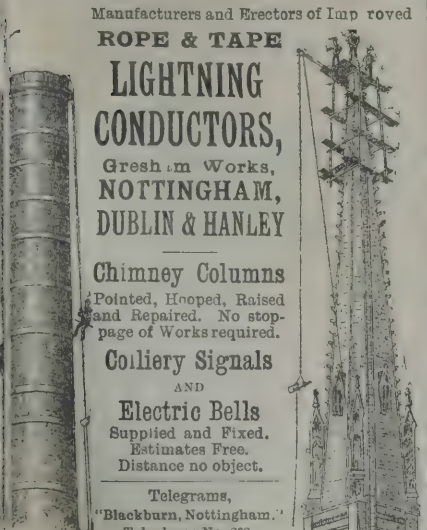


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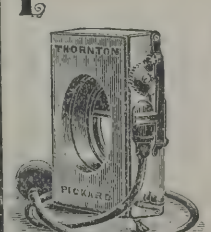
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be used, and in the evenings or when unexpected callers arrive the gas stove may be lighted. It will doubtless be found of equal convenience in either the billiard-room, study, school-room, nursery or office.

As to the all-important question of cost, we see no reason why the prices of "Gasorcoal" stoves should much exceed the price of ordinary stoves; but we understand that a price list and illustrated catalogue is in course of preparation.

Joseph Brooke & Sons.

The space in the very centre of the hall is occupied by Messrs. Brooke & Sons' exhibit, where are shown on one side white and coloured glazed bricks with specialties in colours for dadoes, ornamental and moulded bricks for string courses, &c., salt-glazed bricks, majolica glazed fireplaces, white glazed porcelain baths, sinks in white, cream and brown salt glaze, white enamelled fireclay lavatories, sanitary mangers and cattle troughs, air bricks, &c. The two newest things shown by this firm are their patent "duplex" drain pipe and their patent "grip" wall-tiles. In the former, by means of a keyed juncture (into which liquid cement can be poured through an aperture in the top), a perfectly tight joint, true alignment and firm bed are secured, and the latter are of great value for renovating old walls. Their surface resembles in size and appearance that of the ordinary glazed brick of commerce. They are, however, only of the thickness of tiles, and have a dovetail-keyed back and can be attached with equal facility to old or new walls or wooden partitions. They are made in any colour and to any design. On the other side of the stand are to be seen some excellent specimens of the firm's white, hard York stone ("Silex" brand), for use in footway paving, steps, square and spandrels; landings, moulded or plain window and door heads, window sills, coping, plain or decorated panels, ridgestones, building blocks for docks, harbours, &c., platform coping, &c.

G. B. Davis.

Mr. Davis, who is patentee and manufacturer of patent stall urinals, improved "Syphonic" closets and ventilating apparatus, has a very attractive exhibit, where are shown his "wash-down" and other water-closet apparatus complete, with flushing cisterns, seats, &c.; "Tip up and lift out" and "quick waste" lavatories, with enclosures of improved and latest designs; fireclay, vitreous, porcelain enamelled and copper baths, with special gun-metal fittings; sinks with improved "quick waste" valve in gun-metal, &c.

Crown Dale Stone Company, Limited.

Specimens of Crown Dale stone are shown at stand 121, row F. This is an artificial building stone, made of silica and lime, subjected to heat and pressure, whereby a silicate of lime is formed as the matrix. These constituents are, it is said, indestructible under ordinary circumstances. The appearance of the stone is that of a fine-grained sandstone of a nice cream colour. It can be worked and carved easily, cheaply and with good results.

The Muraline Company

show samples of muraline, muraline canvas, embossed muraline crepé and other effects.

Aldous, Son & Co.

Messrs. Aldous illustrate their system of mechanical ventilation for pumping fresh and vitiated air in and out of buildings, ships, yachts, steam laundries, hospitals, breweries, coal and other mines; and their system of automatic ventilation free from down-draught, whereby any number of rooms can be ventilated by means of only one exhaust. It is suitable for all kinds of buildings. They also show a patent exhaust ceiling ventilator for single rooms, and a patent exhaust for soil pipes, &c.

Randall Bros.

Messrs Randall Bros. (The Copal Varnish Company, Limited) are exhibiting Anaglypta panels decorated with their well-known enamel in various colours, including their "Paris white." They also show varnishes and specialties for all descriptions of decoration.

C. W. Outram & Co.

As sole makers of the "Aquarius" closet, to the manifold advantages of which we referred in our notice of Messrs Knowles's exhibit, Messrs. Outram & Co. show specimens of this, together with varieties in lavatory basins, cisterns, seats, brackets, cast-iron lavatory brackets, &c. Messrs. Outram & Co. are also makers of the "Florina" lavatory, and the "Grovina" L.C.C. pan and trap, which gives a thoroughly effective and water-tight joint, &c.

Geo. Howson & Sons, Limited.

Messrs. Howson & Sons exhibit specimens of their sanitary earthenware and fireclay goods, including water-closets, sinks, lavatory basins, urinals, wash-tubs, &c.

Rustless Iron Company.

In the gallery are shown specimens of the Rustless Iron Company's "Trico" furnace-pans, air-bricks, boilers, pipes, tanks, gratings, troughs, gutters, fall-pipes, urinals, water-closet fittings and cisterns.

Incandescent Accessories and Maintenance Syndicate, Limited.

The daylight and incandescent burners and mantles of the syndicate are shown at stand 133, together with accessories, globes, patent glass chimneys, mantle protectors, mantle guards, arc lamps, the "Thrift" incandescent burner, &c.

British Luxfer Prism Syndicate.

At stand 137 (under south gallery) may be seen specimens of Luxfer window glass, Luxfer multi-prism pavement lights, fire-resisting window glass, electro-glass, ornamental glass, copper electro-glazing, &c. We have on several occasions referred to this excellent system for lighting dark interiors. Here, however, it is not possible to see it to any great advantage.

W. Gooding.

Mr. Gooding is this year to be found in the gallery (at stand, east end), where he is showing his patent "Interchangeable Rubber Stair Treads." This tread is well known, but we may remind our readers that its special feature is the use of a metallic keeper, fitted with pieces of rubber, which project above the metal and form the wearing surface, affording a perfectly firm footing under all circumstances. The rubber can be renewed when worn out.

There are other firms whose exhibits we have not yet had time to examine, and to these we shall refer in a concluding notice next week.

MATTERS ELECTRICAL AT THE BUILDING TRADES EXHIBITION.

On entering the Electrical Section of the Building Trades Exhibition one is confronted with the well-appointed stand of the Simplex Conduit Company, containing as it does an array of steel tubes, bends and fittings of all sizes and forms, the polished black enamelled tone of which cannot fail to attract attention to the stand.

Much has been written of late on the question of system of electric wiring, and it has come to be recognised that something more mechanical is necessary than wood casing for such purpose. The object of the "Simplex" conduit is to provide a system of piping which is of mechanical construction, neat in appearance, low in cost and simple to erect. Now a steel tube possesses several advantages over an ordinary iron gas barrel, it may be smaller, therefore lighter, easier to erect and less costly, and by providing an interior as well as outside enamelled surface the roughness, and therefore possible damage to the wires, is avoided in drawing in, and deterioration is prevented.

Of course it is well understood that the chief cost in the adoption of wood casing for electric wiring is not the actual material but the labour necessitated. In a good class of workmanship for the jointing and fixing, in the simplex system the lengths of piping are simply wedged into one another, or rather into connecting pieces, they being carefully made to gauge; thus no screwing with its inconvenience is necessitated as with ordinary wrought-iron tubing, and an even internal surface is assured by a shoulder in the connecting pieces to which the lengths butt.

It has been urged that a system of electric piping should be watertight, but frequently the question of internal condensation is neglected, and in an absolutely watertight system the internal condensation must collect. The simplex system is not claimed to be absolutely watertight, and in fact it may be seen from its construction that it is not so, being a rolled tube with a seam longitudinally. It is, however, less liable to internal condensation than an absolutely watertight tube, and it should be erected with the seam downwards so that any moisture may easily escape.

Another point about this system is the bending of the tubes; one would think that on attempting this with such tubing the seam would open, but it is claimed that this is not so if care be taken. To make a bend cold, say with a ½-inch tube, a ⅝-inch hole is made in a piece of 3-inch quartering, and by inserting the tubing within this and bringing steady pressure to bear, being careful that the seam is at the side, a good bend can be accomplished with a little practice without any deterioration of the tubing. Of course, large sizes of tubing must be bent hot, the tube being filled with sand. The company supply bends as well as the straight tubing, cut to various lengths; but in ordering for a certain job, one cannot be sure as to the actual lengths and bends necessary, and thus bending must be carried out to some extent on the spot. Some screwing is also necessary, as, for example, for fixing a stiff pendant or

.cket, and one is somewhat surprised that such a good ead can be made, owing to the fact that there must be some ibility or spring due to the seam; but it can be seen at the hibition that by inserting a plug into the tube while screwing, ood thread can be made

The bright polished surface of the tubing certainly lends elf to neat appearance, and it must not be imagined that it is y suitable for buried work. The system has apparently n carefully designed to comply with all the necessities of a od method of electric wiring, with its attendant details in pection boxes of neat cast-iron with steel screwed covers l junction boxes of various forms to meet all requirements. e method of reducing the size of the piping is met by a ucing nipple, which consists of a small piece of thick tube ich is forced into the larger tube; the inside having a elled edge prevents any obstruction to the drawing in of wires. Good designs of cast-iron switch and fuse boxes also available, and in order to make the system metallic oughout branch switch and fuse boxes of cast-iron are used, ebonite washer being placed between the switch and the box. Sufficient has been said to show that the system is well th the consideration of architects and builders; and when it emembered that the system has only been introduced about lve months, during which time it has been used in some o cases—well, this speaks somewhat for itself.

Amongst other matters which attract attention in the trical section is the "Lilliputian" arc lamp of the Stewart ctrical Syndicate. The ordinary Stewart enclosed arc p has already been commented on previously in these mns, and it is not necessary to say more than that it is still ntaining its reputation. With regard to the "Lilliputian," vever, it is certainly a novelty. There is practically only one ring part, the lamp is very short and light, and it burns ut twenty-five hours without retrimming. It is certainly ap and of good appearance, and on the whole it may be ected to meet the requirements of a good arc lamp for small ent.

While discussing arc lamps a new lamp might be men- ed which may be seen at the Exhibition, and has been oduced by Messrs. Julius Sax & Co. This lamp is perhaps simplest that can be designed, and from the working it ainly seems to be reliable. The mechanism consists of a ple coil and armature, arranged to act direct on the carbon lers by two cords which exert a practically constant pull ughout the entire range, the iron armature being specially shaped that this may be so. There is no clutch, clockwork, or other mechanism liable to fail, and certainly there is nothing which from all appearances can go wrong. The lamps are made series, shunt or compound wound, and the same construction of lamp works either on continuous or alternating current circuits. Both continuous and alternating current lamps may be seen working, and it was particularly noticeable that the feed was very gradual and there was a total absence of humming in the alternating lamp. The disagreeable humming in most alternating arc lamps is due to loose joints, &c., and as there are no pin joints, or, in fact, links of any description in the lamp, there can be no objectionable noise.

The same firm also show an ingenious electric water-level indicator, by which, using only two wires from the water tank, the level can be indicated in any desired place. This is certainly of great use in the case of tanks or cisterns, where, owing to any mishap, the supply of water may be shut off, and the tank be empty without it being noticed. There are also contacts which ring a bell when the level is greater or less than a certain amount; these, of course, are useful for the same purpose, but do not show how much reserve of water is in the tank at any time, as does the former one.

Mr. Henry T. Crewe exhibits a very simple automatic time-switch, which can be set to extinguish gas or electric light, or cut off water at any desired time. The extreme simplicity and cheapness of the arrangement should make it very useful for shop window lighting, where lamps are left on for advertising purposes after the shop is closed, and also for street lamps. The principle of the apparatus is simply that a weight is released, by the alarm attachment to an ordinary clock, at the time to which the alarm is set. The weight falls, being connected by a chain to the switch-handle, and opens the circuit.

The Ediswan Company is certainly in evidence with its display of fittings, which it is perhaps hardly necessary to comment upon, as the reputation of the manufacturers for excellence is world-renowned.

THE DISPUTE IN THE BUILDING TRADE.

A MEETING of master builders of Newcastle and district was held at Newcastle, at which it was reported that the ballot recently taken showed that a majority of the employers were in favour of a general lock-out of all branches unless the plasterers' dispute should be settled forthwith. On the second

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question there was a majority in favour of locking out the labourers unless the disputes at Gateshead, Sunderland and Middlesbrough were settled. It was resolved, however, that the vote should remain inoperative until after the adjourned meeting of the council of the National Association of Master Builders. Our Birmingham correspondent telegraphs that the plasterers' strike in that city is at an end, and at a largely-attended meeting it was reported that the whole of the 178 men who were originally locked out had returned to work. In several instances it was stated that architects had made requests to the operatives' association that men should be allowed to work for them instead of for the builders, and this was permitted, though it was asserted that the master builders were cognisant of and connived at what was done. As a consequence of this action other employers who had adhered to the decision of the Master Builders' Association had sent for their plasterers back again, and had severed their connection with the employers' organisation. A resolution was passed requesting the executive council to issue a manifesto describing the true facts of the dispute, as these had been misrepresented by the employers. The resolution passed by the employers' conference on Thursday was characterised as "bluff," and it was asserted that it would have no effect.

SCOTTISH BUILDING TRADES FEDERATION.

THE half-yearly meeting of the Federation has been held in Dundee, Mr James Leslie, builder, Aberdeen, president, in the chair. There was a large attendance of members from all parts of the country, the following places being represented, viz.:—Glasgow, Edinburgh, Dundee, Aberdeen, Paisley, Perth, Inverness, Arbroath, Falkirk, Hamilton, Dumfries, Peterhead, St Andrews, Stirling, Kilmarnock, Dunfermline. Before proceeding to business the members were kindly entertained to lunch by the Dundee Association. The report of the executive for the past six months was submitted by the secretary, Mr. James L. Selkirk, and dealt fully with the various important matters which had been under consideration, besides narrating the progress made in various directions which had increased the strength and efficiency of the Federation. Efforts continued to be put forth in the direction of organising employers connected with the various branches of the building trades in those towns and districts not hitherto reached. There was a growing conviction of the great importance of thorough union among members of the building trade without which, indeed, it would be difficult to maintain their position as one of the most important industries in the country. Reference was made to the fact that the question of securing a just and equitable set of conditions of contract is at present under the consideration of the Glasgow Institute of Architects, and a hope was expressed that a satisfactory arrangement might ere long be arrived at. The monthly organ of the Federation had now reached its seventh number, and had been received everywhere with the utmost heartiness, reaching, as it did, not only members, but a wide circle beyond. Reference was also made to the Workmen's Compensation Act, 1897, and the belief was entertained that the rates charged by the insurance companies would in consequence be somewhat modified. As the result of a correspondence with the National Association of Master Builders of Great Britain and Ireland, it was resolved to promote in every suitable way closer relations between the two organisations, believing that such a course would be for mutual advantage. With a view to carrying out the various operations of the Federation with still greater efficiency an emergency committee was nominated to co-operate with the secretary and advise with him pending a meeting of the executive. Several other matters thereafter engaged the attention of the Federation.

THE NOTTS LUNATIC ASYLUM.

THE lunatic asylum building committee of the Nottingham County Council reported at their last meeting that the work of getting out the foundations of the new asylum was progressing satisfactorily, and would shortly be completed. At the meeting of the Council in January last the committee reported that they had paid two sums of 1,000*l.* each to the contractors upon the certificate of the architects. The committee had passed a further cheque for 1,000*l.*, which would be presented to the Council that day, and would be handed over to the contractors upon the architects certifying that it was due. The committee had also passed a cheque for 60*l.* in favour of the county surveyor, to meet the salary of the clerk of the works during the ensuing quarter, and a cheque for 46*l.* for farm expenses during that period. At the meeting of the Council in January last the committee were authorised to obtain tenders for the superstructure of the new building from selected firms. The

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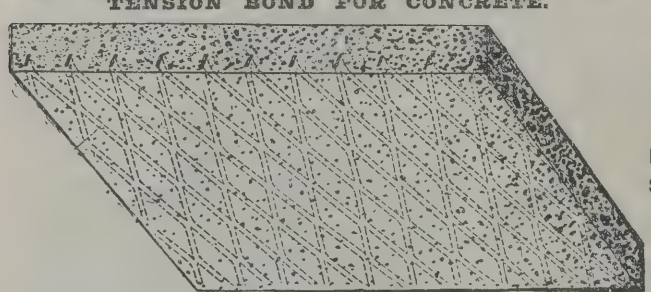
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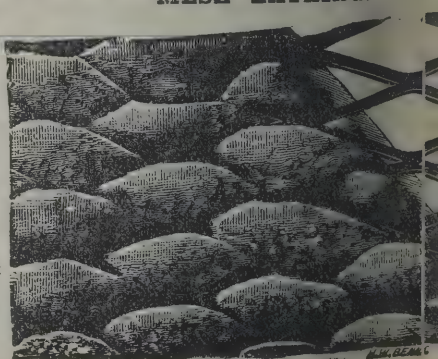
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PRICE LIST AND ESTIMATES ON APPLICATION

mmittee had selected contractors and invited tenders from em, and they had hoped to be able to submit the tenders they commended to the Council that day for formal acceptance. ney had, however, been unable to obtain the tenders in time that meeting, and they recommended the Council to give em authority to accept one of the tenders, and that a resolun be passed at that meeting that the seal of the Council be ixed to the contract. The work in connection with the rrying on of the asylum farm was proceeding satisfactorily der Mr. German's superintendence. The committee estimated at the sum of 260*l.* would be required during the ensuing ar for carrying on the farm, and they recommended the uncil to set aside that amount for such purpose.

The report was adopted.

SOCIETY OF ENGINEERS.

a meeting of the Society of Engineers, held at the Royal ited Service Institution, Whitehall, on Monday evening, y 1, Mr. John C. Fell, president, in the chair, a paper was d on "Petroleum Motor Vehicles" by Mr. James D. Roots. e author first referred to the prejudicial effects upon road omotion which were brought about by early prohibitory islation, which was continued until 1896, when the Locotives on Highways Acts came into force. He then described approximate chronological order the various types of petrom road vehicles, commencing with the earliest known efforts solve the problem of road locomotion by vehicles in which propelling agent was the power produced by an explosion internal combustion engine. The Daimler, the Hardaker, Benz, the Butler, the Roots and Venables, the Bollee, the Dion and the Petter petroleum motor vehicles of various es and types were described and their comparative merits demerits pointed out. By showing the different stages of gress of some vehicles, the author indicated the lines along ch the development of the petroleum motor vehicle had proded. A comparison was made of the respective running ts of petroleum oil and petroleum spirit vehicles. The hor stated that, taking the average of several of the best wn petroleum spirit vehicles, the fuel cost per B.H.P. was nd to be about six times greater than that of the author's roleum oil vehicles. The paper was profusely illustrated, no er than fifty-four general and detail views of motor vehicles ng shown by the author.

ST. NINIAN'S, PERTH.

A MEETING of the Chapter of St. Ninian's Cathedral, Perth, was held, at which the tenders for the work in connection with the improvement and completion fund were considered. It was reported that the amount subscribed to the fund, including the Wordsworth Memorial Fund, was 8,629*l.* 10*s.* 8*d.* Mr. Pearson, the architect, who was present, made a statement as to the sum actually required for the various branches of the scheme, which showed that the amount subscribed would be quite inadequate for the work proposed. The Chapter resolved to adjourn until Friday, May 5, to give the members an opportunity of fully considering the tenders and plans. A meeting of the diocese of St. Andrews, Dunkeld and Dunblane was subsequently held, under the presidency of the Bishop.

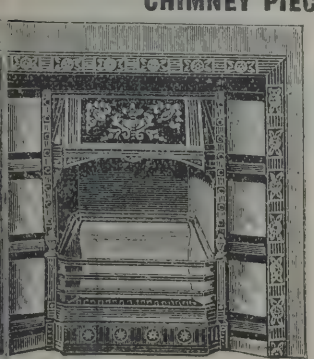
A resolution was unanimously carried to the effect that the Chapter should be urged as soon as possible to use the money already obtained, and begin the improvement of the cathedral, and as other money came in to proceed with the remainder of the scheme. Special attention was directed by Mr. Baxter to the importance of having the very best work put into the cathedral, even although this might involve the undertaking of less work at one time. The Bishop addressed the conference, expressing his great thankfulness for what had already been done, and his hope that every effort would be made to give the poor of the diocese an opportunity of showing their interest in the work.

TWENTY-FIVE MILES OF GLAZING.

MR. SAM DEARDS, of Harlow, has just completed a huge glazing contract at Messrs Swan & Hunter's shipbuilding yards, at Wallsend, Newcastle-on-Tyne. This well-known firm of shipbuilders has been busy for some time past in erecting two lofty buildings, large and capacious enough to enable them to build the largest kinds of merchant vessels under cover, the dimensions of each of these fine structures being over 500 feet long by 75 feet wide, 80 feet high to the eaves, and 120 feet high to the apex of the roofs, and these two buildings have been entirely covered with glass of ¼ inch thickness, weighing with the patent steel bars over 300 tons, and comprising some 26,000 squares of glass, or, in other words, twenty-five miles of glass 1 foot wide.

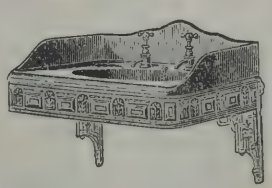
What makes the work surprising is, that the patent glazing

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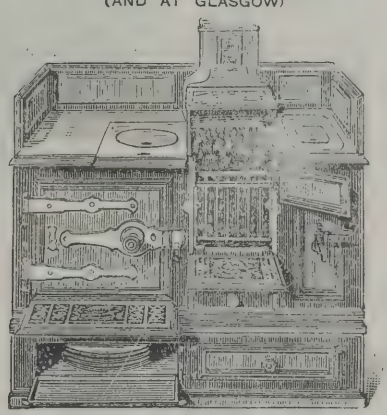


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not only stands the vibration of the buildings, occasioned by the violent storms of wind that sweep down the coaly Tyne, but also the expansion and contraction of these structures, which are all built of angle and tee iron Besides all this there are running daily four electric cranes inside the roof weighing some 15 tons each, and one very large crane on the outside of one of the glazed roofs, weighing over 20 tons. These cranes are continuously carrying heavy loads of iron, steel, &c., used in the construction of the vessels being built under the covered buildings, and yet owing to the special features of the system of glazing employed not one single square of all the 26,000 used has shown any kind of fracture or crack by its method of fixing. This alone "goes without saying" how well the system is adapted for buildings such as these, and should speak volumes in its praise and gain the attention of all architects and engineers

The chief features of the system are as follows:—A specially prepared bar in T steel is made, having a centre web with turned-up sides, so as to form a groove or gutter on either side to carry the squares of glass, and over the centre web is fixed a lead capping, which is held down by pins of copper every 9 or 10 inches, and these acting as springs give and take to every change of temperature and every need of expansion and contraction, which bolts, nuts and screws never do. Hence, to cover such an exposed building, subject to such severe and extraordinary strains and conditions as above stated should be the means of bringing this system well to the front and to the notice of all architects, builders and engineers For the continual fracture of glass, even upon sound and substantial buildings after once glazed, is always a serious item and one that has to be met by the contractor or owner, and if such work as this contract can be carried out on buildings of such a fragile and light construction, how easy it is to conceive that this system is equally as good on any substantial buildings and large roofs of railway stations, warehouses and other structures Besides this great advantage of non-fracture of glass after glazing, Mr. Sam Deards has so arranged and fixed the whole of the glazing on these buildings that all climbing about on the outside of roofs is entirely avoided, as every square of glass can be taken out and replaced all from the inside, so saving all expensive scaffolding and specially made ladders. This alone is a feature never before achieved by anyone, and considering the immense amount of time it saves and the great risk and dangers involved by outside repairs, this is certainly worthy of the highest commendation, and Mr Sam Deards is to be congratulated upon achieving so worthy a valuable an acquisition in the manner of glazing all such large a extensive lofty roofs. The concluding feature of this system while possessing all these exceptional and guaranteed adva tages, yet the cost is not expensive, but on a par with all oth systems, and in most cases much cheaper.

It should be mentioned beside the roofs of this buildi both the sides are glazed, and Mr. Deards has invented special section steel bar for this purpose.

There are several sections used in connection with t patent glazing, and the capping can be of lead, zinc or copp and samples and price, with full drawings of the system, whi for guaranteed work and cheapness cannot be equalled, can obtained of Mr. Sam Deards, of Victoria Works, Harlo Essex, or at his London office, 34 Old Broad Street, E.C.

PATENTS.

[*This List of Patents is compiled specially for this Journal Mr. G. H. Rayner, of the firm of Rayner & Co., Co sulting Patent Agents, 37 Chancery Lane, London, W.C from whom all particulars and information relating Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

8005. John McIntyre and the Sanitary Ventilating Sync cate, Limited, for "Improvements in air-propeller and ciste for ventilation of water-closets and other apartments."

8084 William Henry Baker, for "Improvements in connected with moulds for making concrete paving or block

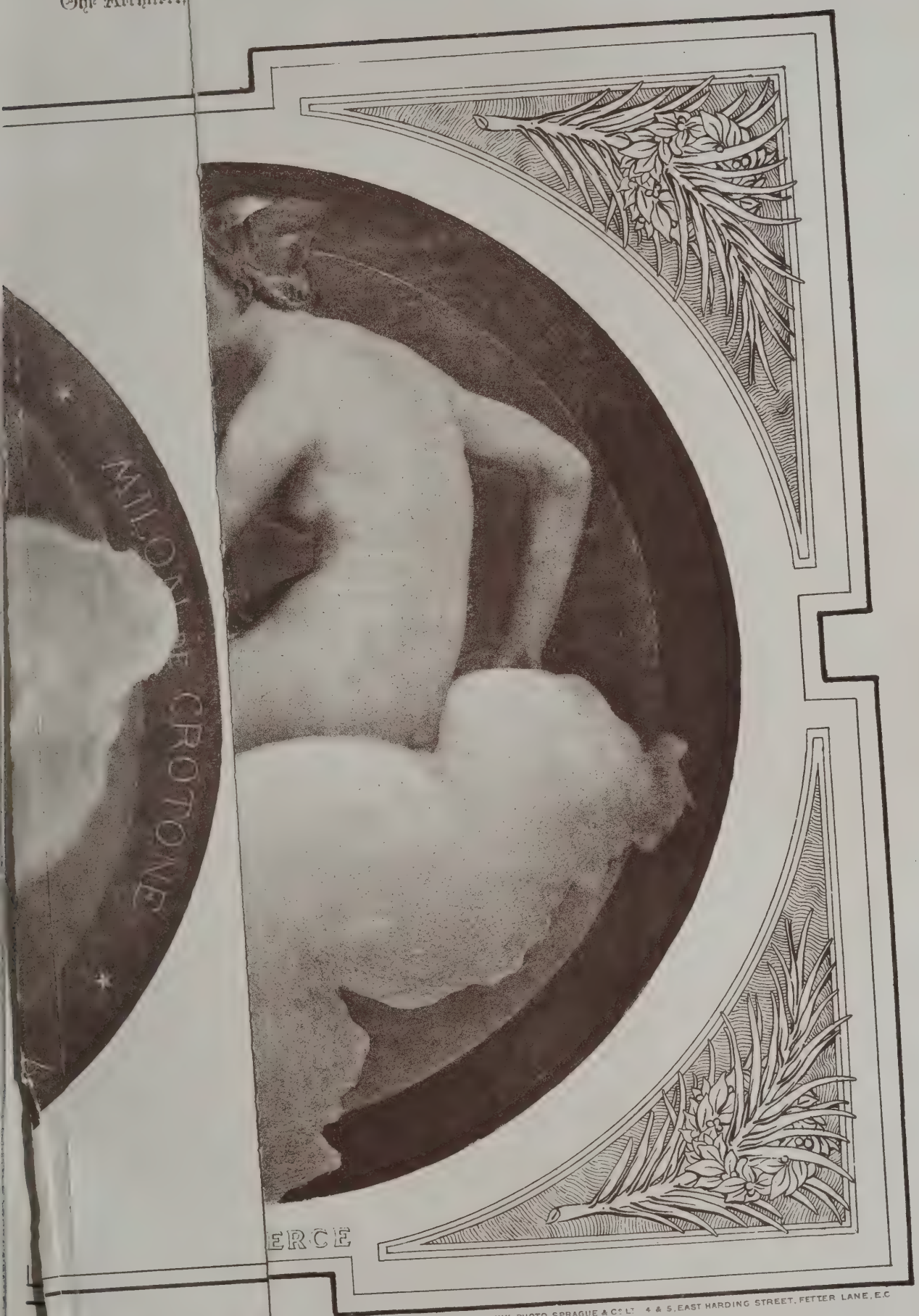
8128 John Maloney, for "Improvements in the manufa ture of cements."

8210. William Ernest Hoppe, for "Improvement in t manufacture of Portland cement."

8214. Joseph Butterworth, for "Improved method a means for retaining and holding doors, window-sashes and t like."

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LEIADES

CUPOLA PAINTINGS

BY P. V. G

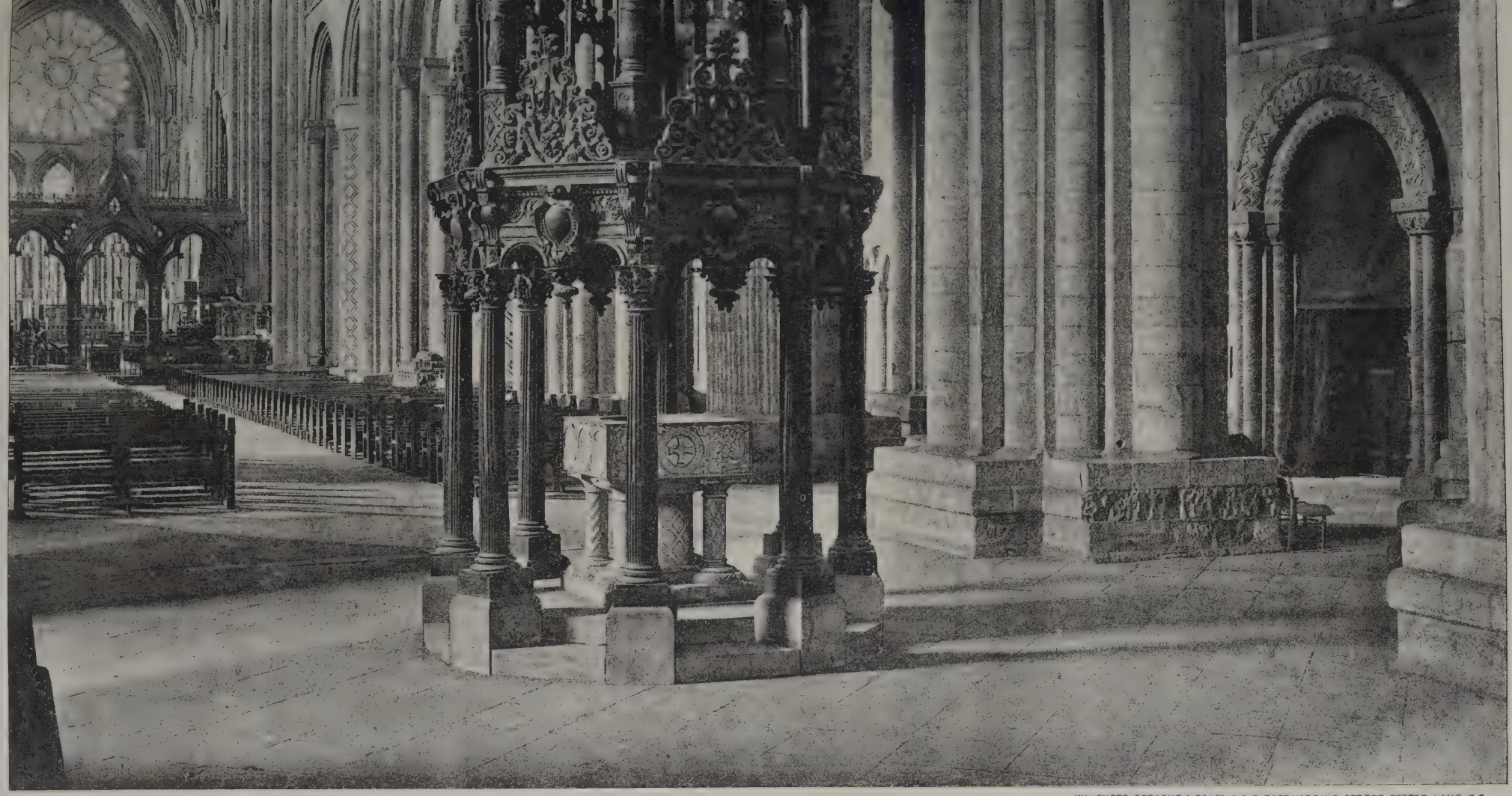


THE PLEIADES OF PROGRESS

FROM THE CUPOLA PAINTINGS IN THE HOTEL DE VILLE, PARIS

BY P. V. GALLAND.





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CATHEDRAL SERIES, No. 226.—DURHAM: ANCIENT FONT, WITH CANOPY.



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S. Augst

Messrs. EDLE

1899.



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Messrs. ERNST

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N-THAMES.

chitects.

The Architect.

THE WEEK.

ONTRACTORS would require to have the Exchequer at eir back if they have to meet all the claims which are ade on them under the Workmen's Compensation Act. ne of the strangest was heard in the Court of Appeal on urday. A man who was employed on the widening of Great Western Railway between Newport and Cardiff s killed by a train while crossing the line on his way to work. He found it more convenient to take that route n to proceed by the highway, and as he was known to the way officials, he was allowed to do acts which with ordinary n would be dealt with as trespassing. An action was en by the man's representatives against the contractors, l the County Court judge decided in their favour, on ground that the accident arose out of and in the course his employment. If a contractor is to be responsible accidents to men on their way to or from the works it uld be economical to bring them backwards and forwards pecial carriages with quiet horses and sober drivers. The tractors appealed, and on Saturday Lord Justice SMITH Lord Justice VAUGHAN WILLIAMS declared there was no onsibility, since the man was injured at a place which was under the control of the contractors. Lord Justice MER took an opposite view, because the permission to s the line would not be given if it were not known the was in the contractor's employment. There must be e reason for allowing men to use a railway as if it were gh road, but what advantage could arise to a contractor the arrangement? Men's hours are counted from the of their appearance at the place where they are to ur, and the contractor cannot take account of how they e, whether by short cuts or by means of conveyance. unately the majority of the Court took that view, and eforth a contractor will not be liable if a man should ible on leaving a public-house on his way to his em- ment. In the Sheriff's Court, Edinburgh, the question arisen whether three grandchildren can claim com- ation for their grandfather's death. He was killed in ber last while engaged on a building in that city. The ractors pleaded that plaintiffs had no claim. But the e decided that they were entitled to sue for com- ation, as they were dependent on the grandfather for ort. We may yet hear of claims for solatium by more nt or dubious relatives.

ICTORIAL advertisements in newspapers are common gh, but it may not be known how readily they can be ht under copyright law with all its pains in penalties. Irish Courts have been occupied with a case of the which has ended in a way that was not expected by of the parties concerned. Towards the end of 1896 ographer in Leeds brought out one of those coloured which are used for advertisements. The subject was miliar Santa Claus. The plate was produced in l sizes, and copies to serve as a large poster and as a bill were prepared for a Dublin firm in order to nce a Christmas sale. The manager of the firm sent to two of the Dublin papers with orders to make of them to be used with the firm's advertisement of le. A handbill bearing a name that was familiar in could not be supposed to be illegal, but the litho- er brought actions against the owners of the news- as well as the firm for infringement of copyright. laster of the Rolls, when the case came before him, sed the actions against the newspapers, but awarded s. as damages against the firm, which sum he said he ed as full and ample compensation, erring, if at all, e side of excess. The plaintiff appealed. There difference of opinion in the Court. Lord Justice BBON admitted that the Copyright Act applied es of "morally innocent infringements by inno- people," but he maintained that the thing pub- in the two newspapers could not be considered as a f a coloured lithograph. The plaintiff had accepted m the firm, and to obtain a far larger sum—for the defendants were supposed to be liable for 251,211 separate and distinct offences—he could not recognise as justice. Lord Justice WALKER and Lord Justice HOLMES, however, took an opposite view of the case, and came to the conclusion that the newspapers were liable. The order of the Master of the Rolls was therefore reversed. Pictorial advertisements in newspapers are becoming more common because they are attractive, and retain as well as arrest attention. Plates from *The Architect* have been often used for the purpose without obtaining the necessary authorisation. According to the decision in the Irish Court of Appeal the employment of a part of a design is a serious offence, and as a penalty can be claimed on every copy that was printed the penalty may amount to a large sum. The only safe course will be for publishers to obtain a guarantee of responsibility for copyright penalties from those who wish to combine pictorial subjects with announcements.

THE late Sir JOHN FOWLER was a shrewd engineer who preferred to follow the system of the STEPHENSONS and LOCKE rather than the brilliant but profitless triumphs of BRUNEL. The sale of his pictures at CHRISTIES' rooms on Saturday made it plain that his judgment was as keen in art as in railway works. In most cases the prices obtained were far in advance of those given for the works. A landscape of HOBBEMA sold for 9,100*l.*, or three times the amount paid by Sir JOHN FOWLER. TURNER'S "Venice," which was bought for 2,688*l.*, brought 8,200*l.*, and for the same artist's "Oxford" 4,000*l.* had to be paid, an increase of 2,780*l.* A drawing of "Lake Nemi" by TURNER was sold for 3,150*l.* It formerly belonged to Mr. WINDUS, whose name should be held in respect, for he was the first amateur who allowed his collection to be seen by all who cared to visit his house at Tottenham. In a few cases TURNER'S drawings did not realise the sum given for them. LANDSEER'S works also were found to have declined in value. His "Ptarmigan Hill," which cost 3,400*l.*, had to be sold for 2,100*l.* MEISSONIER is evidently still prized. His "Smoker," a picture measuring 6½ inches by 4½ inches, for which thirty years ago 399*l.* was paid, on Saturday rose to 1,344*l.*, or at the rate of 46*l.* per square inch. A small head by GREUZE was bought for 1,680*l.* Altogether Sir JOHN FOWLER'S ninety-one pictures realised 65,355*l.* 13*s.*, and was therefore the most valuable collection belonging to a modern engineer. Lord ARMSTRONG, who possesses more costly works, is a manufacturer rather than an engineer.

THE late SAMUEL PALMER was esteemed as one of the most delightful water-colour artists of his time. He was a pupil of JOHN VARLEY, a friend of WILLIAM BLAKE and a competitor of GEORGE BARRET. But with all his love of nature and of MILTON, he was an enthusiast for architecture. A letter which he wrote twenty years ago on the proposed decoration of St. Paul's has appeared this week. He agreed with Sir GILBERT SCOTT, who said, "Let it alone." PALMER'S reason for opposing decoration was explained as follows:—"Sir CHRISTOPHER having kept the deeply-set windows of that sloping wall between the dome and the whispering gallery narrow, so nicely dispensing the 'dim religious light' as to leave the cupola in a sort of poetic mystery, mosaics were proposed not long ago to make the dome more cheerful, and metallic reflectors to brighten the mosaics. The slope of the pilasters is continued upwards at present by the architectural divisions in the chiaroscuro of Sir JAMES THORNHILL, so that the eye does not detect the artificial perspective; but directly the chiaroscuro is removed and horizontal layers of any kind substituted the secret will out, the dome will seem to be 50 feet lower, and the wall which supports it about to topple upon the spectator. WREN insisted on such nicety of proportion, even on that vast scale, that I believe he refused Father SMITH an additional 7 inches in the width of the organ case." SAMUEL PALMER was a fine colourist and was well practised in contrasts. It was not, therefore, through indifference to what can be gained by the introduction of colour in buildings that he opposed the projects which were then advocated. He believed as much caution should be exercised in mural decoration as in divinity, and the "peril of an illiterate and slapdash theology" was in his eyes comparable to rash experiments on the walls and cupola of St. Paul's.

ARCHITECTURE AT THE ROYAL ACADEMY.—III.

FROM time to time several architects have added to Freemasons' Hall. The latest is Mr. H. L. FLORENCE, who has designed a "New Library and Museum." The room is not shown on a drawing that is satisfactory, but it offers another example of the use of the dome, which, with marble columns, is the principal feature. The books are in cases which are placed apart. The dome again appears, and on a large scale, in Mr. J. W. SIMPSON'S "Union Church, Queen Square, Brighton." This is a remarkable building, well lighted, but adapted mainly to accommodate listeners. It is a preaching house rather than a church on the ordinary plan. The site was not easily adapted, but interior and exterior views suggest that success has been attained. In the terrace of five houses represented in "Cannon Street Improvement, Dover," by Mr. IVOR S. PRICE, we see a departure from the ordinary custom of having all alike. Generally there is resemblance, but it will be found that three types were adopted; the architect's labour was increased, but the result is more satisfactory. Mr. BRIGGS'S "Design for Screen, Jesus Chapel," is closed in for a great part of the height. Above is a rood. Mr. H. L. GODDARD has a half-timber Bank at Bedworth. Mr. S. W. CRANFIELD'S "Trefiw, Ridgeway, Enfield," is a house in which a great deal of contrast is introduced. The "Police Station to be erected at New Scotland Yard," by Mr. C. A. BATTIE, is a building which appears intended to suggest that Queen Anne has also stern qualities. In the "Church in Essex," by Mr. C. E. POWER, timber appears to be largely used, but drawings at so great an elevation are useless for exhibition purposes. Another collection of domestic buildings is next met with, to which the contributors are Messrs. W. A. AICKMAN, R. W. K. GODDARD, H. I. TRIGGS, VALLANCE & WESTWOOD, C. J. HAROLD COOPER, T. E. HARDY, F. FORBES GLENNIE, H. O. CRESSWELL, E. G. DAWBER & WHITWELL, R. O'B. NORTH and C. E. MALLOWS & GROCOCK. Mr. H. T. HARE shows the "New Town Hall, Henley-on-Thames," where the people must be exceptionally loyal if the size of the royal arms over the entrance can be taken as a test. Mr. W. S. BATES has a "Design for a small Timber Church," in which even the buttresses are of wood, but it is more suggestive of an ordinary stone church in form. The "New Spire, Saltburn Church," by Messrs. CLARK & MOSCROP, gives completeness to the building, and all might be the work of the same hand. "St. Luke's New Parish Church, Maidstone," by Mr. W. H. SETH SMITH, is an indication of the transition from Gothic to Italian which appears to be in progress. There is no "dim religious light," and the building has a spacious appearance which alone would commend it. In the "Passmore Edwards Public Library, Acton," Mr. M. B. ADAMS gives another example of his success in treating buildings where height is not allowed, and which, in spite of drawbacks, are made to have a sort of individuality. Economy had to be considered, but there is greater variety apparent than is seen in more costly buildings. Another building in which there is no piling of storeys is the Board School, Gloucester, by Mr. G. NICHOLAS, and although the area occupied is large, there is an advantage for the children. The "Proposed Street of Flats in Dulwich" is a cottage row. The houses are mainly red brick, but one is white, and the great sweep of a roof of one pair gives novelty to the arrangement. Mr. UNSWORTH sends a many-gabled house at Pyford, and Mr. MARRIOTT one at Limpsfield, which combines white and pale red to a degree which it will be difficult to realise. The design for the "Royal Institution, Liverpool," is not Classic enough to correspond with the local standard of taste, but elsewhere such a building as Mr. NORTH shows would find admirers.

The "New City Hall, Belfast," will be looked on with regret and surprise by many architects. It is of the type of the Leeds Town Hall, which long since was voted to be obsolete. Designers who feel obliged to put some kind of invention into almost every line of a Classic building, or at least to "break up" lines to an extent for which Greeks and Romans afford no authority, will gaze with a saddened surprise at the simplicity of the building. The elements of it are few. But we suppose the shrewd citizens of the Ulster capital realised that when there are repetitions machinery can be utilised and a show produ at a moderate cost. Nor is there any denying the rep of the City Hall, and that is a quality which is gratify although it is not one which is expressive of our time. BRAMWELL THOMAS'S building will hereafter be compa with GANDON'S Dublin Custom House, and that sho be sufficient evidence of value. Compared with so and quiet a building the houses by Mr. L. F. CRA Messrs. BATEMAN, Mr. TRIGGS and Messrs. HALL, COO & DAVIS appear like minnows near a triton. Mr. R. PAUL shows a chancel for Chard Church; Messrs. PIT BALFOUR have a design on a small scale for the Ca Law Courts, which is skied; Mr. H. H. GORDON a h in Essex Street, and Mr. ATKIN BERRY a "House at Kenl Mr. BAILLIE SCOTT'S "Drawing-room, Chaplain's Ho St. Mary's Home, Wantage," is novel, a combinatio the simple and the costly, of severity and distinction in furniture which deserves attention. The designer principles which he logically obeys, but they are not t accepted by fashion.

The eastern wall of the Architectural Room is ma occupied with houses large and small and other habitati The Hon. A. MCGAREL-HOGG contributes a quiet f house. But for quietness it would be hard to match "Stables, Brahan, Perth," by Messrs. F. W. BEDFOR KITSON. There is a blank wall to be seen, broke one small window and an occasional buttress, for the p of view is taken from outside; but the drawing is so coloured it might appear in a water colour exhibition a illustration from one of Mr. HARDY'S novels. Mr. PA WATSON'S "Lea Park, Godalming," is in its way a cha teristic English residence, partly half-timbered. There large conservatory, and the interest is enhanced by introduction of a fountain. Mr. MILEHAM'S "New H at Southwold" owes much of its attractiveness—at leas paper—to the bright green persiennes. There is no re why such screens should not be more largely used; utility may be more often tested in France, but from appearance they could be as helpful here as they abroad. The "Birmingham and District Counties E Edgbaston," by Messrs. BATEMAN & BATEMAN, occu a corner site; the lower part is of masonry, and is an excellent entrance. Among the drawings ma mentioned "St. Mary's Recreation Rooms, Putney, "Design for Free Library," by Mr. S. PERKS; "Cripp Home," by Mr. T. PHILLIPS FIGGIS; "Roadside Hou by Mr. H. F. T. COOPER; "House showing pro Garden," by Mr. A. F. VIGERS; "Flats at Kensi Square," by Mr. G. D. MARTIN; "Whitechapel Pi Gallery," by Mr. C. H. TOWNSEND; "House at Wimble by Mr. G. A. LANSDOWN; "Garden House," by M J. FERGUSON; "Le Nid" and "Village Hall, Onchar Mr. M. H. BAILLIE SCOTT; "Design for Port Eliz Public Library," by Mr. H. T. BUCKLAND; "Hous Gas Company, Scarborough," by Messrs. HALL, COOP DAVIS; and examples by Messrs. W. T. WALKER, FO & MAULE, F. D. CLAPHAM, H. O. CRESSWELL, ALLFREY, C. F. A. VOYSEY, L. F. CRANE, G. F. C SON, T. E. PRYCE, F. W. BEDFORD, PARKER & U R. W. SAMPSON, W. E. DOBSON, F. E. RAVENS R. BLOMFIELD, W. F. HARKER, B. PITE, J. BE PIETER RODECK, J. E. LOFTHOUSE. The few visi the Architectural Room are supposed to take much i in houses, and it must be allowed that this year in the s drawings they are provided with a variety of examp town or country. There is one lady architect, Mrs. C whose "Proposed House near Dolgelly, North Wa combination of green and purple, will no doubt c some attention. Domestic architecture has triumph the Council, and it is reasonable to expect it will neglected by those visitors who have the courage t the room.

"The New Radcliffe Library, Oxford," might ha first sketched as a Gothic building by Mr. T. G. JA and then was transformed into Italian; the new f buttress is a remarkable example of evolution. effect of the new Westminster Cathedral is likely t adoption of a more or less free Byzantine style for Catholic churches. Acton is one of the poorest s to be found near London, and to be sent to that mi supposed to be a sentence of death by starvatio

Interior of Church of Our Lady of Lourdes, Acton," by Mr. E. Goldie, appears however to be a costly building, with a cross in front of the apse which recalls the famous metal-work in St. Mark's, Venice. It is an interesting design, which some generous person may be disposed to realise. But why the style should be revived at the present time is not easily understood. The "Loftus-in-Cleveland Church," after alterations by Messrs. Clark & Moscrop, has a satisfactory appearance. Mr. H. D. Bryan introduces a rather novel tower in his design for St. Martin's, Knowle. The competitive design for Dorking Infirmary, by Mr. S. W. Neighbour, is indicative of a severe but peerless building. In the Peter Memorial Church, Pirling, Mr. Stevenson has a tower with a coronal.

The Prudential Assurance Company has expended an amount of money on the erection of offices which must amaze many of its older rivals. But confidence can be as well inspired by red brick and terra-cotta as by other means. The enlargement of the head offices in Holborn is a daring undertaking, and a vast increase of business must be anticipated to make a building necessary which in size will surpass all similar offices in this country. Mr. Waterhouse does not propose to repeat the existing offices, though the style is adapted for continuation. There will be sufficient difference to suggest where the new work has commenced, and in the centre will be a massive tower with large gateway entering on a court. The offices will be an important addition to the street architecture of London, and fortunately in that part of Holborn there is more than average width of roadway, which will enable the work to be properly judged. Mr. E. W. Mountford shows a perimetrical elevation of the Liverpool Museum and Technical School. Mr. H. B. Garling in 1857 won the first premium for the War Office, and his design is now in the Academy. At the same time Messrs. Coe & Hofland, Banks & Barry and Mr. Gilbert Scott obtained premiums for the War Office, while M. Crepinet, a French architect, obtained the prize for a block plan, which the committee declared was very able and magnificent. It is needless to say the project of new offices was not further carried out; but as the subject is revived, it is interesting to see one of the designs which was victorious forty years ago.

It is evident Mr. Garling was respectful to Barry's vestage of the Treasury offices, and was desirous to produce a building that would well range with so admired a work. The "Head Offices, Metropolitan Asylums Board," by Mr. E. T. Hall, will be an ornament to the Victoria Embankment. It is Italian rather than Flemish in treatment, and we hope there will be no obstacle to the introduction of the sculpture proposed, without which the design would lose much of its interest. The aid which sculpture can afford is also seen in the "View of Main Staircase, the Guildhall, Cambridge," by Mr. Belcher, where a large scale and separate figures are introduced with success. There is not much to be made out of a "Lime, Brick and Cement Wharf," unless it is not to be managed on commercial principles; the most that can be said of Mr. Ayrton's design is that he has not attempted to be ambitious at the cost of his client. Mr. E. P. Warren shows two works in Oxford—a drinking-fountain of a pleasing character and a hotel which is not ultra-modern. Mr. A. O. Bryan's "Pupil Teachers' Centre, Bristol School Board," becomes heavy in character from the rustication. We have also to mention the "School Board Offices, Newcastle-on-Tyne," by Messrs. Armstrong & Knowles.

When it is remembered there are nearly three hundred drawings in the Architectural Room, we cannot expect they will all be remarkable examples. But in proportion to the number shown it must be admitted there are fewer works of the usual of designs which reveal incapacity. In design and draughtsmanship there are very many of the drawings which will sustain scrutiny. It is a pity that so much time and expense will be without any advantage to the exhibitors, but in that way English architects are not in a worse position than French architects, whose drawings are not only neglected by the public but are considered to be failures by painters and sculptors.

The Conversazione of the Society of Arts will take place on June 20 at the Natural History Museum, Cromwell Road.

SCULPTURE AT THE ROYAL ACADEMY.

THE question is often asked, What becomes of works of sculpture which were seen in any Academy exhibition some years before? From the quantity of pictures which appear every season in the auction-rooms, it is easy to assume that within a limited period the majority of examples of the painters are doomed to pass from the possession of the original owners. A little exercise is therefore afforded to the speculative powers of amateurs in guessing whether there is to be a rise or fall in the appreciation of them as expressed in coin of the realm. But with sculpture it is different. The most constant attendant at Christie's would be puzzled to say what price would be attained by one of Baily's smooth nymphs or Lough's demigods. Can Behne's busts have a market value, or would anyone be able to recognise Stephens's *Comus* if it appeared in an auction-room? In England works of art are not purchased merely for the pleasure which they afford through the eyes. Much of their interest is derived from the conviction that they are investments which one day will bring reward to the owners. But as sculpture has so uncertain a future it cannot be prized like painting as an article of commerce, and as a consequence there is little patronage of the sculptor's art.

It is therefore a satisfaction not only for sculptors, but for those who are aware of the risks which attend devotion to that form of art, when they see it announced that a figure or group has a definite destination. Portrait busts and statues, it is presumed, are to be claimed when an exhibition closes, but that class of work is sometimes produced as a speculation. It is well to be assured that Mr. Lynn Jenkins's group *St. George* is destined for a church in South Devon; that Mr. Alfred Drury's base and column for electrical light is a part of the sculpture with which Alderman Harding will adorn City Square, Leeds; that Mr. Brock's statue, *Sir W. T. Lewis*, is to be set up in Merthyr Tydvil; that Mr. Thornycroft's burly *Oliver Cromwell* is to find a place near the Westminster Town Hall, and his *John Colet*, a dean who used to have little boys flogged to afford diversion to himself and his friends, will be placed in front of St. Paul's School, Hammersmith. The intimation of a destined purpose adds to the interest with which those works are regarded.

The influence of patronage is, moreover, transforming the character and size of the sculpture which is to be seen at the Academy. The Foleys, Macdowells, Theeds, Marshalls, Westmacotts and their successors dared not attempt anything under life-size, and their work was always costly. Now we have many statuettes, medallions, caskets, cups and works of a class which formerly would not be admitted within the Academy. But a small figure has more chance of finding competitors for its possession in a sale room than one which is ponderous, and the sum received for it will bear a larger ratio to the original cost in one case than in the other. Moreover, with small works there is less necessity to adhere to stereotyped rules, and consequently originality need not mean ruin.

From the variety of its contents the Lecture-room of the Academy is sure to receive more attention than the Central Hall, where the larger examples of sculpture are displayed, with Oliver Cromwell as the dominant power. This year it is the most interesting of all the rooms. The most striking work is Mr. Derwent Wood's *Dante at Ravenna*. The poet, who is seated, is supposed to have seen the inseparable figures of Polo and Francesca, whose bodies project beyond the main lines of the work. A painter could easily have suggested Dante's vision, but a sculptor is handicapped in attempting so difficult an enterprise. The poet was the friend of the girl's father, and, as Carlyle remarks, she may have sat on Dante's knee, a bright innocent little child. It is, therefore, the exile in Ravenna who is seen to whom the place recalls the tragedy, and not the companion of Virgil. His face reveals his agony. The subject is original, and the sculptor has expressed his thought with a stern realism that is in keeping with the "Divine Comedy." Another work in which the usual limitations are disregarded is the ivory and bronze group by the late Harry Bates. We believe it was to be suggestive of a monument, and the figures represent Time or Death, and a soul just passed out

of this world. The difference of materials helps to express the two spirits, and the base of the group symbolises London by means of St. Paul's, Westminster Abbey and other buildings. But their scale is necessarily small, and as a result the two figures assume more than gigantic forms. The group thus becomes a puzzle in spite of its beauty. Sculpture should be expressive without the aid of inscriptions, but neither of the works we have described has that quality. In the new proof he gives of his versatility, Mr. Herkomer is careful to prevent any doubt about his meaning, for he employs lettering to describe the groups in his *Triumph of the Hour*. It is a shield, but not in a military sense, on which pictures in enamel are executed. It is, we imagine, the largest example of enamelling produced in England. There are so many difficulties in the process, it is not always an artist can realise his intentions, and with a series of pictures the difficulties are increased. In this case there is sufficient uniformity in execution to prove it is the work of one artist. The "triumphs" are mostly simple contrasts. An emperor is slain by a lunatic, the sphinx is confounded by a peasant, Lazarus prevails over Dives, and so on. As we have said, the pictures have descriptive titles which are marked in the gilded ground surrounding the enamels. They should be their own interpreters, and indeed lettering is an expedient most often adopted by amateurs. Mr. Herkomer's shield is, with all the drawbacks, one of the few works of the year which are made subjects of conversation.

Mr. A. Gilbert evidently believes in the connection between groves and Gothic. His *Model for Bronze Screen at Whippingham* at a distance would be taken for a part of a Mediæval cloister, but the arches are not filled with Perpendicular or Decorated tracery; plant forms are employed instead, and being of gilded bronze the effect would compel the most rigorous Goth to approve of the innovation. Among the statuettes, Mr. Frampton's *St. George* is one of the most interesting. Mr. Sargent, the painter, attempts sculpture with a *Design for part of a Mural Decoration*. There is a representation of the Crucifixion, with a man and woman holding chalices that recall the winged ministering angels often introduced in works of a similar class. Mr. Derwent Wood's *La Paimpolaise*, a bust of a woman in hard wood with a wrought-tin headdress, is carved with marvellous precision. The *Electric Lamp*, by Miss E. M. Moon, is a figure of a mermaid having none of the stiffness or solemnity which commonly characterises a sculptor's efforts to apply his art to industrial purposes.

The marble statue, by Mr. Roscoe Mullins, having for title *My Punishment is Greater than I can Bear*, is a triumph over self-imposed difficulties. The figure is seated, one hand resting on the ground, the other is on his knee, and the head rests against the arm. That the subject is suffering mental pain is evident from the pose. It is seldom we see so much tragedy expressed by a single figure, or so remarkable a feat in carving. Among the numerous busts, Mr. Onslow Ford's *H.M. the Queen* will of course receive most attention. It will have historical value, for it represents Her Majesty as she appears. The sculptor has shown he was worthy of the commission by the care which is manifest in all parts of the work. Opinions will differ about the propriety of the introduction of a hand and arm supporting the chin in Mr. Goscombe John's *Sir Lewis Morris*. The bust becomes a fragment of a statue. It will be said painters adopt the expedient, and M. Bonnat's portrait of Leon Cogniet in the Luxembourg Gallery is a famous example of how much can be gained in that way. It is well, however, to remember what Reynolds says:—"Sculpture is formal, regular and austere; whatever partakes of fancy or caprice, or goes under the denomination of picturesque, is incompatible with that sobriety and gravity which is peculiarly the characteristic of this art." The poet would have looked as inspired if the bust had been treated in the ancient manner. Mr. Armstead's medallion, *The late George Price Boyce, R.W.S.*, is a record of the refined features of a remarkable artist who was too modest to secure the applause he merited. Mr. Birnie Rhind's *Science*, which is intended for the art galleries in Glasgow, shows that the sculptor did not allow himself to be restricted by the modest price he is to receive for his work. Another excellent northern work is the sketch of the statue of James V. for the Edinburgh Portrait Gallery, which is by the same sculptor. There are many other busts and portraits in various forms which the visitor will do well to consider, and it must be allowed that this year's sculpture affords encouragement for those who take a hopeful view of the prospects of the arts in this country.

AUSTRALIAN ARCHITECTURAL NOTES.

[From a Sydney Correspondent.]

(*Concluded from page* 291.)

At the Parramatta Asylum for the Insane a successful attempt has been made to relieve the monotony of large expanses of bare walls, pierced at regular intervals with rectangular windows. Of course, it was impossible to avoid a certain amount of sameness, but, as shown in the accompanying illustration, the general effect is good; moreover, the arrangement admits of a better classification of patients. The verandahs are indispensable, but, for obvious reasons, are of the plainest character. The severe simplicity of the building is relieved by the extensive grass plots, shrubberies, and gardens, which are kept in admirable order.

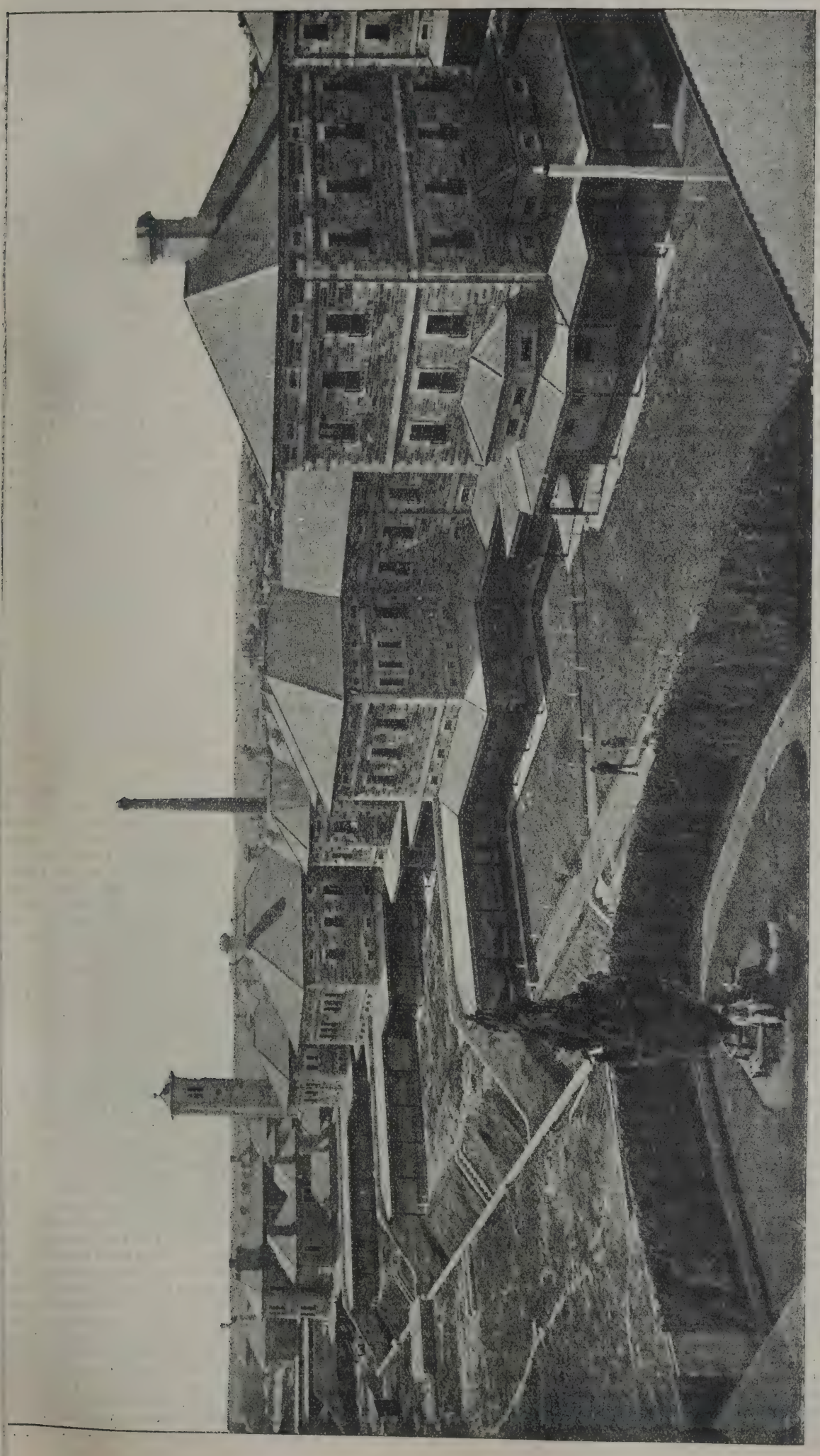
In other directions Australian architecture is making good progress, and it is noticeable that property owners are beginning to discover that there are less remunerative investments than handsomely designed business and other structures, with satisfactory interior arrangements, a circumstance which explains the activity of the Australian building trades at the present moment.

THE DECORATION OF ST. PAUL'S.

A lengthy letter from Sir William B. Richmond, R.A., appeared in the *Times* of Saturday last. The following extracts from it relate to his treatment of the cathedral; the remainder cannot be considered as treating of a technical subject:—

The amateurs, anonymous artists and literary adventurers who have rushed into print call for no answer to their effusions; they have answered themselves by the exposure of various emotions and diatribe. As far as the literature (which must have been almost as instructive and entertaining to the general public as the ritual question, with which it perhaps bears an indirect affinity) has a defined direction, it has expressed indignation chiefly that I should have had the temerity to make use of colour upon the mouldings and flat spaces of stone other than those spaces which it is vaguely stated Wren intended to adorn with mosaic. But I am also blamed for cutting back the stone. Now Wren could not have placed his cement and cubes anywhere on the walls without cutting back the stone, because thereby levels would have been relatively changed, therefore the cutting back of the stone for the purpose of laying the mosaic is not a crime but a necessity to preserve the proportions designed by Wren; all the levels are exactly where Wren left them. That argument against me is easily disposed of. The charge against me, which I intend to meet, is the colouring of the mouldings and stone and the bright colour that I have employed.

Broadly speaking, stone has always received colour upon the walls of interiors in the form of marble or pigment; generally it was also prepared by a thin and protecting cement or "stucco" as a ground for the pigments, from the days of the Memphic dynasties in Egypt down to some 200 years ago, when architecture for the first time attempted to stumble along alone, divorced by circumstances from her supporting sister painting, and in a degree also sculpture, much to her injury and theirs. Even in the interiors of houses in England oriental rugs designed for carpets were in the time of Henry VIII. fastened upon walls, no doubt to hide the prison-like character given to the interior of an apartment by a bare wall of stone. Bare stone is not a congenial material for the inside walls of any building, however desirable it is for prisons or fortresses. Why do we cover our brick or stone walls with plaster, hangings, paper or coloured pattern of any kind? Surely because left bare they have a comfortless unfinished appearance which upon the inside of a building is not felt. And if this applies to the interiors of rooms, palaces, even public buildings, why not to churches? It is only a prejudice which stands in the way, and a very remote one too. It is desirable that a prison or a fortress should appear forbidding or grim, but should either of those engaging sensations be aroused in a church, which should suggest hope, encourage every healthy desire and as far as possible satisfy a



ASYLUM FOR THE INSANE (REAR VIEW), GLADESVILLE, PARRAMATTA RIVER, SYDNEY.

craving for every form of beauty which art has the power to bestow? I do not say that a Quakers' meeting-house or a Presbyterian conventicle would be the proper places for splendour—it would be incongruous there; but as an offshoot from the great Catholic church, which has inherited many of the customs and ceremonials of that church from pagan and Jewish ritual, in the metropolitan cathedral, the centre of English worship, splendour of colour, as well as justly-balanced proportion, is surely appropriate. Such a cathedral, however Protestant, should not strike cold to the soul as if it were but a well-proportioned and dignified alley leading to the shades. It should arouse emotions which tend to possess the imagination with joy, not gloom; colour, not greyness. It should be full of pictures, bright and encouraging; there is grey and gloom enough in London and its people without accentuating them in St. Paul's. Architecture without colour is like the skeleton and muscles without the flush of beautiful colour given by the skin, the scarlet lips, blue eyes and golden hair of a beautiful woman. We want something more than anatomy, construction and proportion; we want life, colour, sparkle, all the attributes of a warm, generous existence and nature. In England the Puritans and iconoclasts, with their cold yet hell-fire worship of the shades that lead there rather than the rosy if thorny avenues which lead elsewhere, revolted against colour and ornament, indeed, against beauty of all kinds, calling them vain imaginings and Satan's most powerful weapons. This depressing spirit still presides over a considerable portion of the English character, which inclines to associate sterility with nobility, and gloom with "a reasonable hope." Belonging to that spirit is St. Paul's Cathedral, severe, prison-like, accurate, a magnificent skeleton which cries out for life and colour in the centre of a gloomy and smoke-begrimed imitation of ashen-coloured Hades. What a contrast such a spirit bears to that inspiring one which the Jewish, Egyptian, Assyrian, Persian, Greek, Roman, Byzantine, Moorish, Norman, French and English once were dominated by—the love of form, colour, metals and jewels, which impelled them to cover every nook and corner of their places of worship with the most costly material and every art and artifice of man's intelligent craftsmanship, generous and exultant, radiant with joy and hope, emblems of an ideal world. For the Temple of the Jews, the Parthenon of Athens, were adorned with every conceivable material and colour. The Parthenon, though built of marble, was columned in its interior, and exterior also, in a minor degree, mouldings, sculpture, walls, caps, drums and bases, and though built of marble it received in many parts of it a thin coat of stucco polished with wax, whereon gold and colour were applied. The Temple of Apollo Epicurus at Bassæ, built of porous stone, was likewise so treated within and without; indeed, so were all the Doric, Ionic and Corinthian temples. The most delicate carvings of the Moors, as well as the plain-stone surfaces of Arabs, Byzantines and the Normans (far more delicate and sensitive than any of the carvings or mouldings in St. Paul's are) were gilt and coloured with positive tones of pale blue, red or green, as I know by careful examination of many of the mosques and churches built by those cunning and beauty-loving peoples.

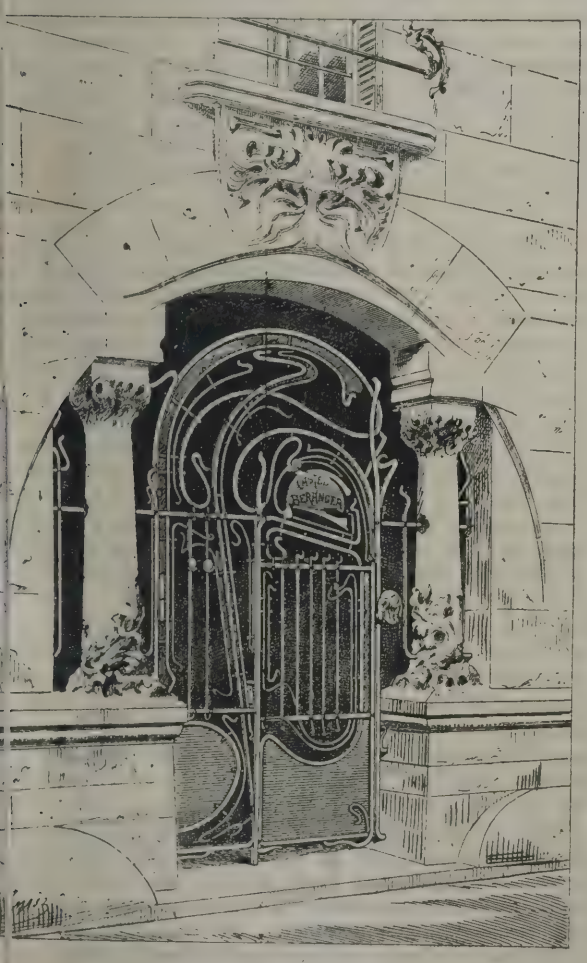
A few days ago, while searching among fragments of sculpture in one of the ground-floor galleries of the Louvre, I found an Ionic cap and base of the best period, and carved in stone, whereon large portions of a pearl white stucco no thicker than this paper were still adhering. The stone temples at Girgenti were so treated, and still retain traces of stucco. At Selinus, where the temples are of marble, there remain large portions of colour, mostly blue, white and a warm black, relieved by thin lines of red, and in the various museums of Syracuse and Palermo, besides others in Italy and elsewhere, are shown almost innumerable examples of the polychromatic treatment of architecture which would turn my Lord Wemyss's hair grey with horror if he beheld them. The Tomb of Ti at Memphis, though its ornamentation is carved in limestone with the most delicate refinement, is strongly yet delightfully coloured. We know that both the stone and brick interiors of Roman buildings were covered with variously-coloured stucchi imposed upon generally a deep and splendid red, and we know with what alacrity Raphael and Pinturicchio borrowed from the coloured wall decoration and gesso ornament discovered in the Baths of Titus, and employed the like in the loggia and stanze of the Vatican and in the Camera Borgia, also in that palace. We know how Giulio Romano used gold and colour upon the mouldings, caps, ribs and elsewhere of the now much-abused Palazzo del Te at Mantua, a building fine in its way and decorated, if with not the most perfect taste in every instance, still magnificently. All the stonework and most of the woodwork of our English cathedrals received a thin coat of "gessoduro," whereon colour and gold were applied. Bases, shafts, caps, cornices, ribs, flat and curved stone surfaces were figured with pattern gold or pictures, elaborate and delightful we know, as remains happily give us testimony.

How would the purist have liked the Treasure House of Atreus, that superbly proportioned dome, naked now, revealing its structure of stone masonry, the most perfectly jointed that have ever seen, when it was lined with copper and bron enlivened with embossed nail heads daintily chased? wonder! Or Nero's house of gold and ivory, or Xerxes's pala at Persepolis, not a bit Puritan or Quakerish or morbid, warrant, nor reminding of "The Shades," but lively, invigor ing and healthily hopeful. In periods when art was unison with all its faculties and used them in the vario countries that I have previously named (I omitt Spain inadvertently), all of which periods may be term classical, colour on architecture was not an adjunct—it w integral. Monochrome interior walls are a modern innovatic not an ancient tradition of taste, partly, as we have seen, innovation created by a variety of regrettable conditio brought about by the modern forces of Puritanism, division labour and individualism. The later Renaissance builde (and Wren came quite at the tail of them) were so absorbed the study of the revival of late Classical ornament, and th busied themselves with its revival, but forgot, or did not kn probably, that colour had played a very important part architecture even in the very periods which they we attempting to resuscitate, and it is partly due to that difference or ignorance of polychroming that painting genera became divorced from architecture except in the case framed pictures in churches, which became the fashion in t seventeenth and eighteenth centuries, but that fashion nev took root in England; hence the fallacy soon became curre that to be "pure" and "classical" architecture must abju colour. This belongs to the same misconception of the artis function which led Poussin, the poetical French classicist, fear the charms of Venice lest they might allure him away fro form and design. But, in truth, this innovation of idea which would place form upon a kind of throne virtue is not classical in the very least; it is not mo than 200 years old, and what is that compared to t 4,000 years of another tradition? The later Renaissan churches are artificial imitations of late Roman design. Th have very little of the classical spirit in them at all; it is gloomy reforming cloud which they anticipated and which w sympathetic to the end of the seventeenth century and so till forty years ago, when a revival in a more healthy directi was started. As it were, the skeleton of architecture survive and even her muscles survived something like death, for t obdurate laws of construction bind her with bands but slight flexible. But the real life of it, that generous completene which made architecture up to 200 years ago so human ar sympathetic, went when her two sisters gave her but slend support, and ceased to claim close and almost indissolub relationship. The very fact that Sir Christopher Wren had in his mind to decorate St Paul's with mosaics proved him be a man far in advance of his time in England, and I suspe that the only reasons which went towards their non-achiev ment were due to lack of money and weariness and conseque apathy on his part induced by the abominable treatment had received. If Sir Christopher had carried to an iss what was at some time his intention to do, he would ha very swiftly discovered, as I did (and hence most of the ce sure), that the decoration in colour of the panels alo must be far from satisfactory, but there can be but litt doubt that Wren's mosaics would have been *deep*, not *fair*, colour tone; fair colour was not in fashion in his time, and h a much cleverer man than many of his advocates make hi out to have been, would have recognised the almost insupe able difficulty of bringing his coloured spaces into harmo with their stone surroundings without the aid of an echo colour, and a strong one, too, upon the stone mouldings a plane surfaces. For it should not be forgotten that the sto of which the cathedral is built, when clean, is very white, a colour is apt to appear dark in contrast with it. Finally, the two reasons which I have suggested as probable, St. Pau was not decorated, but painted with oil colour from top bottom; better that perhaps than the mealy-coloured sto which is so rapturously admired by some whom one suspe of being colour blind—a not uncommon inconvenience perienced by Londoners, I am informed. Surely it is well to forget that Wren's foreign experiences were limited Paris; he never saw any completed building fully furnish and coloured; much of the glass in our English cathedrals h been destroyed before his time; the wall-paintings, hack off or covered with whitewash, had been submitted to barbarous followers of John Knox and mobs of Puritan savag It is only in the last thirty years that any knowledge of " art"—by that I mean the union of the triad—has become possible property of even a few; and it is surprising how lite architects, sculptors and painters assist by practice, though theory they may accept it, a union which is before long qu inevitable. The reunion of the arts is as certain as the victo of good over evil is; pedants may desire to delay it, orat may rant about classical purity, Nonconformist temperame may regard colour as devilish, sensual or what not, and pru may still love the nudity of architecture and reluctantly per

to wear a fig-leaf or two; but the very fact of the almost erical wail that has gone forth (not at all representing public ion in the press, but only a minute section of it) shows that purist trembles upon his seat which totters under the weight s condition, and the prude lets down her veil at the sight of itecture once more vested after the fashion of the Baby- an lady in the Apocalypse perchance. The architects will ently have to join hands with the painters and sculptors admit them to their confidence, not autocratically but estly, and use them and consult them also, even about itectural design; for it is all very fine for architects (or lers, as they should properly be called) to imagine them- es supreme in the knowledge of their own work (I do not n the specification side of it, but the artistic), because there a few painters yet among us who would not be afraid to r into the lists in competition with them either upon the tion of construction or design, notwithstanding the gibes 1 American or two. The whole tendency of artistic growth ide and far-reaching; its tide is setting strongly, too igly to be stemmed by a clique of architects, a few painters an amateur debate in the House of Lords. If the painters sculptors hold together the architects and the public must w, in time: and when the "Triad" is accomplished a mittee of taste to be represented by Lord Wemyss will not uch in requisition, and we shall not have to appeal to him instruction; yet we wish for him every opportunity of cising his favourite pastime of setting the world in order.

CASTEL BERANGER.

O private building among those recently erected in Paris has excited so much controversy as the so-called Castel nger, of which M. Guimard is architect. In it many cted principles have been set aside. As much can be said veral other modern buildings in Paris, but the Castel, on int of the defiance it announces, may be considered as ie. It has been made the subject of many newspaper es, and to-day we believe M. Guimard is to expound the y he adopted before a fashionable audience. The sketch



entrance, which is taken from *La Construction*, will it the architect's courage in ignoring the accepted rules nmetry and statics. The iron bars are arranged in ul lines, but the weight is not evenly distributed, gh of course provision is made against any disturbance n.

THE EXCAVATIONS IN ROME.

A CORRESPONDENT of the *Globe* writing from Rome on May 5 says:—Good fortune seems to attend the archæological operations at present being proceeded with in the Forum. Following upon the important appropriation of the site of the Basilica Æmilia, owing to initiative entirely British, comes the good news that the ugly seventeenth-century church of St. Lorenzo in Miranda, which for centuries has disfigured the beautiful Temple of Antoninus and Faustina, is to vanish, so that the blue sky will again look through the splendid columns of its portico. The origin of the name "Miranda" as applied to this church is obscure. Some old writers say that "Miranda" was the name of the lady who founded it; others, that it was so-called because it was surrounded with so much that was wonderful. The first mention of it takes us back to the Pontificate of Urban V., who, bent upon restoring the Lateran after its second destruction in the fourteenth century, granted leave to his "Fabbricatori" to plunder the temple, provided they did not interfere with the church of St. Lorenzo. No doubt they stripped the walls of the "cella" of their Parian coating as well as the flight of steps that led from the temple to the "Via Sacra." Martin V. in 1430, finding the church in a wretched condition, transferred it to the Guild of "Aromatarii," or apothecaries, granting them all the rights previously enjoyed by the canons, whom he suppressed. The worthy apothecaries now erected a set of chambers, and a chapel attached to them, between the columns of the portico, for the benefit of reduced members of the guild. The deep scars left by the sloping roof of these tenements are revealed in any modern representation of the building.

Their tenure, however, was not of long duration. When Charles V. made his triumphal entry into Rome, the authorities caused them to be done away with, so as to reveal the imposing beauty of the columns they concealed, which are the largest of their kind in Rome, being ten in number and 50 feet in height. In 1602 the guild, in consequence of increased prosperity, set to work once more and erected the present church of St. Lorenzo.

Cipollino (or Croystian) marble, so-called from the resemblance of its grain markings to "cipolla," an onion, was the fashionable marble during the Antonine period. For there were fashions in marble, jnst as we modern English have had fashions in wall-papers. The frieze will be recalled owing to its exquisite design of alternate griffins, vases and candelabra, sculptured in Parian, which is a copy of one far more ancient in the island of Delos. The three lowest stairs of the portico, which descend to the "Via Sacra," have now been entirely cleared of rubbish by Signor Boni; so that not only is the majestic flight of them up to the temple seen for the first time for at least fourteen centuries, but the actual width of the "Via Sacra" in front of it is likewise for the first time accurately made known.

But apart from archæology, this splendid temple survives as an unique example of an Imperial love-story. There is none other in Rome left to rival it, for love and reverence are here absolutely enshrined together. Antoninus adored Faustina, and raised this temple in her honoured memory. The Senate upon his death conjoined his divinity to hers with an inscription which "he who runs may read." These two together made the twentieth and twenty-first of the consecrated members of the Imperial Order, Faustina being the eleventh lady. The temple was administered by the appointed "Sodales Antoniniani" and their "flamines," or "kindlers," who, as Spartianus tells us, during the subsequent empire presided over the cult of deified emperors.

GLASGOW ARCHITECTURAL ASSOCIATION.

ON May 2 Mr. Thomas Ramsay read a paper on "Some Points in the Erection of a Modern Office Block." In his introductory remarks the author said a building of this class was erected in the first place with the specific purpose of making money for its owners, with occasionally the further purpose of serving as an advertisement. The requirements necessary to allow of its doing so the author considered to be good situation or site, ease of access, good light, maximum of rental area, ease of rearrangement to suit tenants, and the minimum of cost consistent with true economy. The author enlarged on these several requirements, pointing out, among other things, the necessity for the introduction of a certain amount of fire-resisting, if not fireproof, material in the construction and the absolute necessity of good light, this latter requirement, in his opinion, considerably affecting the money-earning capacity of the block. A vote of thanks to Mr. Ramsay was accorded at the close.

The Subject selected for the competition for the Prix de Rome in painting is "Hercules between Virtue and Pleasure," and for sculpture "Adam and Eve before the Body of Abel."

NOTES AND COMMENTS.

AMONG the old English painters there is not one who is less frequently mentioned than ROBERT STREATER. He was born in 1624, and was described by GRAHAM as "the greatest and most universal painter that ever England bred." SANDERSON also said of him:—"Of our own nation I know none more excellent but STREATER, who indeed is a compleat master therein, as also in other arts of etching, graving, and his work of architecture and perspective; not a line but is true to the rules of art and symmetry." He was much employed in Oxford. Among his works are the ceiling paintings in the Sheldonian Theatre. A poem which described them said "that future ages must confess they owe to STREATER more than MICHEL ANGELO." But unless a fairly large sum is expended there will be no paintings for future ages to enjoy. The pictures are on canvas. PEPYS saw them on February 1, 1669. He went to STREATER'S house, where he "found him and Dr. WREN and several other virtuosos looking upon the paintings which he is making for the new theatre at Oxford, and indeed they look as if they would be very fine, and the rest think better than those of RUBENS in the banqueting-house at Whitehall, but I do not so fully think so." WALPOLE considered the work to be very mean. According to the report of the curators of the theatre, the paintings are considered by Professor CHURCH to be in an unsatisfactory condition. That is not surprising when it is said they were thrice restored, viz. in 1762, in 1802 and in 1826. In 1802 WREN'S roof, reported as "in a state of dicay," was entirely removed and a new roof, externally at any rate "extremely dissimilar," was substituted for it. Among other alterations, the series of oval dormer windows which surrounded the original roof and which appear in LOGGAN'S print, as well as in the frontispieces of books formerly issued by the University Press (the work of which till 1714 was carried on in the space above the painted ceiling), were entirely removed. The curators observe that the paintings of the roof formed part of WREN'S original design, and were certainly *in situ* when the theatre was opened on July 9, 1669. They hope to be able to prevent the progress of any further injury, but it will be a difficult and expensive process.

STUDENTS of architecture in Sheffield do not appear to be more eager to devote their evenings to study than those in other places. Several keep aloof from the local society of architects and surveyors. This is seen from the Council's report, which says:—"It having been brought to their notice that in some of the offices in the city there were assistants and pupils who were not members of the society, the Council issued a circular to the members calling their attention to the matter, with the hope that the reminder would result in a useful accession of members to the society. The Council again express the hope that all members will do their best in this direction to promote the strength and usefulness of the society." It would have been wiser if the report explained how the strength and usefulness of the assistants and pupils would be increased by joining the society. There is a library containing some useful books, but there is not so much interest taken in it as it deserves, although members can have the additional privilege of using the School of Art library. In another case there was not only indifference but discourtesy. Arrangements were made with Mr. STANNUS for the delivery of a course of twenty lectures. Twenty-three members promised their support, but the Council were disappointed, "many of those who gave in their names not having made a single attendance." As a consequence a loss of 16*l.* 10*s.* was incurred. It is, however, acknowledged that "the lectures have been both interesting and instructive, and those who have attended have been more than satisfied."

ONE of the oldest bridges in Europe is that crossing the Danube and uniting Ratisbon with the suburb Stadt am Hof. It consists of fifteen arches, and the total length is 994 feet. The piers are supported on piles which are protected by jetties and large starlings. The practical NAPOLEON perceived its defects as soon as he saw it in 1809, and said it could not be worse constructed if the navigation was of any importance. The roadway is very narrow, and the footways allow of only one person to pass along them. But the bridge, with all its defects, is a relic. It was commenced in 1135 by Duke HENRY THE SUPE[illegible], and was completed in 1146. In the Middle Ages it w[illegible] considered to be one of the wonders of the builders' [illegible] and the strongest of all in Germany. HANS SACHS, t[illegible] poetic shoemaker of Nuremberg, sang its praises a[illegible] declared there was no other comparable with it. But t[illegible] needs of the time are not to be set aside through a love f[illegible] antiquity, and it is almost resolved that the bridge m[illegible] make way for another which is more in keeping w[illegible] modern engineering. Navigation must not be impeded [illegible] these busy days, but the destruction of the bridge will [illegible] another blow inflicted on archæology.

ALL visitors to Paris remember the small cannon in [illegible] Palais-Royal which is supposed to inaugurate May by s[illegible] discharge at noon, and to continue to mark that time wh[illegible] summer lasts. This year PHŒBUS was not friendly, and [illegible] doubt many superstitious people—for they are not entir[illegible] extinct in Paris—believed the silence of the cann[illegible] boded some coming danger to France. On Friday l[illegible] however, the sun was propitious, and the welcome bo[illegible] was heard by the shopkeepers, nurses and excursioni[illegible] and watches could once more be regulated by celes[illegible] time. The cannon has its history. It was presented [illegible] 1786 by one ROUSSEAU. It was therefore somewhat ca[illegible] novelty in the early days of the French Revolution. It is well known to CAMILLE DESMOULINS. In those days t[illegible] stood near the spot where the entrance to the theatre [illegible] now found, and it was not until 1800 it was transferred [illegible] its present position. It is a public treasure, and costs [illegible] State about 8*l.* a year.

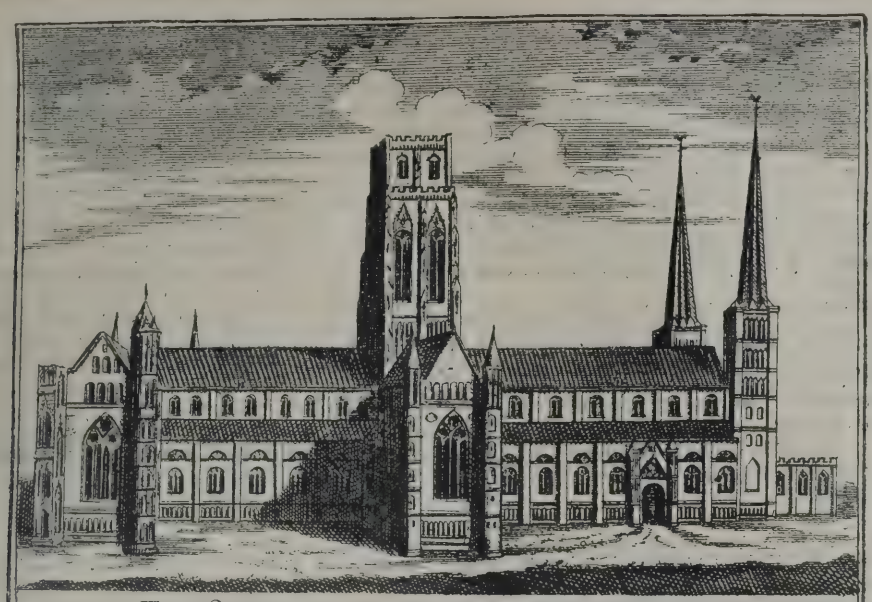
A MEETING of the Shoreditch Vestry was held on [illegible] 2nd inst. The town hall committee reported that they h[illegible] considered the merits of the various competitive desi[illegible] submitted by architects in response to their advertiseme[illegible] for the proposed extension of the present town hall bu[illegible] ings. They had unanimously placed first in order of [illegible] merit design No. 2, and the second place was assigned [illegible] design No. 3. The committee therefore recommend [illegible] the Vestry to confirm the selection. The recommendat[illegible] was duly adopted. On the opening of the sealed envelo[illegible] containing the names of the competitors, it was found th[illegible] the author of the design placed first was Mr. WILLIAM [illegible] HUNT, of 12 Bedford Gardens, Kensington. Messrs. SPALDING & CROSS, of Cheapside, prepared the desi[illegible] which obtained the second place.

THERE could hardly be found any stronger testim[illegible] to the decline of Johannesburg than is afforded by [illegible] report of the town engineer for 1898. Mr. ABURR[illegible] expresses a misgiving that the erection of buildings [illegible] never again be so rapid as in the years 1895 and 1896. [illegible] 1893 there were 1,094 new buildings, and in the succeed[illegible] years the numbers were 967, 1,978, 1,964, 784 and [illegible] The last, which represents 1898, is a significant co[illegible] mentary on the Government of the South African Repu[illegible] There is no security, and strangers consequently declin[illegible] to risk money in building. Let more justice be shown [illegible] "Uitlanders," and Mr. ABURROW would have to ackn[illegible] ledge he was no prophet. Another sign of the condi[illegible] of affairs is found in the reduction of the engineer's a[illegible] owing to the condition of the finances. The Tr[illegible] Council were eager to raise a loan of 150,000*l.*, n[illegible] although 5 per cent. was offered, no satisfactory offers [illegible] received. Nor can it be said there is encouragemen[illegible] building by the authorities when we find that in all ca[illegible] where it was proposed to erect a verandah or balcony [illegible] a public footpath, or a cellar opening under a public [illegible] path, the applicant was obliged to sign an agreement [illegible] he would provide and lay kerb, gutter, and paving [illegible] whole length of his property in consideration of [illegible] Stadsraad's approval. It was not specified that the [illegible] gutter and paving had to be maintained by the appli[illegible] and under the circumstances the people were not like[illegible] undertake the responsibility. To overcome the difficul[illegible] additions have been made to the building by-laws.

ILLUSTRATIONS.

CATHEDRAL SERIES.—DURHAM: CHAPTER-HOUSE, LOOKI[illegible] EAST.—ARCADE, CENTRAL TOWER.—DETAIL OF CAPITA[illegible]

MINLEY MANOR, FLEET, HANTS.



The Cathedral Church of Durham

DURHAM CATHEDRAL.

'HE plate of the chapter-house, published this week, affords another instance of the apparent advance in the of vaulting which was exemplified in Durham, and which icipated the work of a later period elsewhere in England. e structure is now in so sound a condition, it will hardly be dited that a century ago the chapter-house was condemned a dangerous structure. Its true state at the time may be ged from the following description by John Carter:—

"Entering into the chapter-house I encountered one of the ud examples of the Saxon species of architecture, and which ne would have established the skill of those of our ancestors, e this room the only proof of their high abilities. At the t end or entrance an elaborate doorway and an open window each side (through which spectators from the cloisters might v the interior to very great and pleasing advantage); over m a large pointed window (of a late date). The north and th sides of the room decorated by columns and interlacing nicircular arches, continuing their course likewise round the tern end, where, in the windows, I perceived other late- ught pointed arch-style tracery. Groins in a peculiar way ng from a second tier of low-clustered columns and porting statues; likewise a treble rise of stone seats, hitheatre-wise, filling the whole of the basement line his noble building. Also in the centre at the eastern , breaking the above course of seats, the stone seat instalment for the bishops of this see was placed, along the pavement lay many gravestones of some he most eminent of such dignitaries, and their readings legible. Reverting to the sides of this room again, there two doorways; that on the north side gives admittance to aforesaid parlour, and that on the south side into the on for offending monks. While busy in making my rior and interior views, architectural details, &c., of this pter-house, no appearance came athwart my sight to make conclude that any part of this building was in a decaying angerous state (allowing for some honeycombed courses of e at the east end, of no material consequence otherwise unpleasing to the eye)."

The view of Durham Cathedral given above is reproduced n an old engraving in the collection of Mr. T. Drew, R.H.A.

ARTISTS' GENERAL BENEVOLENT INSTITUTION.

N Saturday evening, in the unavoidable absence of Lord Tweedmouth, the chair was taken by Dr. Farquharson e 84th anniversary dinner of the Artists' General Benevo- Institution, which was held in the Whitehall Rooms of the el Métropole. Among those present were Sir Wyke liss, Sir John Tenniel, Sir E. J. Poynter, P.R.A., Sir Elliott s, M P., Sir Squire Bancroft, Mr. Marcus Stone, R.A., Mr. rew Carnegie, Mr. Onslow Ford, R.A., Mr. Fildes, R.A., McWhirter, R.A., Mr. Ouless, R.A., Mr. Waterhouse, ., Professor Aitchison, R.A., Mr. E. T. Reed, Mr. W. L. mas, and Mr. Douglas Gordon (secretary).

The Chairman, in proposing "Prosperity to the Institution," l that before any aid was granted from the institution's funds proof was required of a certain amount of artistic merit. The committee worked quite privately and confidentially, and nobody knew who were receiving aid. During the past year relief had been granted to 200 applicants, the amounts given ranging from 70*l.* to 10*l.*

Sir Elliott Lees proposed "The Royal Academy and the other Societies connected with the Fine Arts."

Sir E. J. Poynter, in responding, said that he felt doubtful whether the many local exhibitions of works of art now held had any real advantage or advanced the cause of art. They certainly offered facilities for production and enticed many into the ranks who could never rise above mediocrity. It was certainly a cause for congratulation that, to judge from the works sent in for this year's Academy exhibition, the limit of the flow of production had probably been arrived at.

Mr. W. L. Thomas also responded to the toast, after which Mr. Waterhouse announced a list of subscriptions and donations aggregating 2,310*l.*, which included a donation of 100*l.* from Mr. Andrew Carnegie.

ART AND NATURE.

ON Saturday afternoon Mr. T. C. Horsfall delivered an address on art before the Associates of the University Settlement of the Manchester Art Museum. He said the universe was roughly divided into two great provinces—nature and art. Art was not nature; it was skill and what was made by skill. It was only form, and good art was effective form. Art was not imitation, but the expression of an impression. It was a language. The fine arts were the products of those kinds of things which, if effective, contain beauty. They embrace poetry, music, prose, oratory, pictures of all kinds, sculpture and architecture. Whenever human beings lived under conditions which were healthy and surrounded by beautiful objects, whatever they made would be made beautiful. Pretty carpets, locksmith's work, bookbinding, ordinary tobacco-boxes and wall-papers were among the things which showed this influence. It was a general belief that we could get on very well without pictures and good fabrics—that they were things which could easily be dispensed with. There could be no greater error than this. They were essentials, especially to town dwellers, to right living. The fine arts were as much a language as that which was spoken or written. It was important to realise this, as there were certain feelings and impressions which could not be put into written language. A well-painted picture of a sheet of water was always beautiful, and to look at beautiful things was always refreshing. Our thoughts were turned from such gloomy surroundings as we had in Ancoats. If one talked for a year it would be impossible to convey the same feeling which an artist could, in a few hours' work, convey. It was impossible for an artist to reproduce all the detail of a large landscape scene. There were thousands of things which could be seen individually, and though the painter possessed the proverbial amount of patience, life was altogether too short to attempt it. A good many people found interest in discussing whether photography belonged to the mechanical arts or to the fine arts. "If," said Mr. Horsfall, "there be selection, and the production of a pretty picture be the result, you have undoubtedly a work of art."

SPECIFICATIONS.*

(Concluded from last week.)

WHERE should provisional amounts and prime cost items come in a specification? Should each amount come under the trade in question to which it refers, or should they all in a body be put together? I think no hard-and-fast rule can be applied to this, but small provisional amounts should run on with the subject-matter to which they refer, and distinct and perhaps more costly provisional amounts, and of which there may be no other description in connection, should be all placed together under the one heading, "Provisional Amounts," either immediately following the preliminary items, or else at the end of the specification.

The general run of "Prime Cost Items" usually apply more to small matters, and these, I think, should follow the items to which they refer. But if of any considerable amount, I would then put them also under the heading, "Provisional Amounts."

Should a specification have an index similar to that provided with a technical or scientific work? I think this would be very useful, and it certainly would make a specification a more complete and handy document. The index need only refer to the principal items.

Sometimes it is difficult in a specification to locate the description of a particular part when there is no distinct mark or name on the drawing. Some employ the points of the compass; this is very well if they will apply, but when you get a position perhaps centrally situated it rather fails in its object. I prefer in such cases to put a number or a letter, and that perhaps in a circle, against the part in question, and so refer to to it in the specification. Many of these references will not be required, as the drawings will generally be sufficiently clear to locate the descriptions by referring to the ordinary parts of the building by name or position.

Should an old specification be referred to when describing the work relating to another building? I think only so far as the general clauses are concerned, such as those under the preliminary items, the preambles to the various trades and the other general covering clauses under those trades. But the details of the work I would write entirely in the first place without any reference whatever to a former specification. All detail descriptions cannot be exactly alike, and you will be far more likely to put in any necessary variation of the detail in question if you think it out as you go along than if you copy an old description and alter it afterwards to suit, because when you copy an item you cannot properly be thinking out the details yourself.

To obviate omitting, so to speak, any of the general items common to all work, have by your side a form or tabulated index of the items coming under the various trades. This can be looked down at a glance, and all the items extracted which may be required.

There is one word in a specification of which the meaning is often disputed. It is the word "best" when applied to workmanship and materials, especially to materials, and is, I grant, somewhat ambiguous. But I would not use such terms as "best finest," "extra best," "super best," "best best," and so on, but merely employ the word "best" once and for all, and attempt to define its meaning.

Here is a suggested definition of this word:—The word "best," as applied to materials, articles, and workmanship shall mean that there is no superior quality of material or finish of article in the market, and no better class of workmanship obtainable.

In fact, by defining this word "best," it will only be necessary to mention it in the one clause when stating that all materials and workmanship are to be of the best quality and class.

We are all apt to fall into the error of describing certain materials mechanically, such as timber from a market which has long since been entirely exhausted, or stone from a worked-out quarry, or we use misleading and exaggerated language, "timber free from knots," demanding what, in our own minds, we never expect to obtain. We should only specify what we can get, what we mean to have, and then see that we get it. At the same time we must not lose sight of the fact that our endeavour must be to obtain the most suitable and best material procurable in the market, and that the work when executed shall be a credit to all.

As to the question of sub-contracts, this, I fear, would take some time to discuss, but, as a general rule, let a sub-contract go through the general contractor; but when this is impossible, then make the sub-contractor subject to all the conditions of the main contract equally with the general contractor, and in the main contract stipulate that the general contractor is to give every facility to the sub-contractor and allow him the use of his scaffolding and plant.

Having now, so far, settled the general scope and bearing of a specification, the next step is to put the various items int order and place. As I have before said, we cannot do bette generally, than divide the specification into separate heading or trades as they are called. As to the order in which the trades should be placed, I do not think that very importar only let each trade, if possible, come in the order in which tl building would be erected.

Thus the specification would be started with the prelimina items or general clauses, under which heading would con every item that would apply to the building generally as whole. Then would follow the trade of excavator, this beir the first start of the actual work. Then the trades embracir the structural parts of the building, such as bricklayer or maso whichever trade would chiefly apply to the walls. In lil manner you would go on constructing the building on pap until it was roofed in, when the trades taking the interi fittings, finishings, and requirements would follow, and fina the decoration and painting.

As to what items each particular trade should embrace, how many trades the specification should be divided into, th to some extent would be a matter of convenience and clearne consequent on the nature of the building in question. Thus, pavior is a considerable item, make it a separate trade, but if very minor point then the paving may come under the trade bricklayer. Again, if the drainage is a large item, I wou make that a distinct trade, instead of putting it, as it is oft done, under excavator. Further, floor and wall tiling mig either come under pavior, bricklayer or plasterer, as each these trades in certain parts of the country is performed by tl same class of workmen. Many other items may be treated the same manner.

Each trade is started with a preamble or the gener clauses mostly applicable to all the items under that trade, su as the description of the various materials, and the gener covering clauses referring to similar parts of the work different positions; after which follow in detail the actual iten of work. Strictly speaking, a preamble is an introduction preface, but in a specification the term is applied in the sen of denoting the general clauses and descriptions at tl beginning of each trade.

Going more fully into the various items of almost simil description under each trade, I think the best plan, in mo cases, is to describe all the items of a similar nature to ea floor separately, from the lowest to the topmost storey, co tinuing with other similar items on each floor. But if th description of any item will apply equally over the whole of th building, describe it so, without reference to each separa floor, and thus save useless repetition. As to the exact ord of the various items under each trade, I would put them as f as possible in that order in which they would be built. B there is no hard and fast rule to follow in this respect, as many cases it will be clearer to run them on, regardless of th order.

When describing the items do not omit to mention the cla of material, thus state the particular quarry and bed of ston give the class of wood for the timber and joinery work, an state whether it is rough or wrot. A general clause, such a this, "that all exposed faces of timber and joinery work excep where otherwise mentioned are to be wrot," will save repetitio of this word "wrot."

State if you mean Portland or other kind of cement, th word Portland is often omitted.

And all other descriptions of materials should be clearl defined.

Reverting once more to what is considered the best ord in which to place the items of work under the various trades, know that this is one of the chief difficulties of the beginn and I will suggest an arrangement for some of the princip items. I have before mentioned that, as a rule, it is best specify the items in that order in which the work will be bui but that it is not always possible to carry out that order. B I would say that whatever order you once adopt, always follo it in all your specifications and in all its parts, so that you w know yourself where to find an item.

I have also said that each trade in every case should sta with a preamble, or the general clauses and description materials.

Now, to take the principal items under the various trad respectively.

In *Preliminary Items* I do not think any particular order essential, but it would be as well to keep the clauses in th order which would mostly run with the order of the work the building. If old buildings have to be removed t description would come under this heading of preliminary items. But if a housebreaker is employed then this wo would form a separate and distinct contract by itself.

In excavator, take the surface excavation first, then t deep excavation, such as that to basements and cellars; th the general excavation to the foundations and the attendi t items, such as planking and strutting, filling and rammi and finally any other small or particular items. Then descre

* A paper read at the meeting of the Architectural Association on April 28, by Mr. G. B. Carvill.

e concrete foundations, after which the surface concrete and y brick rubbish under, then the concrete floors, roof, and irs. If the walls of a building are in concrete I would take ese immediately after the concrete foundations, of which they en would almost form a part.

Under drainage describe the manholes first, then the pipes th the concrete, then the gullies and other similar items.

The items under the trade of pavior are so simple that any ler might serve, but take first the important items of internal ving, and follow on with the smaller items, and finish with external paving.

In bricklayer, commence with the general walls of the ilding, then the damp-course, hoop iron, and other attendant ms. Then those parts in cement, such as rough arches, mmer arches, piers, sleeper walls, half-brick walls, and dry as. Then the external facings and pointing, gauged or ier external arches, dressings, mouldings and ornaments, ernal glazed brickwork, or flint facings. Then the internal ings and pointing, glazed brickwork, and wall tiling. undary and retaining walls and such-like distinct items uld come last, and be described separately and completely themselves. Terra-cotta facings might either come with other external facings or be kept as an item by itself after description of the other general work, and before such ms as boundary or other walling.

In mason commence with the rough stone, such as tem-tes and corbels, if not elsewhere described, and follow on h the thresholds, sills, copings, internal pavings, staircases, rths and chimney-pieces. Then the external paving, steps l curbs. If the walls are built or faced in stone I would cribe these first completely, with all the labours, mouldings l ornaments on them, and then follow on with the rough nes and internal items, and finally with the external items, h as paving, steps and curbs. I would not trouble to keep stone of a similar nature under the one heading, unless it uld happen to come in that order.

Many make carpenter and joiner two trades. In a large rk perhaps it is better to separate them, but in a small work ould certainly keep them together. But it is immaterial ether they are separated or not as long as the descriptions clear. Personally, I prefer them generally under one ding ; you will perceive the reason from the order of the ns I will now give you under these trades.

Lintels, bressummers, posts, cradling, floor and ceiling ts and plates, sound boarding roof or flat timbers, felt, tens, gutters, and all external joiners' work to the roof or s, except windows, doors and skylights, such as rolls, fascias, ge-boards and such like items. Then would come quartered titions, followed on with floorings, windows, skylights, ernal doors, internal doors, framed partitions, skirtings, loes, wall and ceiling panelling, staircases, sinks, water-sets and bath casings, and other internal fittings, such as lves, cupboards and such-like domestic fittings.

Fencing, weather-boarding or other outside work should be plete items by themselves, and come last.

Half-timber work, with all its attendant items, might, I ik, come after the description of the rough timbers.

I would not separate hard woods from soft woods, but cribe them as they come on each separate storey.

In smith and founder take this order—lintels, chimney-bars, ps, girders, floors, columns, roofs, carriages, iron windows, ers, stack-pipes, external railings and gratings, stoves and ges and heating. Heating may come under heating engineer.

Under slater and tiler, roofs first, then vertical slating or g, shelves, cisterns and such like smaller items.

In plumber take gutters, flashings and other roof finishings, s and their gutters and finishings, then drinking water supply es, cisterns, sinks, lavatories, baths and fittings. Then water-et supply pipes, cisterns, water-closets, slop sinks, urinals fittings, soil and ventilating pipes, hot-water circulation.

Zincworker and Coppersmith.—Take flats, gutters and shings, pipes, lightning conductors.

In plasterer describe first the general plaster work to ceil-s, partitions and walls, then follow with cornices, coves, tre flowers. Then those parts in cement, and finally, the rnal plaster or cement work, or if preferred take the rnal work first.

Glazier.—External glass to skylights, windows, doors, then rnal lights and screens, and pavement lights last.

Painter and Paperhanger.—Internal work to ceilings, walls, d and ironwork, and polishing. Then external painting to d, iron and cement work.

As to the order in the trades I have not mentioned, such as hanger, gasfitter, and electric-lighting engineer, which are generally of any considerable variation, there is very little uggest, but keep the order of the work, such as the main ns first and fittings afterwards. The order adopted in bills quantities is not precisely the same in all parts as that of a cification. The order in quantities is placed to an extent to ilitate the pricing, and the order in the specification should to distinguish quickly the position of the work.

One word before I come to the last part of this paper. If the prices in a bill of quantities are not to be taken into account in the settlement of extras and omissions, or if quantities have not been supplied, then a schedule of items should be provided for the builder to fill in and be attached to the specification and form part of the contract upon which variations may be valued.

I have now, I think, stated the various points which are necessary to be observed for efficient specification writing, and I will just mention a few matters which are worthy of attention and which are not always found to be clearly stated in a specification, but are sometimes omitted altogether, taking preliminary items first.

Always state that the plant and temporary erections are to be removed when directed, such as the scaffolding, hoarding, shoring, clerk of works office, and any other items temporary in their character. The provision of these items is usually stated in the specification, but their removal is not always mentioned.

State if the hoarding is not to be let to an advertisement contractor.

Clearly define what you mean by prime cost and provisional amounts.

State if the employer's business is to be carried on during building operations.

Mention that the contractor is to give due facilities to other tradesmen who may be employed on the premises, and also that the contractor is to allow such other tradesmen the use of his scaffolding and plant.

State to whom any coins or curiosities found on the premises or during the excavations are to belong.

If the contractor has done any work previous to signing the contract, then embody this work in the contract, otherwise an extra may be claimed for some small items which at the time of signing the contract were understood to be included in the contract amount.

Excavator.—Where the foundations in a length of walling are not all one level, require the excavation to be in steps, and not on the rake. Stipulate that there should be no excavations for ballast or sand unless necessary for the actual excavations, as this may affect the stability of the building.

Specify that brick rubbish be put under surface concrete which receives wood-block flooring or paving. There will then be less liability of damp coming through. In clay soils require the foundations to be taken down below the action of the weather. This may necessitate the foundations being taken down some 4 feet, 5 feet or 6 feet below an otherwise good bottom. Specify a proportion of coke-breeze, slag or gypsum in concrete fireproof construction. It will the better resist the action of fire.

State that all foul earth and cesspools are to be removed and the excavation filled up with clean rubbish or concrete. Encase new drain pipes in concrete. If a slight settlement occurs they will then the better hang together. Half-channels in manholes are better formed in cement than with half-pipes. A cleaner flow of sewage can thereby be obtained.

Then as to the items under bricklayer. Do not forget to mention these points:—To tie the walls in; to build external walls hollow, if possible, but in damp situations certainly ; and specify the lead covering over the heads of doors, windows, or arches, coming within the hollow space. This will prevent the wet being communicated to the inner thickness of the hollow walls. Describe a weather joint externally to brick walls. Build the brickwork up in even heights and fill up all the joints. Let the sand be free from dirt and the water clean. Sea water or sea sand may be used where dryness is not essential. Build chimney stacks, where they appear above the roofs, either partly down from the top, or else wholly in cement, preferably the latter. Build all parapet walls and the brickwork immediately under the eaves a certain distance down in cement, and a second damp-course here and to chimney stacks will not be amiss. Half-brick walls should, of course, be built in cement. Boundary fence walling should have a damp-course, and preferably be built in cement.

In retaining walls against earth do not omit the weeping drains or other device for taking off the accumulating water at the back.

Smoke flues should not be too large—9 inches by 9 inches is sufficient for most fireplaces—and gather the brickwork quickly over the fireplace openings. Build all stoves around solid, and fill up the boxings to chimneypieces. Fires have often occurred through neglect of this precaution. Do not put too long a description to terra-cotta work because it may be the custom. Put a straight joint between connecting walls and a heavy tower, and do not attach a large chimney shaft to the main structure.

Mason.—Stone templates should be of considerable area and tooled and not left rough. In fact, any stone upon which work is built should be tooled as a least labour on it.

Do not forget the cement packing between the rivet heads on the top of flange girders and the cover stones.

Stone hanging steps are almost better placed in position

and pinned in after the building is up, sand courses being left in the brickwork for this purpose.

In stone columns or pilasters the apophyges should be worked on the shafts. The effect is better.

Portland cement will stain delicate marbles and some limestones.

Carpenter and Joiner.—When possible, employ wood-block flooring on the lowermost floors next the ground. The ordinary joists and flooring for this position are more liable to decay. In this latter case let the joists and plates be of oak. Put cast-iron shoes or stone bases to all solid door frames. Bed window sills on to the stone sills in white lead, and do not omit the iron tongue. The cleats to roof trusses and horns on solid door frames are sometimes forgotten. Snow boards to roof gutters will often prevent wet penetrating when snow melts.

Open casement windows outwards if you want to be perfectly sure of keeping out the wet.

The ends of timbers where embedded in walls should have a circulation of air around them. A little sap on the edges of timber exposed to the air will not be any very great source of weakness, and it will not be likely to affect the rest of the timber.

All gutters should be wide enough to walk along. Some angle fillets at the junction of horizontal and vertical planes of a roof flat will make better work than if the leadwork be turned up sharply. This remark will apply to lead gutters. In some cases it is almost preferable to put a p.c. amount for the ironmongery to each door, window, or other fitment, and select the class of ironmongery afterwards.

Slater and Tiler.—Tiles and slates without boarding under should be torched.

Smith and Founder.—Let rain-water pipes stand out about 1 inch clear of the walls.

Plasterer.—Timbers over 3 inches wide should have the arrises taken off before the lathing is nailed on; this will enable the plastering to get a better key. The walls at the backs of skirtings or any other woodwork should be plastered over to prevent vermin harbouring. The outside of all flues between timbers, floors and where in the roof should be roughly rendered over. This will be a preventive against fire. Single laths should not be lapped at the joints, as is often done.

Plumber and Gasfitter.—Do not omit the exhaust pipe to hot-water circulation, or to the heating arrangements. Keep all hot and cold water pipes well away from each other and from the action of frost. All pipes, whether gas or water, should be readily accessible, and, if possible, on the face of the walls. The furring up of hot-water pipes is chiefly found between the boiler and the circulating cylinder or tank. This portion of the piping should be easily accessible for cleansing. All horizontal gas-pipe should be laid with a fall, to prevent any condensed liquid remaining in any part of the pipes, and thereby affecting the efficiency of the gas supply. It is a good plan to fix all internal pipes about ¾ inch clear of walls, especially hot-water pipes. Do not work the hot-water supply and heating arrangements from the same boiler. Failure is almost certain.

Glazier.—All glass subject to jars should be bedded in wash-leather or india-rubber as well as in putty. One of the best methods for glazing skylights is merely to seal the glass on a bedding of putty and then to sprig it in and paint the joint over with the woodwork of the bars. It is perfectly water-tight and there is no putty on the weather side to get out of order. This plan is much adopted in horticultural buildings, both vertically as well as in the top light glazing. The laps of the glass to top light should be cut to a curve, the water being directed down the centre of the glass and away from the rebates in the bars.

Painter.—External painting, if done in the spring or autumn, will give a more satisfactory result. No painting, papering or other decoration should be done while there is a suspicion of dampness about the building.

All ironwork should be well painted over before it is buried or covered up.

A discussion followed in which the following gentlemen took part:—The president (Mr. G. H. Fellowes-Prynne), Messrs. Henry Lovegrove, F. T. W. Goldsmith, B. F. Fletcher, C. H. Brodie and Max Clarke.

STATE ENCOURAGEMENT OF ART.

ON Saturday last the tenth annual Southwark and Lambeth Free Loan Picture Exhibition was opened at the Borough Polytechnic Institute, Borough Road, by Mr. G. A. Storey A.R.A., who expressed his pleasure that the exhibition was for the future to be a permanent annual event. He rejoiced because the movement might not only be a benefit to the working classes, but might in the long run be a benefit to artists—to the makers of art—for it would show them that after all there was some use in their workmanship. Such exhibits might tend to set a value on their work, which was frequently borrowed, b was not always bought; but, quite apart from that, it mig bring out the true end and purpose of art. Art should ha another object besides trying to make an effect at a We End exhibition—another object besides catching the fancy some rich picture-buyer or speculator in pictures. It shou be the pictorial and beautiful language which expresses sor thought beneficial, some subject which interests and deligh us, which teaches us and gives us matter for thought a pleasant discourse. Such exhibitions as the present mig call for and demand works of art that should be more th gems and ornaments, and bring about a great change art. Every year they saw fresh evidences of the artis development at exhibitions—the power to draw and to pai but a dearth of ideas and conceptions to be painted. Th partly arose from the tone of modern criticism, but chie because there was not much demand for pictures with a sto among the rich picture-buyers, nor were they wanted in t drawing-room, where a lovely woman by Gainsborough Reynolds seemed more in character. But for public art, if might use the term, for art that was exhibited for the enjo ment of the multitude, canvas was wanted that would appeal all alike, and he believed that the men were ready to cor forward if such services were required of them. If it we possible he would like to see palaces of art erected in t poorest neighbourhoods as well as in the richest, for a could become a real and true friend of the people—a valuab commodity that the State should not stint to encourag Referring to the expenditure of the Science and Art Depar ment, especially with reference to art, he said the State was n stingy in its provision for art education, especially in such palace of art as the South Kensington Museum and surroundings; but, having done all that, the Sta said, "Yes, we are making thousands and thousands artists and art masters, but we do not want your art; ar to show you how little we want it, we used to gra 10,000*l.* a year to the National Gallery for the purchase fine pictures, but we found it more than we cou afford, and so we have reduced it to 5,000*l.*" Perhaps th authorities who were so anxious to do their best in aid of a education were not aware, first, that art was the best teach of art, and, secondly, that the encouragement they held out students ended in more cases than he should care to mentic in sorrow or disappointment and even disaster, many, aft years of probation wasted, finding out too late that they ha better have followed any other career than that of art. H desired to say most emphatically that if a portion of th enormous fund spent by the authorities were spent on art itse and in furthering and helping such exhibitions as that one, would do immensely more good both as regards education a the enjoyment of all. The teaching that art gave should be f the million, not for the comparatively few who were privileg to enter drawing schools. If there were a demand for art th artist would be forthcoming, and it might be left to him to fi out how to do his schooling. It did seem a strange policy f the State to say, "We will train any number of you to artists," and at the same time tell them the State did not wa their art. He hoped that a better state of things would brought about for the sake both of art and artists and of t general community.

Miss Rose Kingsley also gave an address on the value art, and Mr. Edric Bayley and others took part in t proceedings.

ROUND TOWERS OF IRELAND.*

(*Concluded from last week.*)

ONE of the last towers built in Ireland was that of Ardmo in co. Waterford, and I observed that even in this tow no provision had been originally made for a beam or fixtures f any kind to carry a bell, but the interior bore marked traces f cuttings having been subsequently made for this or sor purposes of the kind. It may have been that the bell w rung by the hand from the top storey, or that the small be of the period were suspended on a timber frame-work st ported from the top floor—at least, such an arrangement w possible. Judging of this remote and early Christian perio so far as we can glean from the meagre history of the tim the Irish ecclesiastics of the period were quite as skilled in e arts and sciences as the inhabitants of any other Europn country. It is at all events quite evident that the towers, if t chiefly constructed as places of refuge, were at least used r that purpose afterwards. Taking into account the fact th the country at the time was governed by provincial kings a petty chieftains, who were eternally at war and raiding e other's territory, there must have been but little security r

* A paper read by Mr. Antony Scott, M.S.A., at the meeting of the Society of Architects on April 27.

er life or movable property. It is a well-known fact that domestic architecture of the Middle Ages was designed and structed to meet the requirements of lawless times; it is efore quite reasonable to suppose that ecclesiastics had to to their own security and that of their effects. They ld not build their churches and dwellings within fortifications; y built in the open plains and valleys and were consequently osed to the attacks of marauding freebooters—men who d by rapine and would carry off church property with as y a conscience as that of any ordinary laymen.

Dr. Lanigan says he sees no reason to deny that the round ers were erected before Christianity, and that their title ves them to be very ancient. To this haphazard contention Petrie replies:—"I see every reason to deny that they were for not the slightest evidence has ever been adduced to ve that the Irish were acquainted with the art of building lime cement before they received the Christian faith, and architecture and masonry of the towers and that of the ient churches erected before the twelfth century, of which ne hundred still exist, are the same in every respect." Not a dow of historical authority has ever been adduced to show t lime mortar or cement or any kind other than common y or mud had ever been used in any stone-built structure erior to the introduction of Christianity, nor for some time rwards, as we have undeniable evidence that many of the y churches were of timber construction.

The Very Rev. Dr. Fahey, vicar-general of the diocese of nacduagh, in a work published in 1893 entitled the "History Antiquities of the Diocese of Kilmacduagh," devotes a pter to the subject of the round towers generally, but e particularly to the round tower of Kilmacduagh in his extensive parish. There is perhaps no writer in Ireland he present day better qualified to deal with the subject than Fahey. He is a gentleman of rare intellectual abilities, sessing the great advantage of being an excellent Celtic olar.

Dr. Fahey considers that the round tower of Kilmacduagh y no means the earliest stone building at Kilmacduagh, but e is a close affinity of style between the masonry of the d tower and that of the cathedral church, which undbtedly is one of the latest buildings at Kilmacduagh. The onry in the lower part of the tower and church may be ed cyclopean, if the term is admissible in closely-jointed n stone of great size. There is another peculiarity in the onry which I have not seen elsewhere, except in the west of the cathedral church at Glendalough, namely, a peculiar hing or checking of some of the large stones. This tower 10 feet in height, the circumference at base 56 feet, and is about 2 feet or 2 feet 6 inches from the perpendicular; in respect it is frequently compared to the leaning tower of a. The doorway measures 6 feet 10 inches high, circular ded, the arch being cut out of a single stone, the jambs ine slightly towards the top, the sill stands 26 feet from ground. The historian Archdale puts this down as leaning feet out of the perpendicular, or 4½ feet more than the r of Pisa. This is a fair sample of reckless writing. It be well explained here what I believe to be the sole and cause of the leaning of this tower. It may appear strange, it is nevertheless a fact that the ancient ecclesiastical dings, including the round towers, have practically no foot- courses and very little foundations. In the case of the er the walls at foundation are generally very thick, and in way being circular, and from 13 feet to 18 feet in diameter, be said to practically cover the whole area within the rnal circumference. The foundation at Kilmacduagh is et to 5 feet 2 inches thick. The tower is built upon soft etable earth, and very possibly upon Christian graves, as e human skeletons were found side by side, partly in the re and partly under the foundation of the tower, and facing east, which is the general mode of Christian sepulture in and. The depth of rich brown vegetable earth between lower footing course and the undisturbed virgin earth varied n about 22 inches on the east side to 26 and 28 inches on west side. It can be easily conceived that the leaning of tower towards the west was due to a greater depression sed by the immense superincumbent weight on the thick r of soil on the west than the lighter layer on the east. re cannot be the slightest doubt as to the tower having n built in a Christian burial-ground, and on the top of istian graves. Similar excavations have been made with a result in the towers of Kilkenny, Ardmore and Drumbo, &c.

Dr. Fahey states (p. 87), referring at considerable length the above excavations, that those who may accept this soning would have no difficulty in admitting that the tower Kilmacduagh was built by Christian hands and for Christian poses. Continuing he says:—"We know that the period of ce which followed the death of Tirgesius was utilised for the onstruction of the many churches that were either wrecked destroyed during the troubled period of the Danish wars, it is at that period that we find our annalists notice for the t time the existence of our towers."

The need of some such structures must have been long and widely felt. There is no question raised as to the suitability of this and similar structures of safety for ecclesiastics and their treasures. The masonic character of the tower of Kilmacduagh, the great height of 26 feet at which the door is placed, would seem to render it almost impregnable at a time when the use of artillery was unknown. It is very noteworthy that the uses of such fortresses continued to be felt even in the fourteenth and fifteenth centuries. Dr. Fahey, unlike other writers, puts his views of the Christian origin of the towers with great modesty before the public. He is, nevertheless, strongly impressed and convinced that the towers were built by Christian hands and for Christian purposes.

The latest published work which I have met with, devoting a chapter to the round towers, is "Devenish: its History, Antiquities and Traditions," by the Rev. James E. McKenna, C.C., M.R.I.A., Enniskillen. The work is beautifully illustrated and gives a fine photo view of the tower, a section to scale, as well as various details and measurements. The total vertical height of the tower of Devenish is 81 feet 6 inches; circumference at base, 49 feet 9 inches; immediately under cornice, 42 feet 7 inches; cone capping perpendicular, height, 14 feet 10 inches. The door is 8 feet 6 inches over plinth, and measures 5 feet 3 inches in height by 2 feet in width, having a semicircular arched head, the arch being formed of five stones neatly and closely jointed. The jambs and arch are decorated with a flat band or architrave. Immediately under the spring of the arch is a stout iron hook to receive the door hinge, while directly under this there is a socket to receive the heel spud of door; on the opposite side of doorway is a hole evidently intended to receive a bolt. The tower was divided originally into five storeys, the floors having been supported on offsets, which run all the way round the interior and project about 6 inches. Between each two offsets are a pair of corbels, evidently intended to support stairs. On a level with the cornice and immediately under the conical cap there is a similar string-course which could not be intended to support a floor, as the space in attic would be very limited indeed. The top storey is lighted with four square openings; each of the other storeys has one opening. The most interesting feature of the tower is the richly sculptured cornice under the cap, which displays four quaintly carved human heads over the four windows. The stones of both interior and exterior are dressed to the required course, which justified Archdale in comparing it to a "gun barrel."

Like Dr. Fahey, Father McKenna is not only of opinion, but positively certain, that the tower is by no means one of the oldest buildings at Devenish. Anyone, he says, making an inspection of the masonry of the tower and that of St. Molaise's house, will see that the more hoary antiquity is by a long way in favour of the house.

Sir William Wilde observes in his "Beauties of the Boyne and Blackwater" (p. 12):—"It is very remarkable, as we already observed, how frequently we find some of the earliest Christian remains in the vicinity of Pagan mounds, tumuli and other similar ancient structures, as if the feeling of veneration remained round the spot; and though the grove of the Druid was replaced by the cashel of the Christian, still the place continued to be respected, and the followers of the early missionaries raised their churches and laid their bones in those localities hallowed by the dust or renowned by the prowess of their ancestors. Until within the last three centuries, which may be styled the dark ages of Ireland, each succeeding generation appeared to vie with its predecessor in the elegance and beauty of its architecture. The pillar stone, enlarged and decorated, grew into the sculptured cross, the hermit's cell became the cloistered monastery, the small belfry, with its small bell and with its cashel, rose into the stately tower."

Further, at p. 146, the same respected author says:—"The conclusion arrived at by Dr. Petrie with respect to the origin and uses of the round towers of Ireland cannot be too widely disseminated or too generally known, as moreover the tower at Kells, and that at Donaghmore on the Boyne, near Navan, are even to the tourist and popular reader highly confirmatory of his views."

Having regard to these undoubted facts, and to hundreds of other unimpeachable evidences which it is unnecessary to introduce here, we may, I think, very reasonably conclude that the towers do not nor could not possibly belong to pre-Christian times, and with these remarks I pass on to give a general idea of their construction.

Description, Construction, &c.

In describing the construction and characteristic features of the towers I cannot do better than quote Dr. Petrie, for my experience is that he has most accurately described them in every detail. I found it much easier work to sit before the round towers with his book in my hands and compare his written description with the actual building, than to follow him while he combated the wild, absurd and false theories of a host of writers from the days of Gerald Barry, better known

as "Geraldus Cambrensis." These towers are round cylindrical structures, usually tapering upwards and varying in height from 50 to perhaps 150 feet, and in external circumference at the base from 40 to 60 feet or somewhat more. They have usually a circular projecting base, consisting of one, two or three steps or plinths, and are finished at the top with a conical roof of stone, which frequently, as there is every reason to believe, terminated with a cross formed of a single stone. The wall towards the base is never less than 3 feet in thickness; it is usually more, and occasionally 5 feet, being always in accordance with the proportions of the building. In the interior they are divided into storeys varying in number from five to eight, as the height of the tower permits, and usually about 12 feet in height. These storeys are marked either by projecting belts of stone, set-off ledges or holes in the wall to receive joists on which rested the floors, which were almost always of wood. In the uppermost of these storeys the wall is perforated by two, four, five, six or eight apertures, but most usually four, which sometimes face the cardinal points and sometimes not; the lowest storey, or rather its place, is sometimes composed of solid masonry, but instances of this kind would appear to be very rare. When not so, it has never any aperture to light it. The second storey is usually perforated by the entrance doorway and generally from 8 to 30 feet from the ground, and only large enough to admit a single person at a time. The intermediate storeys are each lighted by a single aperture placed variously and usually of very small size, though in some instances that directly over the doorway is of a size little less than the doorway, and would appear to be intended as a second entrance. I do not agree with Petrie in this assumption. I have never met with an example of a window over the entrance doorway which impressed me with the idea that it was ever intended to be used as an auxiliary to the doorway proper. The large window over door was more probably used for protecting the door. The door of Devenish Tower was clearly forced from the outside at some time. If there was no means of protecting the door, what was to prevent the attacking party forcing it?

In any of the views shown herewith, gentlemen present can see the real and true reproductions of many of the existing towers and can draw their own conclusions. In their masonic construction the towers present a considerable variety, which I assert goes a long way to prove my suggestion that in these buildings, as well as in every other class of architectural structures, there has been great development from things poor and simple (like the round cells and houses at the start) to the beautiful and lofty tower at the finish as ages rolled by. The generality of those which now exist are built of that kind of careful masonry called spawled rubble, in which small stones, shaped by the hammer, are placed in every interstice of the larger stones, so that very little mortar appears on the surface of the finished wall, and thus the outside of spawled masonry especially presents an almost uninterrupted surface of stone, supplementary splinters being carefully centred in the joints of the undried wall. Such also is the style of masonry of the most ancient churches, but it should be added that in the interior of the walls of both grouting is generally, but not always, abundantly used. In some instances, however, the towers present a surface of ashlar masonry (but rarely laid in courses perfectly regular) both externally and internally, though more usually on the exterior only, and in a few instances the lower portions of the towers exhibit less of regularity than the upper parts.

In their architectural features an equal diversity of style is observable, and of these the doorway is the most remarkable. When the tower is of rubble masonry the doorways seldom have any decorations, and are either quadrangular and covered with a lintel of a single stone of great size, or semicircular and headed either by the construction of a regular arch or the cutting of a single stone, hollowed out to resemble an arch. There are, however, two instances of very richly-decorated doorways in towers of this description, namely, those of Kildare and Timahoe. In the more regularly-constructed towers the doorways are always arched semicircularly, and are usually ornamented with architraves or bands on their extreme faces, and sometimes a roll moulding. The upper apertures but very rarely present any decorations, and are most usually of a quadrangular form. They are, however, sometimes semicircular headed, and still oftener present the triangular or straight-sided arch. I should further add that in the construction of this aperture very frequent examples occur of that kind of masonry, consisting of long and short stones alternately, but more generally considered by antiquaries as a characteristic of the Saxon architecture in England.

As already referred to, the stones used in the construction of the towers varied with the locality in which they were built, and consisted generally of blue limestone, which is the most general formation of the country—black calp, green clay, mica slate, a little granite, generally in doorways, as at Glendalough, and sandstone, &c. Writers of the Pagan origin school find it difficult to account for the Christian emblems connected with the towers, and to get out of the difficulty they assert that the features have been inserted in Christian times when the towers were turned to Christian use. This is a very great fallacy; experience of alterations in old buildings is that nothing more easily discovered or more plainly visible than an alteration. If we are making good a defect in an old building these days, we try to imitate the character of the old work as far as it can consistently be done; but the ancients never paid any attention to the character of the work with which they were dealing, nor to the bonding of the new work with the old for the purpose of concealing the connection.

As a proof of this I may state that the primitive stone-built churches from the days of the circular churches, without exception, were all quadrangular on plan. The peculiar oratory of Gallerus would appear to be the first transition from the round to the square, but in latter years the majority of these churches have had small chancels added to them at the eastern end in all cases, and cutting away the east end wall of the church and forming an arched opening in same to connect it with the older church, or what then became the nave. In some cases new doorways and new windows were introduced, and in all such additions, alterations or improvements there has been no attempt at imitation, bonding or interlocking the new work with old.

The round towers have been less tampered with or altered than any other class of architectural remains in the country. There are instances of alteration, such as battlemented tops to Kildare and Cloyne, the stunted capping which replaces the original conical capping, as at Donaghmore, co. Meath, and Lusk, co. Dublin. In the construction of the towers each architect seemed to follow his own fancy (except in rotundity alone), so much do they vary in height and in the disposition and number of the apertures and height the different doorways stand from the ground.

Height of Towers.

I feel assured that this was proportioned to the surrounding ecclesiastical buildings and to the requirements of the place (see quotation from "Life of S. Senan, Devenish," p. 52).

It becomes evident, when we compare the towers now remaining with one another, that very considerable developments of knowledge, with progressive skill in the art of building, may be traced in the various examples, and that the signs of change are analogous to that which took place in the church architecture of Ireland after the eighth century. The transition from coarse rubble masonry with square headed openings to neatly dressed and coursed ashlar, with circular head and moulded arched openings, has evidently been of slow growth. The remains of the existing towers might be classified into three or four distinct groups, showing the transition from those built with unhammered field boulders, and those building having circular arched moulded openings, with correctly radiated arch joints and moulded architraves, as at Timahoe, Armadown, Temple Finan, Kells, O'Rorke's Tower, Disert O'Dea, &c. The first circular headed openings in both church and tower were formed or scooped out of one large stone which formed the lintel, and was generally the full width of the wall. In the case of window openings of the churches, these were very small openings on the outside and deeply splayed on the inside. In the case of the tower openings, the top lights were seldom, if ever, splayed, but the smaller openings are slightly splayed. As regards the suggestion that the towers have been surmounted by crosses composed of a single stone we have at least one example—that of Ardmore.

In Dr. Smith's "History of Waterford," published early in the seventeenth century, he has given an illustration of the tower of Ardmore, showing the cone to have terminated with a cross, and so satisfactory was the evidence in the case that when the tower was being restored in 1875, the cone was surmounted by a terminal in the shape of a Celtic cross. At Glendalough the whole cone or cap was missing at the time the ruins were vested in the Board of Works as national monuments, but a large amount of the original stones which formed the capping were found in the burial-ground in the centre of which the tower stands. The most important stone found was the apex stone, which like that of Ardmore had a deeply cut socket about 4 or 4½ inches square, which could be there for no other purpose than the reception of the shaft of a terminal, and I think it requires no great stretch of imagination to assume that such terminal was neither more nor less than a representation of a cross of some kind. The apex stone at Glendalough occupies to-day the same position which it occupied centuries ago, minus the terminal cross. The conical cap was rebuilt principally with the old stones and the apex stone replaced, but the Government authorities in conjunction with the Church Temporalities Commissioners decided not to replace the cross, considering it more desirable to still leave the question of the Christian origin of the towers open for discussion.

One of the buildings at Glendalough is a stone-roofed church, and one of the finest specimens of its kind in Ireland.

the western gable of this church rises a small belfry tower, exact facsimile of the large round tower which stands at a ance of about 60 or 70 yards away. This building is sup- ed to be the first attempt in Ireland to unite church and er. That it has been built with the church cannot be denied ; equires no expert knowledge to prove this. Anyone can see be part and parcel of the stone roof of the church. This ll tower has an apex stone identical in every respect to the x stone of the large tower, and it has also a socket for the eption of a terminal, which terminal must have been a istian emblem, and that emblem must of a certainty have n no other than a cross. We have crosses in relief over the rways of the towers of Antrim, Donaghmore, co. Meath, Brechin, in Scotland, a round tower built by Irish sionaries, and no person will, I think, attempt to deny that se crosses in relief are coeval with the said towers. If they e incised crosses there would be room for argument, for y could be incised at any time since the erection of the ers. Having these crosses and figures of the Crucifixion ed on the lower portions of the tower, is there any valid son to deny that the conical cap of the towers terminated h a cross? So far as my judgment and experience goes, I no just reason for doubt.

I fear, Mr. President and gentlemen, that I have tres- sed too much on your patience with a subject which receives little attention from present-day architects in the rush and bustle of new developments and new patent building terials and fittings, &c. The antiquities of Egypt, Greece, ne and other Eastern countries have at all times received earnest attention of England's best architects, historians antiquaries, while those of the sister isle have been prac- lly ignored. I think, gentlemen, you will admit that this ot as it should be, and if I could only succeed in stimulating n a little interest in the subject of Irish antiquarian research, ould not consider my humble efforts had been made in vain. all conclude with a verse from the beautiful poem of Mr. is Florence McCarthy :—

The pillar towers of Ireland, how wondrously they stand
By the lakes and rushing rivers and valleys of our land,
In mystic file throughout the isle they lift their heads sublime,
Those grey old pillar temples, those conquerors of time.

ART STUDENTS AND ST. PAUL'S CATHEDRAL.

ON Saturday afternoon, at 30 Fitzroy Street, representatives from the Academy, Slade, Westminster, Birkbeck, and er metropolitan schools of art, assembled for the purpose of testing against the "Desecration of St. Paul's." That was heading of a circular issued by Mr. Max West, of the Slade ool, addressed to the art students of London, protesting inst "the atrocities of the design, the meanness of the terns, the crudity of the colour, and the vulgarity of the le," also against the treatment in Romanesque style of a naissance building, the "petroleum stencilled frieze," and e audacious demolishing of the stonework of the structure lf to provide a bed for these detestable mosaics." It was declared that since the so-called decorations of St. Paul's e been encroaching actually on the substructure of the hty dome itself, a great feeling of indignation has arisen. en good decoration would be out of place, superfluous, and erly contrary to the expressed wish of Wren. The circular t on to say that "we feel assured none who have at heart preservation of the masterpiece can submit to see the rious memory of its illustrious author thus insulted, or can less than their utmost to avert what can only be regarded as ational calamity."

Mr. Max West took the chair, and suggested first of all the irability of a public procession by way of a protest against action of the Dean and the "decorations" of Sir W. hmond ; but subsequently he thought that a petition to the an would perhaps be the best initial action. Mr. Jones, of Slade School, said there was no doubt that the stencilling uld be taken down, and a polite letter should be sent to the an stating their views. Mr. Wellington, of the Royal ademy School, said that if a petition were sent round to the students for signature, their opinions with regard to the cession could be invited. Mr. John said that the opinion of dents who had given their lives to art ought to have more ight than that of the general public, and therefore should be ivered with more emphasis.

A student of the Slade School said it was no use to expect Dean to take down the stencilling or anything else, and y might just as well make up their minds that a public pro- ssion would be necessary. They need not consider the sceptibilities of the Dean beyond a certain point, and then other student declared that Sir William Richmond had had e audacity to pervert the original lines of the building, and a otest against such desecration would, he believed, be sup- ported not only by those best able to judge from an art point of view, but by the public at large.

Eventually it was resolved that an executive committee be formed, to consist of representatives of the different art schools, in order that they might draw up a petition and consider the subject of the procession, and that Mr. Webb (Westminster), Mr. Orpen (South Kensington), Mr. Wellington (Academy), Mr. John (Slade) and Mr. West, their secretary, be on the committee. It was asked whether the procession was to be with banners, bands, &c., and the chairman said that that would be a matter for the committee to consider. At this stage a Mr. Percy Freund asked to be allowed to speak and, permission being given, he endeavoured to introduce the question of ritualism, but his observations were received with hisses. Mr. Wellington said they did not wish to bring religion or any matter into the subject, except art. It was decided to print a report of the proceedings, and to send a copy to each of fifty influential persons, asking for comment upon or an expression of sympathy with their protest.

TUDOR HOUSE, BROMLEY-BY-BOW.

ON behalf of the National Trust for Places of Historic Interest or Natural Beauty, Sir Robert Hunter has addressed a letter to the chairman of the London County Council on the subject of the proposed demolition of "Rutty's House," or more properly Tudor House, Bromley-by-Bow, E. The land adjoining the house is to be preserved as an open space, and Sir R. Hunter says that the executive committee of the National Trust contend that the amenity of the open space would be seriously impaired by the destruction of the house. East London possesses, he says, too few relics of the reigns of Elizabeth and William III. (to both of which periods much of the work may be assigned) to be able lightly to dispense with them. The committee also urge that there is no adequate reason for the destruction of the house. The addition to the area of open space obtained by removing the house would be insignificant, and the repairs would involve no great expense. It is also pointed out that another committee of the Council have indicated that the house is a building which should be preserved.

Mr. C. R. Ashbee says :—It will be remembered that not long ago the historic buildings committee of the London County Council decided to issue a register of interesting London buildings that were to be preserved if possible, and a number of experts were invited to advise the Council as to which buildings should be recorded for preservation. Among these is Tudor House, one of the last remaining of the Elizabethan houses of Bromley, a building in part of the early portion of Elizabeth's reign, and containing much beautiful work of the period, besides being connected with the Scotch colony planted in Bromley by James I. This house, with the extensive grounds adjoining, has now come into the Council's hands, and while the historic buildings committee have recorded it for preservation, the parks and open spaces committee have determined that it shall be destroyed. There do not appear to be any cogent reasons why the house should not be left alone, as it does not interfere with the open space, and would be useful as a home for the Council's servants. But house or no house, may we not ask that the point of principle should be considered? The advice of experts has been asked—this advice should have been adhered to. Perhaps the making public of the absurd anomaly by which the Council destroys with one hand the work it is seeking to preserve with the other, may save it from inaugurating the publication of its forthcoming protest against London vandalism by the destruction of one of the buildings it has itself registered for preservation.

EXCAVATIONS AT SILCHESTER IN 1898.

A PAPER was read at the meeting of the Society of Antiquaries by Messrs. W. H. St. John Hope and G. E. Fox on the 4th inst. upon the results of last year's excavations on the site of the Roman city of Silchester. A large number of the antiquities found were displayed on the table and walls. Conspicuous amongst these were a quern, with its wooden handle still remaining intact, a sepulchral urn containing burnt human bones, a tile inscribed "Satis," the usual array of pottery and some fine mosaic pavements. The insulæ (or rectangular blocks between the streets) explored in 1898 lie next the city wall on the south-west, between the small postern gate in the west wall and the south gate. As the result of nine years' work twenty blocks, covering an area of 65 acres out of a total of 100 acres within the walls, have been explored, and all the buildings found therein plotted on a plan. Between Insulæ XIX. and XX. and the city wall is a triangular piece of land (what ladies would call a gusset) which was also excavated. Insula XIX. proved to be decidedly the most interesting. It differed from all the

other insulæ in being entirely enclosed within a wall, measuring 384 feet from north to south and 271 feet from east to west. Within this enclosure was a remarkably fine house of the better class, built round a courtyard and having the usual winter rooms heated by hypocausts. Adjoining the house on the south side was a large workshop and in the yard outside were two water-tanks. Mr. St. John Hope suggested that the tanks possibly indicated the existence of a tannery. The size and importance of the house may be gathered from the fact that it presented a frontage of 166 feet to the road. At the south-west corner of Insula XIX. the sepulchral urn containing incinerated bones was discovered. At the depth of 1 foot 9 inches below the foundations of the mansion in Insula XIV. were discovered the remains of an earlier house, built partly of timber and having a very remarkable tesselated pavement. The design of the pavement indicates, as Mr. G. E. Fox pointed out, that it was probably of the first century A.D., and that therefore the house to which it belonged was, if his views were correct, the earliest yet found on the site. The ornament consists of elegant scrolls of foliage resembling the painted designs at Pompeii and on Samian ware, thus differing altogether from the later mosaic pavements in which the plait or braidwork and the Greek fret predominate. Mr. Alma-Tadema agreed with Mr. G. E. Fox that the pavement was an attempt to imitate painting in mosaic rather than the product of a true artist in mosaic. In the discussion which followed Mr. F. Haverfield said that the plan of the city as now revealed to him by the last nine years' excavation seemed to show that the builders copied a Celtic rather than an Italian model. Mr. C. H. Read, of the British Museum, called attention to the fact that none of the glass vessels dug up showed any trace of iridescence, which he attributed rather to the composition or fabric of the glass than to the conditions of their burial during the last thousand years. Sir Henry Howorth said he had for years been endeavouring to induce his friend Mr. Alma-Tadema to turn his attention to Britain during the Roman occupation, and to choose as the subject for his next Academy picture a Roman general engaged in some such really noble work as driving the Picts and Scots beyond the Antonine Wall.

THE SURVEYORS' INSTITUTION.

THE following student candidates (in Sub-Divisions I. and II. only) have passed the examination for the professional associateship :—Rowland William Alderson, John William Wilson Armstrong, Clement Joseph Bentley Bridgewater, Basil Vassar Bruton, Geoffrey Redmore Church, George Harry Cole, George Edwin Cragg, George Herbert Croft, Henry Dann, jun., John William Statterley Humphreys Davies, James Caulfeild Goff, Alfred Goodman, John Sebastian Hall, Lancelot Gouldar Hawkins, Michael Anselm Hindmarsh, George Howland, Percival Hurlbutt, Ninian P. Laird, Sydney Martin Lampard, Henry Lemmoin-Cannon, Edward Adrian Lumley, Sydney Mager, Thomas James Meaby, jun., Frank Percy Pratt, Thomas Reginald Ransom, Douglas William Reeve, Maurice Charles Riddett, Arthur Dennett Rutley, William Henry Sanday, Stanley Lunau Sandell, John Henry Simpson, John Ambrose Smith, Frank Vincent Tait, Frank Treacher Terry, Cyprian Charles Oswald Whiteley, Sydney Prudden Wigley, Arthur Codrington Williams, Thomas Henry Wright.

The following non-student candidates (in Sub divisions I. and II. only) have passed the examination for the professional associateship :—Frederick George Barker, Edmund Brand, Frederick George Brooker, William Nathaniel Brooks, Richard Herbert Chichester, Leonard Eustace Clarke, James Thomson Cole, Edward Arthur Cook, Hollis Augustus Crook, Herbert Hood Daniel, Robert Harvey Addington Delves, James Murgatroyd Dickinson, Eustace Cyril Theodore Dodd, Dugdale Oakeley Dunlop, Hugh Wicksted Ethelston, Alfred Charles Stanley Fowler, William Pope Genge, jun., Arthur John Hooley, Arthur Ernest Hope, George Whitaker Hunt, George William Calver Kelly, Albert Daniel Lomas, Dyneley Luker, Humphrey Dod Lynes, Douglas Samuel Matthews, Frederick Walter Merrick, Emmanuel Joseph Oram, Herbert Mostyn Parry, John Stonehouse Petch, Roger Prosser, Alfred Ernest Protheroe, Philip Robertson, Samuel Messiter Rowlandson, Arthur Lionel Rutter, Hubert Covell Sands, Robert Stephenson, jun., Edward Frederick Stimson, Francis William Terry, George Thomas, Richard Squire Thorne, Arthur Tighe, Henry Turner, Marcus Oswald Type, David Alexander Watson, James Bernard Witham, Donough Richard O'Brien, George Pakenham Stewart.

The following professional associates (in Sub-division I. only) have passed the examination for the fellowship in Division IV.:—Sydney Wood Ambler, Geoffrey Clinton Baker, John Bowyer Bird, John Friendship Bowden, William Newbegin Brackett, Albert Ernest Butler, Charles Tylee Cronk, Frederick Russell Fox, Robert Strachan Gardiner, Douglas Fleet Goldsmith, James Gunter, John Edward Harrison, Mackinto Meleng Holl, John Murray Kerr, William Henry Morr Roger William Oldnall, Horace Clare Waterfield, Regina Spencer Wigram, Thomas John Young.

The following candidates (in Sub-divisions I. and II. onl have passed the direct examination for the fellowship :—Frar William Booker, William Harold Eve, Samuel Brown Saunder Arthur Courtenay Scott-Smith, Thomas John Woodrow.

The results as regards Sub-division III. of the variou divisions, and the Fellowship Examination in Sub-division II Division IV., together with the award of prizes, will b announced later on.

The following candidates (in Divisions II., III., IV. and V have passed their re-examination in their typical subjects :- George Alfred Cutler, Tom Percy Hartley, Edward Robe Hinchsliff, Hudson Little, Henry Arthur Newman, Shirle Herbert Potter, Arthur Henry Tyack, Arthur Wesley Crampto Alan Herbert Howgrave-Graham, Alexander Pearson Joll Walter Bernard Laurence, Ernest William Moat, Dougla Smith, Percy Newton Wilkinson, Francis Edward Yewdal William Thomas Cresswell, Thomas William Harris Taylor.

GENERAL.

Mr. Pittendreigh Macgillivray, A.R.S.A., has bee selected as sculptor for the large statue of the poet Byro which is to be erected in front of the Grammar School Aberdeen.

Messrs. Newton & Cheadle, of Birmingham, have pre pared plans for a building in flats which is to be erected at th corner of John Bright Street, Station Street and Suffolk Street

Mr. P. W. Smith has won the travelling studentship of the Royal Manchester Institution. He is to visit Paris, Venice, Florence and Rome. On his return he is to submit the work executed abroad.

Mr. W. H. Bidlake, M.A., is the architect for the new branch of the Birmingham School of Art at Balsall Heath. The foundation-stone was laid on Monday by Alderman W. Kenrick. Messrs. Smith & Pitts are the builders.

Mr. Weir, of the Eglinton Iron Company, has presented to Kilwinning Eglinton village an institute which will cost several thousand pounds. The building will have a frontage of between 200 and 300 feet, provision also being made for the construction of a tower and clock.

Mr. Robert Whyte has been appointed clerk of works for the buildings of the Glasgow International Exhibition.

The Plans of Professor Wallot, the architect of the Reichstag, for a new States House at Dresden have not been approved, as the edifice would have considerably shortened Brühl's Terrace.

The Walsall Town Council have granted a lease of a site in Park Street, at a rent of 300*l.* a year, to the Walsall Theatre Company, Limited, for a new theatre.

Messrs. Ford & Slater have been instructed to prepare plans for the enlargement of the Bradwell Sanatorium, Burslem.

The Dublin Museum has been enriched by the following additions :—An interesting specimen of early seventeenth-century room panelling from Sweetman's Brewery, Dublin; ring with miniature, bracelet with miniatures in clasps, and ancient stone moulds for casting bronze implements.

A Paper on "The Artistic Treatment of Picture Frames" will be read by Mr. J. Hunter Donaldson at the meeting of the Applied Art Section of the Society of Arts on Tuesday next.

The Surveyors' Institution will be closed from May 16 to 25 (both inclusive) to facilitate the removal to the Society's new house, 12 Great George Street, Westminster, to which all communications should be addressed on and after May 24.

The Next Excursion Meeting of the Northern Architectural Association will be held to-morrow, Saturday, May 13. The Coach Lane new Board school will be first visited. The party will then proceed by the ferry to South Shields, where the following buildings will be inspected in rotation :—New Variety Theatre, Britannia Hotel, new residences at Westoe and Mortimer Road Board schools.

Mr. T. Ross, in his retiring address as president of the Edinburgh Architectural Association, recommended union between the Architectural Association and the junior Architectural Society. He said that so far as they existed for the public good their influence would be much greater after such a union than now, as only on one point was there any difference between the two, viz. that the Association consists of architects and laymen, while the Society is composed of architectural assistants and others connected with the profession.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. on Thursdays.

NEW READING CASE.

To Librarians of the Public Libraries and Readings.—A new handsome Reading Case can be supplied nominal charge of 2s.. by post 2s. 6d., on early lication to the Publisher, Imperial Buildings, Ludgate is, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

ESIGNS invited for a new patent stove. Premium 25*l.* ssor, Geo. B. Haite. Particulars from 159 Victoria Street, minster, S.W.

ARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* fered for designs for erection of a new Kursaal, &c., in ction with the Spa Concert Room. Cost not to exceed 0*l.* Mr. S. Stead, Municipal Offices, Harrogate.

PLUMSTEAD.—July 27.—Designs are invited for proposed new municipal buildings and public library, at a cost of about 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

SALFORD.—June 6.—Premiums of 30*l.*, 20*l.* and 10*l.* are offered for designs for laying-out the site of the Infantry Barracks, and for erection thereon of public hall, shops and model cottages. Borough Engineer, Town Hall, Salford.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ANNAN.—May 27.—For building Brydekirk Library Hall. Mr. Wm. Thorburn, Schoolhouse, Brydekirk, Annan.

ALDERSHOT.—May 15.—For carrying-out of certain brickwork, drainage, painting, &c., at the Aldershot Town Cemetery. Mr. Richard Eve, clerk, Station Road, Aldershot.

ALTRINCHAM.—May 22.—For erection of a new church of St. Alban's, Broadheath, Altrincham. Messrs. Austin & Paley, architects, Castle Hill, Lancaster.

ASHTON-UNDER-LYNE.—For erection of two houses. Mr. Thomas D. Lindley, architect, Market Avenue, Ashton-under-Lyne.

ASKRIGG.—May 20.—For erection of stone bridge at Bowe Bridge, near Askrigg. Mr. Walker Stead, county surveyor, Northallerton.

BASFORD.—May 22.—For erection of wood-chopping shed, joiner, fitter, shoemaker and tailor's workshops, new staircase to chapel and lavatories at the Basford Union Workhouse. Mr. William V. Betts, architect, Radford Road, Old Basford.

BATTERSEA.—June 7.—For supply and erection and carrying out of work in connection with the electric lighting of the parish. Vestry Clerk, Municipal Buildings, Lavender Hill, S.W.

BEDALE.—May 27.—For erection of a manse and a pair of cottages. Mr. William Peachey, architect, 3 Amber Street, Saltburn.

BELFAST.—May 17.—For erection of an additional sanatorium at the Campbell College. Mr. Stephens, building surveyor, Donegall Square Buildings.

BELFAST.—May 22.—For erection of buildings in the townland of Carrigenagh, in the Silent Valley, near Kilkeel; also the townland of Mullartown, in the Annalong Valley, near Annalong; also for erection of six linesmen's cottages on the line of the New Mourne aqueduct, near to Newcastle and Ballynahinch, co. Down. Mr. Acheson Ferguson, quantity surveyor, 35 Royal Avenue, Belfast.

BEXHILL.—May 15.—For building electric-lighting station. Mr. A. H. Preece, 13 Queen Anne's Gate, Westminster.

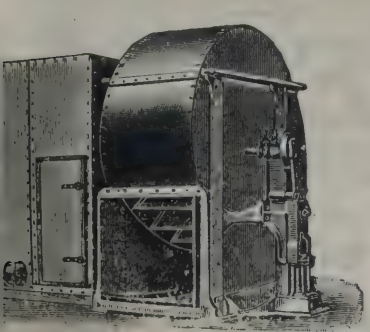
BRADFORD.—For erection of a pavilion at Hawksworth. Messrs. Isitt, Adkin & Hill, architects, Prudential Buildings, Bradford.

BRIDLINGTON QUAY.—May 16.—For erection of two houses and three shops. Mr. J. Earnshaw, architect, Carlton House, Bridlington Quay.

BRIERLEY HILL.—June 6.—For alterations and additions to hot-water apparatus at the Brierley Hill Board schools. Mr. Thomas Robinson, architect, Victoria Chambers, Stourbridge.

BRISTOL.—May 15.—For building a school for the School Board. Mr. H. J. Jones, architect, 12 Bridge Street, Bristol.

BRISTOL.—May 16.—For building retaining walls. Mr. T. B. Yabbicom, 63 Queen Square, Bristol.



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CANNOCK.—May 20.—For building classroom, &c. Messrs. Bailey & McConnel, architects, Bridge Street, Walsall.

CARLISLE.—For picking and pointing of tower and steeple at the parish church, Uldale. Rev. G. F. Maynard, Uldale Rectory, Carlisle.

CHELTENHAM.—May 30.—For reconstruction of the Montpellier Baths. Mr. Joseph Hall, borough surveyor, Cheltenham.

CHERTSEY.—May 16.—For street drainage works. Mr. J. F. Stow, engineer, Windsor Street, Chertsey.

CORK.—For additions to Myrtle Hill House. Mr. Arthur Hill, architect, 22 George's Street, Cork.

CORK.—May 16.—For erection of two houses at Western Road. Messrs. T. Murphy & Sons, architects, 9 Marlborough Street, Cork.

COVENTRY.—For alterations to the Britannia Buildings. Messrs. George & Isaac Steane, architects, 22 Little Park Street, Coventry.

COVENTRY.—May 15.—For enlargement of playground and other works at Edgewick Board schools. Messrs. G. & I. Steane, architects, 22 Little Park Street, Coventry.

CROYDE.—May 16.—For erection of a summer residence at Croyde, Devon. Mr. Fredk. W. Petter, architect, Barnstaple.

CROYDON.—May 17.—For alterations and repairs at the sewage works, Byegrove Road, Merton. Mr. R. M. Chart, Union Bank Chambers, Croydon.

DARLINGTON.—May 30.—For erection of electric-lighting station. The Borough Surveyor, Town Hall, Darlington.

DARTMOUTH.—May 14.—For repairing and painting the market buildings. Mr. T. O. Veale, borough surveyor, Dartmouth.

EAST COTTINGWITH.—For erection of a classroom at the Board school, East Cottingwith, Yorks. Mr. John Thomas Slights, clerk.

EDGWARE.—May 17.—For erection of an addition to the infirmary and a new mortuary at the workhouse. Mr. F. J. Seabrook, clerk, Hendon Board of Guardians, Redhill, Edgware.

EDINBURGH.—May 16.—For construction of carmen's shelters. Mr. Thomas Hunter, W.S., town clerk, City Chambers, Edinburgh.

EDMONTON.—May 16.—For erection of schools at Silv Street, Upper Edmonton. Mr. John Moule, clerk, Sch Board Offices, Brettenham Road, Upper Edmonton.

EVESHAM.—May 31.—For erection of shops and residen in Bridge Street. Mr. G. H. Hunt, architect, Evesham.

FALMOUTH.—May 16.—For alterations at the drill h Mr. W. H. Tresidder, Falmouth.

FINCHLEY.—May 15.—For building new hall, &c., for Y.W.C.A. Mr. W. Hollis, Church End, Finchley, N.

FLEETWOOD.—May 16.—For supply of electric-li fittings, &c. Mr. Thos. Barton, Ainsworth Street, Bla burn.

GLASGOW.—May 16.—For works in building ten teneme for the Corporation. Messrs. Frank Burnet & Boston, ar tects, 180 Hope Street, Glasgow.

GLASGOW.—May 24.—For erection of a foreman's ho waiting-rooms and lavatories at the Ruchill Park. Mr. A M'Donald, city engineer, City Chambers, Cochrane Street.

GRIMSBY.—May 18.—For rebuilding Tetney and Huml stone Bridge. Messrs. Croft & Bentley, architects, Osbo Street, Great Grimsby.

GRIMSBY.—May 20.—For erection of buildings and chim shaft in connection with electricity works. Mr. Mars Petree, borough engineer, Grimsby.

HALIFAX.—May 16.—For reconstruction of warehouse West Vale. Messrs. C. F. L. Horsfall & Son, archite Lord Street Chambers, Halifax.

HAMPTON.—May 27.—For connecting with the pu sewer and sundry other works at the Volunteer drill hall. F. G. Hughes, surveyor, Estates Office, Hampton-on-Tham

HASLEMERE.—For erection of school buildings, Hasle Surrey. Messrs. Chancellor & Hill, architects, 12 Jewry Str Winchester.

HERNE COMMON.—May 15.—For alterations and additi to the workhouse. The Master, The Workhouse, Hee Common, Kent.

IRELAND.—May 13.—For erection of store-house for Creamery, Toams. Mr. P. J. Murphy, Castleview, Macroo

IRELAND.—For repairs to roof and walls of Donan Castle, co. Roscommon. Messrs. E. G. Armstrong & Mah Rent Office, Ahascragh, co. Galway.

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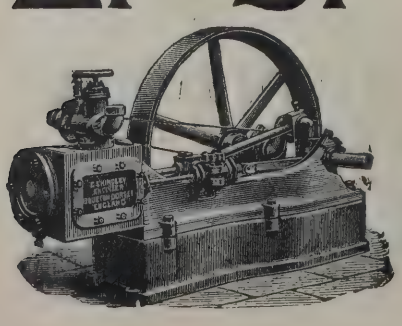
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[*Mention this Journal.*]

IRELAND.—May 18.—For erection of a rectory and offices a Ballyshannon, co. Donegal. Mr. F. W. Lockwood, a hitect, 16 Waring Street, Belfast.

IRELAND.—May 16.—For erection of an auxiliary creamery d Horn Hill, Lissarda. Mr. Eugene Corcoran, Bengour, Nwcestown.

IRELAND.—May 20.—For taking-down and rebuilding shop a l premises in Church Street, Athlone. Mr. J. G. Skipton, a hitect, Northgate Street, Athlone.

IRTHLINGBORUGH.—For erection of three dwelling-houses. M. M. R. Thompson, architect, Wellingborough.

KEIGHLEY.—May 20.—For erection of two residences at Ley, near Keighley. Messrs. W. M. & A. Sugden, architects, Keighley.

KEW.—May 16.—For constructing a filter bed in Kew Gardens. Clerk of the Works, Kew Place.

KIRBY MUXLOE.—May 22.—For constructing sewers, &c M. J. B. Everard, 6 Millstone Lane, Leicester.

LANCASTER.—For erection of two houses at Bentham. Mr. R Gorrill, Bentham.

LANCASTER.—May 15.—For taking-down and setting back o certain garden walls on the ramparts and works connected therewith. Mr. T. Cann Hughes, town clerk, Town Hall, Lancaster.

LANCASTER.—May 15.—For erection of a workshop at the electricity works. Mr. T. Cann Hughes, town clerk, Town Hall, Lancaster.

LANCASTER.—May 18.—For erection of fourteen houses in Sne Road, Skerton. Mr. W. Richmond, Slynedales, Skerton, Lancaster.

LANCHESTER.—For erection of ten six-roomed houses at Benhope colliery, near Lanchester. Plans and specifications ca be seen at the Colliery Office.

LEEDS.—May 20.—For building a parochial institute, Mr. Harry Walker, architect, 8 Upper Fountaine Street, Leeds.

LEEDS.—May 20.—For erection of a villa residence at Gforth, near Leeds. Mr. Arthur Hartley, architect, Carlton Chambers, Castleford.

LEWISHAM.—May 16.—For building two libraries. Mr. Oh Andrews, 13 Basinghall Street, E.C.

LIVERPOOL.—May 15.—For enlargement of the day room at Grove Mount, Penny Lane, and flooring, &c., of sitting-room at the Kirkdale Home, Rumney Road. Mr. H. J. Hagger, vestry clerk, Parish Offices.

LLANDEGFAN.—May 17.—For building chapel, schoolroom, &c. Mr. Joseph Owen, architect, Menai Bridge.

LONDON.—May 16.—For supplying and fixing additional plant at the Regent's Park electricity works. Chief Clerk, Electricity Department Offices, 57 Pratt Street, N.W.

LONDON.—For repair and redecoration of the Woodberry Down chapel, Seven Sisters Road, N. Messrs. W. Bradbear & Co., architects, Canonbury Station, N.

LONDON, N.—May 24.—For pulling-down and removal of certain buildings abutting on the site of the Vestry's electric-lighting station, Eden Grove, Holloway. Mr. Wm. F. Dewey, vestry clerk, Vestry Hall, Upper Street, N.

LOWESTOFT.—May 23.—For erection of an isolation hospital, caretaker's cottage, laundry and boundary walls at Oulton, near Lowestoft. Mr. Alfred Clarke, architect, 126 London Road, Lowestoft.

MANSFIELD.—May 24.—For building a new lock-up at Shirebrook, near Mansfield. Mr. J. Somes Story, County Offices, St. Mary's Gate, Derby.

MELTHAM.—May 15.—For erection of boiler-house, enlargement of engine-house, new engine-bed and other alterations at Brigg Mills. Mr. William Carter, architect, Meltham.

MERTHYR.—For pulling-down and rebuilding the New Inn hotel and premises adjoining in High Street. Mr. H. Tudor Thornley, architect, 100 St. Mary Street, Cardiff.

MIDDLESBROUGH.—May 20.—For pulling-down and making extensive alterations to premises 52 Linthorpe Road. Mr. Wm. Duncan, architect, 43 Albert Road, Middlesbrough.

MORECAMBE.—May 15.—For building three detached villa blocks at the County Lunatic Asylum. Mr. John Cresswell, architect, Moot Hall, Newcastle-on-Tyne.

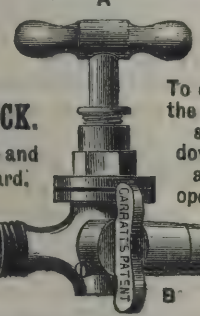
NAPLES.—July 10.—For construction of harbour and docks. Public Works Department, Rome.

NEW BROMPTON.—May 20.—For erection of villa in Gillingham Road. Mr. E. J. Hammond, architect, 111 High Street, New Brompton.

NEW CROSS.—May 24.—For building chimney-shaft and altering boiler-house, for the Metropolitan Asylums Board. Mr. E. Stanley Peach, architect, 28 Victoria Street, S.W.

PICKERING.—For alterations at the Black Swan hotel. Mr. A. D. Kaye, architect, 71 Albion Street, Leeds.

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PLYMOUTH.—May 17.—For erection of Wesleyan Sunday schools at Compton. Mr. Henry J. Snell, architect, 13 Courtenay Street, Plymouth.

PORTSMOUTH.—May 19.—For building drill-hall. Mr. Alfred H. Bone, architect, Cambridge Junction, Portsmouth.

RIPLEY.—May 15.—For additions to school. Mr. C. Hodgson Fowler, architect, The College, Durham.

RYTON-ON-TYNE.—May 14.—For rebuilding the Jolly Fellows inn. Mr. T. C. Nicholson, architect, Blaydon, Newcastle-on-Tyne.

SCOTLAND.—May 15.—For erection of the proposed new buildings at the corner of High Street and Lady Street, Annan. Mr. F. J. C. Carruthers, architect, Dumfries.

SCOTLAND.—May 15.—For additions and alterations at Arrat school. Mr. William Fettis, architect, Brechin.

SCOTLAND.—May 20.—For erection of house in Kleakin, Portree. Mr. J. A. H. MacKenzie, architect, Portree.

SHEFFIELD.—May 13.—For erection of a steam laundry, Pitsmoor. Mr. Edmund Winder, jun., architect, Corn Exchange Chambers, Sheffield.

SHEFFIELD.—May 16.—For erection of additional accommodation for seventy-two children at the Shire Green school. Mr. G. A. Wilson, architect, Hartshead Chambers, Sheffield.

SHREWSBURY.—May 17.—For building eight cottages and constructing new street. Mr. W. Chapple Eddowes, borough surveyor, The Square, Shrewsbury.

SOLIHULL.—May 15.—For erection of infirmary and tramp wards. Mr. W. H. Ward, architect, Paradise Street, Birmingham.

SOUTHAMPTON.—May 17.—For construction and delivery of a steel passenger and carriage floating bridge. Mr. C. W. Murray, Oriental Place, Southampton.

SOUTHAMPTON.—May 23.—For constructing sewers. Mr. W. B. G. Bennett, borough engineer, Southampton.

STALYBRIDGE.—For erection of clubhouse, for the Dukinfield Ward Conservative Club. Messrs. John Eaton, Sons & Cantrell, architects, Ashton-under-Lyne.

STOCKTON-ON-TEES.—May 15.—For building offices for the South Durham Steel and Iron Co. Mr. J. J. Wilson, architect, West Hartlepool.

STOKE-UPON-TRENT.—For erection of a retort-house. Mr. Wm. Prince, engineer and manager, Gasworks Office, Wharf Street, Stoke-upon-Trent.

TENDRING.—May 23.—For building infirmary wards. M F. Whitmore, architect, Chelmsford.

THRELKELD.—May 17.—For erection of two cottage Mr. Thomas Stuart, Threlkeld.

TYNE DOCK.—May 17.—For building 34 houses. M C. N. Wilkinson, North-Eastern Railway Company, York.

WALES.—May 15.—For enlarging the Llandaff, Llanda Yard and Maindy National schools. Mr. G. E. Halliday, arch tect, Cardiff.

WALES.—May 17.—For erection of a master's house Longtown, near Abergavenny. Mr. E. A. Johnson, architec Abergavenny.

WALES.—May 17.—For erection of a house on the parad at Porth. Mr. A. O. Evans, architect, Pontypridd.

WALES.—May 22.—For erection of a Baptist chapel a Hafod, near Pontypridd. Mr. Wm. David, 34 Wayne Stree Hafod, near Pontypridd.

WALES.—May 30.—For building asylum at Talgarth Messrs. Giles, Gough & Trollope, 28 Craven Street, Londor W.C.

WALES.—June 5.—For alterations and additions to Ebeneze English Baptist chapel, Cefn Mawr. Mr. J. W. Jones, arch tect, Brooklea, Acrefair, Ruabon.

WARMINSTER.—May 24.—For erection of a pumping station, collecting-chambers, &c., at Smallbrook Mill. M A. F. Long, town engineer.

WEST HAMPSTEAD.—For erection of a small block of resi dential flats. Messrs. Palgrave & Co, architects, 28 Victori Street, S.W.

WETHERDEN.—For enlargement of Wetherden school Address, Chairman, Wetherden, Haughley.

WHITEHAVEN.—May 15.—For building Wesleyan chapel Mr. A. Huddart, architect, 22 Lowther Street, Whitehaven.

WIVELISCOMBE.—May 15.—For alterations and addition to police station. Mr. W. J. Wilcox, 1 Belmont, Bath.

WORKINGTON.—May 20.—For erection of semi-detache villas in Ashfield Road. Mr. Charles W. Eaglesfield, architect Falcon Street, Workington.

WORKINGTON.—May 23.—For alterations to the Greer Dragon hotel. Messrs. Castiglione & Gibbings, surveyors Washington Street, Workington.

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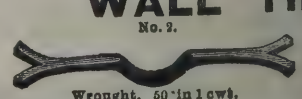
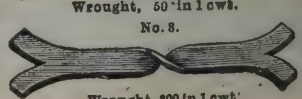
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Harris & Hunt	1,023 0 0
V. NORMAN, Marehay, near Derby (*accepted*)	985 0 0

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erection of twenty-eight five-roomed artisans' dwellings in St Helen's Road, Elm Grove.

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Hallett & Duke	7,750 0 0
ATTIN & EVERSHED, Brighton (*accepted*)	7,434 0 0

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erection of piers, abutments, retaining walls and jetties of the Ashton swingbridge.

. NUTTALL, Trafford Wharf, Manchester (*accepted*).

BUCKNALL.

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larke	1,125 16 0
ornes	1,050 0 0
VILLIAMS, Etruria (*accepted*)	940 0 0

CARDIFF.

alteration and renovation of the manager's house at Roath Market, Constellation Street. Mr. W. HARPUR, borough engineer.

. Brown	£169 10 0
W. WISBEY, Hope Street (*accepted*)	165 2 4

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odson & Sons	4,378 0 0
aulkner & Sons	3,929 0 0
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. Tout	3,025 0 0

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Williams	2,298 0 0
Cotterill	2,103 0 0
Henson	2,072 0 0
Stringer	2,048 0 0
Micklewright	2,044 0 0
T. Smith	1,974 0 0
MATTHEWS, Nantwich (*accepted*)	1,804 0 0

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Currall, Lewis & Martin	5,622 7
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Cakemore parish.

S. Vale	3,997 19
Currall, Lewis & Martin	3,865 12
J. Biggs	3,828 0
Walker & Co.	3,661 15
G. Law	3,652 11
H. Hughes	3,288 2
J. Mackay (*accepted*)	3,108 12

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E. Brook & Son, Moldgreen, joiner.
J. Marsden, Huddersfield, plumber.
M. Milnes, Moldgreen, plasterer.
J. B. Tunnacliffe, Huddersfield, slater.
Total, £2,600.

r erection of three dwelling-houses in Cliffe Lane, Cliffe End. Mr. J. BERRY, architect, 9 Queen Street, Huddersfield.

Accepted tenders.

W. Gledhill, Lockwood, mason.
White & Brearley, Golcar, joiner.
D. Taylor & Sons, Lockwood, plumber.
Robinson & Shaw, Paddock, plasterer.
R. Heaton, Paddock, painter.
T. Allison, Limited, Milnsbridge, slater.
J. Cooke, Huddersfield, concreter.
Total, £750.

r erection of five houses. Mr. J. BERRY, architect, 9 Queen Street, Huddersfield.

Accepted tenders.

J. Walker, Slaithwaite, plasterer and painter.
F. Goodall, Slaithwaite, plumber.
Pickles Bros., Huddersfield, slater.
White & Brearley, Golcar, joiner.
A. Hirst, Linthwaite, mason.
Total, 1,500*l.*

KIRKBY LONSDALE.

erection of a pair of semi-detached villas at High Casterton. Mr. JOHN KASSELL, architect, Kirkby Lonsdale.

Accepted tenders.

lewsholme & Wincler, Ingleton, Kirkby Lonsdale, builder.
A. Nelson, Hutton, Kendal, joiner.
roft & Baines, Kirkby Lonsdale, plumber and painter—per schedule.

LONDON.

alterations to the Blue Anchor public-house, Fenchurch Street, for Mr. C. W. Shannaw. Quantities by architect.
ASCELLES & Co. (*accepted*) £1,800 0 0

LONDON—*continued.*

For alterations to the Green Dragon public-house, Fleet Street, for Mr. T. R. Manders. Quantities by Mr. H. BRANCH, 25 Cheapside.
NICKS & Co. (*accepted*) £5,300 0 0

For alterations to the Rose and Crown public-house, Ship Tavern Passage, Gracechurch Street, for Messrs. Seaton & Webb. Quantities by architect.
TURTLE & APPLETON (*accepted*) . . . £3,700 0 0

For erection of Starr's Restaurant, Shoe Lane, for Messrs. Watney, Coombe, Reid & Co. Quantities by Mr. H. BRANCH, 25 Cheapside, E.C.
CHASE & SON (*accepted*) £3,970 0 0

For alterations to Nos. 272 and 274 Edgware Road, for the executors of the late E. Grove.
CHASE & SON (*accepted*) £590 0 0

For alterations to the Golden Anchor, Golden Lane, E.C., for Mr. G. Monger. Quantities by architect.
BARLOW & ROBERTS (*accepted*) £1,340 0 0

For rebuilding Nos. 71 and 72 Aldermanbury, E.C.
Braid, Pater & Co. £5,000 0 0

For alterations to the Manchester Hotel, Aldersgate Street, for the Manchester Hotel Company. Quantities by Mr. H. BRANCH, 25 Cheapside.
B. E. NIGHTINGALE (*accepted*) 2,300 0 9

For alterations to the King's Head, Old Jewry, for Mr. C. J. Shannaw.
LASCELLES & Co. (*accepted*) £300 0 0

For alterations, fittings and dilapidations at the Penshurst Arms public-house, Penshurst Road, South Hackney, N.E., for Messrs. Holt & Co. Mr. FRED. A. ASHTON, architect, 177 Romford Road, Stratford, E.

	Alterations, &c.	Dilapidations.	Total.
J. S. Curtis & Sons	£698	£198	£896
J. & H. COCKS, LIMITED (*accepted*)	727	148	875

For alterations, fittings and dilapidations at the Prince of Wales public-house, Grafton Street, Mile End, E., for Messrs. Holt & Co. Mr. FRED. A. ASHTON, architect, 177 Romford Road, Stratford, E.
J. & H. COCKS, LIMITED (*accepted*) . . . £800 0 0

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SPECIALISTS FOR FINE PRINTING AND TIME-SAVING OFFICE STATIONERY.

St. Mary-le-Strand House, 58-54 WYCH STREET, W.C.

LONDONDERRY.

For erection of station houses and works connected therewith, for the Donegal Railway Company. Mr. James Barton, engineer, Exchange Buildings, Dundalk.

J. Lees	£10,348 0 0
T. Collen	10,238 0 0
D. M. Caffrey	9,995 0 0
J. & W. Stewart	9,971 0 0
J. Lowry & Sons	9,675 0 0
Courtenay & Co.	9,641 0 0
J. Kidd	9,215 0 0
Campbell & Son, Belfast (*accepted*)	9,000 0 0

LONDON SCHOOL BOARD.

For improving lighting of halls of all departments by adding existing classroom and providing one additional classroom on each floor.

J. G. Cowell	£2,114 0 0
Grover & Son	2,014 0 0
Chessum & Sons	2,013 0 0
Lawrance & Sons	1,887 0 0
Willmott & Sons	1,831 8 6
Johnson & Co.	1,782 0 0
C. Cox	1,736 0 0
F. & F. J. Wood*	1,694 0 0

For structural alterations to building in order to provide additional lighting, &c.; redividing rooms by new glazed partitions; new cloak-rooms for boys and cloak-cupboards for girls and infants; additional lavatory basins for infants, and Kindergarten gallery, &c., Allen Street.

F. T. Chinchen	£2,200 0 0
Marchant & Hirst	2,170 0 0
Lathey Bros.	1,585 0 0
Garrett & Son	1,527 0 0
W. Hammond	1,527 0 0
W. R. & A. Hide*	1,412 10 0

For providing and fixing iron staircase to manual training centre, Tower Street.

McDowall, Stevens & Co., Limited	£92 3 10
St. Pancras Iron Co., Limited	75 0 0
Hayward Bros. & Eckstein, Limited*	67 10 0

* Recommended for acceptance.

LONDON SCHOOL BOARD—*continued.*

For adapting front building for a residential deaf school for children, and adapting back premises for a manual training centre for 20 boys, and for a temporary school to accommodate 420 children, Homerton College.

W. Shurmur	£7,740 0
McCormick & Sons	7,615 0
Grover & Son	7,611 0
Dove Bros.	7,435 0
Chessum & Sons	7,397 0
Snewin Bros. & Co.	7,048 0
Lawrance & Sons	6,935 0
T. L. Green*	6,602 0

For removing girls' offices from inside building, also urinals on west side; erecting new offices for girls in playground, rebuilding boys' offices and refitting infants' offices; enlarging urinal; rearranging the lavatories all departments, and providing new drainage scheme, except to schoolkeeper's house, Sidney Road.

McCormick & Sons	£3,361 0
F. Britton	2,822 0
Johnson & Co.	2,610 0
Ashby & Horner	2,556 0
G. Godson & Sons	2,487 0
E. Triggs	2,449 0
Martin, Wells & Co.	2,425 0
C. W. Killingback & Co.*	2,398 0

For cutting-out and clearing away defective apparatus and providing and fixing a complete low-pressure steam-heating apparatus, for the *Shaftesbury* training ship.

E. Oldroyd & Co., Limited	£745 0
J. Grundy	682 0
J. C. & J. S. Ellis, Limited	649 0
Fraser & Son	638 0
Wenham & Waters	625 0
J. Wontner-Smith, Gray & Co.	622 0
Wippell Bros. & Row	575 0
Dargue, Griffiths & Co., Limited	551 2
A. J. Kallaway & Co., Limited	525 0
W. G. Cannon & Sons	521 0
Duffield & Co.*	486 0

* Recommended for acceptance.

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HAMPSTEAD ROAD, W.

(*Continuation north of Tottenham Court Road, & near Euston & Gower Street Stations*),

61 Grafton Street, DUBLIN; 75 Union Street, RYDE;
202 Rue Royale, and 12 Rue de la Pompe, BRUSSELS.

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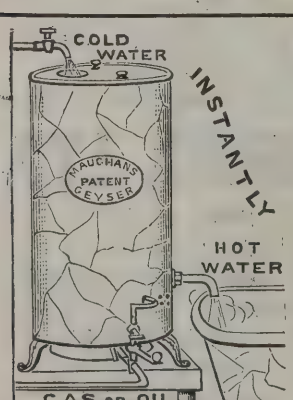
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Showrooms—51 QUEEN VICTORIA ST., E.C., & 56 BOTHWELL ST., GLASGOW.

LONDON SCHOOL BOARD—*continued.*

For adapting classrooms on the ground-floor (infants' department) for a visitors' daily centre, including new water-closet and lavatory accommodation in connection therewith, Ponton Road.

R. S. Ronald	£687 0 0
T. Hooper & Son	679 0 0
Johnson & Co.	630 0 0
B. E. Nightingale	628 0 0
E. B. Tucker	598 0 0
Maxwell Bros., Limited	595 0 0
W. V. Goad	592 0 0
Rice & Son	575 0 0
F. R. Blaxton*	435 15 0

For fitting-up art room as a demonstration-room, and forming a balance-room for laboratory, Keeton's Road.

Rice & Son	£169 0 0
J. Marsland	165 0 0
B. E. Nightingale*	152 0 0

For adapting an old house left up on site for a schoolkeeper's residence, Smith Street.

A. E. Symes	£585 0 0
Lawrance & Sons	540 0 0
Collis Willmott	410 0 0
J. F. Holliday	399 0 0
Johnson & Co.	390 0 0
J. T. Robey*	349 0 0

For providing and fixing small vertical boiler and hot-water coils for warming corridors (boys, girls and infants) and converting existing gas radiators into hot-water coils and connecting to boiler (including smoke pipe to roof if required), Marlborough Road.

J. C. & J. S. Ellis, Limited	£231 0 0
W. G. Cannon & Sons	198 15 0
W. Simmons	190 15 0
Stevens & Sons	185 0 0
Palowkar & Sons	173 15 0
Sharp, O'Brien & Co.	165 19 0
J. Grundy	155 0 0
G. Davis*	155 0 0

* Recommended for acceptance.

LONDON SCHOOL BOARD—*continued.*

For providing and fixing a steam boiler and apparatus for warming swimming bath, Marlborough Street.

Fraser & Son	£346 0 0
W. G. Cannon & Sons	311 0 0
H. C. Price Lea & Co.	310 0 0
J. C & J. S. Ellis, Limited	309 0 0
J. Esson	298 0 0
J. Wontner-Smith, Grey & Co.	290 0 0
J. & F. May	262 0 0
G. & E. Bradley	259 10 0
C. Kite & Co.*	230 0 0

For improvements, providing new halls for boys, girls and infants, also cloak-rooms and lavatories for boys and girls, and stock-rooms for all departments, alterations to infants' lavatory, new teachers' room for boys and infants, alterations to entrance and steps (boys and girls), Rockingham Street.

J. N. Try	£5,016 0 0
Johnson & Co.	4,995 0 0
H. Wall & Co.	4,705 0 0
J. & C. Bowyer	4,652 0 0
E. P. Bulled & Co.	4,588 0 0
F. & H. F. Higgs	4,588 0 0
J. Outhwaite & Son	4,560 0 0
W. Downs	4,522 0 0
J. Smith & Sons	4,500 0 0
E. Triggs	4,385 0 0
J. Marsland	4,320 0 0
A. White & Co.	4,137 0 0
J. Garrett & Co.*	4,054 0 0

* Recommended for acceptance.

LOWESTOFT.

For erection of a store, for the Gourock Ropework Company, in Battery Green Road, Lowestoft. Mr. F. W. RICHARDS, architect, Stanley Street, Lowestoft.

A. Bedwell	£1,157 0 0
J. Gill	1,090 0 0
C. R. Cole	1,050 0 0
R. Storth	1,025 0 0
Allerton & Earl	1,008 0 0
A. Rose	1,006 0 0
W. Wilkins	994 10 0
J. WELHAM, Lowestoft (*accepted*)	900 0 0

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NT WINDOW OPENER.



A2740 A2741
Brass. Iron.
5/6 12in. 3/6
6/- 14in. 4/-
6/9 16in. 4/6
7/6 18in. 5/-
10/- 24in. 6/-
each.

LILLY'S
T FANLIGHT OPENER.



A2623
Brass.
3/9

A2624
Iron.
2/6
each

PRESTON'S
PATENT SCREW ADJUSTMENT.



A553
All Brass.
⅜×15, 8/6
½×18, 11/6

A553
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⅜×15, 7/6
½×18, 10/-
each.

BEANLAND'S QUADRANTS.



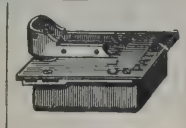
9052
Iron. Brass.
1/2½ 12in. 4/8
1/11 16in. 6/8
2/2 18in. 8/-
each.

Original Patentees and Manufacturers of Cartland's Patent Helical, Climax, Adjustable, and Reliable Door Springs.



5753 Iron.
3 inch, 4/-
4 „ 6/-
5 „ 8/-

5754 Brass.
3 inch, 6/6
4 „ 10/-
5 „ 13/-
per pair.



2401
With 2in. Shoe,
16/6 each.

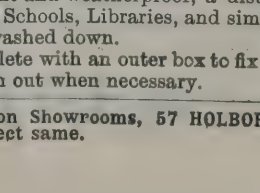


5355 Iron.
4 5 6in.
21/- 28/- 36/- doz.

5356 Brass.
4 5 6in.
35/- 45/- 55/- doz.

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HYDRAULIC WATERTIGHT FLOOR SPRING AND CHECK.

Size of Plate,
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Size of Box,
10¾×6×3¾ in.



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With top centre
and brass shoe any size.

This Floor Spring is suitable for any sized door, and can be regulated to suit any force required.

The box is watertight and weatherproof, a distinct advantage when fixed in Banks, Board Schools, Libraries, and similar places, where the floors are frequently washed down.

It is also sent complete with an outer box to fix into floor, to facilitate the spring being taken out when necessary.

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Architects and Buyers are respectfully invited to inspect same.

SALCOT.

For erection of a brick and steel girder bridge. Mr. JOHN ENNALS, surveyor, Copford.
ARNOLD, Tiptree, near Kelvedon (*accepted*) . £97 10 0

SCOTLAND.

For extensive additions to the shooting lodge at Dallas, near Elgin. Messrs. A. & W. REID & WITTET, architects, Elgin.

Accepted tenders.

D. Ross, mason.
T. Mackenzie, carpenter.
A. Forbes, slater.
W. Barton & Sons, plumber.
J. Brodie, plasterer.
J. Robertson, painter.

For erection of two cottages at Branderburgh. Messrs. A. & W. REID & WITTET, architects, Elgin.

Accepted tenders.

W. Legge, mason.
G. Grant, carpenter.
W. Leslie, slater.
W. Brodie, plasterer.

For addition to gamekeeper's cottage, Altyre, near Elgin. Messrs. A. & W. REID & WITTET, architects, Elgin.

Accepted tenders.

J. Murray, mason.
J. Robertson, carpenter.
A. Forbes, slater.
Boyne & Martin, plumber.
Angus & Ross, plasterer.

For erection of stable offices at Ardgye, Alves, near Elgin. Messrs. A. & W. REID & WITTET, architects, Elgin.

Accepted tenders.

Davidson & Hay, mason.
J. Masson, carpenter.
J. Anderson, slater.
H. Douglas, plumber.
G. Gray, plasterer.
J. Kintrea & Son, painter.

SCOTLAND—*continued.*

For erection of a building for manual instruction at Camphill public school, Paisley. Mr. CHARLES DAVISON, architect, Paisley.

Accepted tenders.

D. Bell, brickwork	£217 6 2
A. McFadyen, joiner	213 6 6
Wallace, Connell & Co., plumber	46 13 7
C. Wallace, slater	45 12 0

For addition to Knockando school. Messrs. A. & W. REID & WITTET, architects, Elgin.

Accepted tenders.

J. Grigor, mason.
A. Milne & Co. carpenter.
G. Murray, slater
W. B. Vincent, plumber.
J. Grant, plasterer.
W. Fordyce, painter.

For erection of a villa, with enclosing wall and offices, at Stotfield, near Elgin. Messrs. A. & W. REID & WITTET, architects, Elgin.

Accepted tenders.

J. MacPherson, mason.
W. Ritchie & Sons, carpenter.
G. Ogilvie, slater.
W. Lyon & Son, plumber.
G. Gray, plasterer.
J. Kintrea & Son, painter.
J. Johnston & Co., ironwork.

WALES.

For erection of an infant school for about 200 children at Rhostyllen. Messrs. HARRIS & LASH, joint architects, Wrexham.

Jenkins & Jones	£2,005 0 0
J. Hughes	1,900 0 0
Davies & Son	1,825 0 0
W. E. Samuel	1,798 0 0
S. Moss	1,735 11 0
W. H. Wycherley	1,655 0 0
T. Jones	1,627 0 0
R. Williams	1,595 0 0
LEWIS BROS., Wrexham (*accepted*)	1,590 0 0



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WALES—*continued.*

For construction of a pair of sewage-straining tanks on the sewage farm lands at Troedyrhiw, and for the diversion of a 24-inch sewer and the construction of about 280 yards of open conduit, for the Merthyr Tydfil Urban District Council. Mr. THOMAS FLETCHER HARVEY, engineer, Town Hall, Merthyr Tydfil.

M. Thompson	£1,842 16 2
W. H. Brown	1,482 3 1
J. PREECE, Marden, near Hereford (*accepted*)	1,429 11 9

For erection of a steel-rope suspension footbridge of 160-feet span over the river Taff at Abercyon. Mr. JOHN WILLIAMS, surveyor.

H. Weldon	£732 3 6
Somervail & Co.	650 17 0
T. Taylor	499 16 8
J. HOWELLS, Abercyon (*accepted*)	429 12 0

For erection of a Conservative club at Station Street, Barry Docks. Mr. G. THOMAS, architect, Queen's Chambers, Cardiff. Quantities by architect.

RICHARDS & EVANS, Barry (*revised estimate accepted*)	£2,475 0 0

For erection of printing works, Tonypandy, Glam. Messrs. GRIFFITHS & JONES, architects, Tonypandy and Llandaff.

H. ROWLING, Penygraig, Rhondda (*accepted*)	£645 0 0

For erection of a police station at Maesycwmmer. Mr. WILLIAM TANNER, county surveyor, Newport.

D. Lewis	£1,220 0 0
W. Jones	1,198 17 0
Jones Bros.	1,198 0 0
C. F. Morgan	1,185 0 0
W. T. SIER, Newport (*accepted*)	1,040 0 0

WESTMINSTER.

For erecting a warehouse, Carey Street. Mr. H. W. BUDD, architect.

Carmichael	£4,190 0 0
Patman & Fotheringham	3,993 0 0
Snewin Bros. & Co.	3,204 0 0
Mowlem & Co.	3,129 0 0
Martin, Wells & Co.	3,049 0 0
Brookling	2,997 0 0
Bush	2,857 0 0

WALTHAMSTOW.

For rebuilding No. 178 Wood Street, for Mr. F. E. Devereux Mr. J. WILLIAMS DUNFORD, architect, 100C Queen Victoria Street, E.C.

E. Fuller & Son	£570 0 0
W. Lawrence	487 0 0
J. Reed, Walthamstow (*accepted conditionally*)	451 0 0

WELSHPOOL

For construction of filters and clear-water tank at the Blackpool reservoir, near Welshpool. Messrs. BELOE & PRIEST, engineers, 13 Harrington Street, Liverpool.

Walmsley & Roberts	£2,350 4 6
C. BURT, Liverpool, S. (*accepted*)	1,808 0 0

WIMBLEDON.

For making-up Alexandra Mews and Faraday Road.

Faraday Road.

J. Mowlem & Co.	£1,704 0 0
T. Adams	1,637 0 0
E. ILES, Wimbledon (*accepted*)	1,495 0 0

Alexandra Mews.

T. Adams	155 0 0
E. ILES (*accepted*)	125 0 0

Received too late for Classification.

CARDIFF.

For new church of St. Martin's, Roath. Mr. F. R. KEMPSON, architect, Cardiff. Quantities by Mr. CHAS. TAYLOR, Cardiff.

D. Thomas & Co.	£14,879 0 0
Luscombe	14,500 0 0
Shepton & Son	13,427 10 0
B. Smith	13,421 0 0
Stephens, Bastow & Co., Limited	13,397 0 0
R. Gibbon	12,103 0 0
Morgan & Co.	11,800 0 0
Latty & Co.	10,771 0 0
Beames & Nephew	9,250 0 0

RAMSGATE at present is without a town hall that is worthy of the watering-place. It is understood a proposal for the erection of a suitable building will soon be considered by the Town Council.

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MINLEY MANOR, FLEET, HANTS.

A NEW VENTILATOR.

THE "Climax" Ventilating and Heating Company have just brought out a new ventilator, which has been designed with a view to obviating the possibility of down-draughts, a result which is achieved by the use of automatic valves so placed as to allow full advantage to be taken of the natural forces of wind and heat.

This ventilator is an adaptation of Messrs. Cousland's "Improved Climax" direct-acting roof-ventilator, intended for fixing on the ridge of roof. It is guaranteed water-proof and entirely free from down-draught. It has been adapted to meet the requirements necessary for the ventilation of certain buildings, such as breweries, stables, bakehouses, foundries, &c., where condensation is likely to arise in the extraction of vitiated air and where a large area of outlet is desired at the smallest cost.

These ventilators are made to pitch of roof, with flanges under the slates or tiles, no lead-flashing or plumber-work being necessary, and consequently they can be fixed at a trifling expense. The ridge-plate does not require to be cut, the roof lining under ventilator only being cut away to allow free access for the vitiated air to the ventilator.

TRADE NOTES.

MR. GEORGE SHREWSBURY, of Calda Works, Station Road, Camberwell, is issuing a new illustrated broadsheet, on which are shown numerous varieties of his patent "Caldas" and gas baths, all of which are marked in plain figures.

THE new Isolation Hospital, Aldershot, is being warmed and ventilated by means of Shorland's patent Manchester stoves, with ornamental tiled sides and descending smoke flues, supplied by Messrs. E. H. Shorland & Brother, of Manchester.

MR. M. H. GLOVER, a director of C. H. Glover & Co., Limited, left Liverpool on the 3rd inst. per s.s. *Vancouver* for Quebec, Montreal, the timber districts and through the States. We understand that it is his intention to combine business with pleasure.

A LARGE clock tower (presented to the town of Wainfleet by Mrs. Walter Martin) was completed and the clock formally started on May 2. The clock has three large dials, strikes the hours, is fitted with all the latest improvements and was manufactured by John Smith & Sons, Midland Clock Works, Derby.

IN consequence of the need of more light in the lending library at the Cripplegate Institute, the committee decided to have a trial of the two principal means placed before them. Messrs. P. E. Chappuis & Co. were invited to fix one of their silvered daylight reflectors as against a "Luxfer Prism" daylight refractor. The architect to the Institute had the appliances fixed at two windows, side by side. We are informed that the committee were of opinion that the reflectors of Messrs. Chappuis gave the most light, and that they have instructed them accordingly.

AT Pudsey, near Leeds, a new illuminated turret clock showing the time upon two external dials 5 feet each in diameter and striking the hours on a large bell was formally set going by Miss Crowther on the 1st inst., on what it is hoped will be a long and useful career. A silk ribbon was attached to the pendulum, which Miss Crowther cut in two with a pair of silver scissors suitably engraved for the occasion. The clock has all the latest improvements inserted, and is fixed on strong iron brackets, thus giving a firm foundation for it to rest upon. There is an index dial inside the clock chamber by which to set and adjust the outside hands, which are of stout copper balanced within. The clock was made and fixed by Messrs. Wm. Potts & Sons, clock manufacturers, of Guildford Street, Leeds, and Cloth Market, Newcastle-on-Tyne, makers of the Pudsey, Farsley, Armley, Bramley, Kirkstall and Drighlington Church clocks in the same district.

MESSRS. WILLIAM BEATTIE & SON, Edinburgh, have been entrusted with the second portion of their present contract for the construction of the Caledonian Railway Company's new line from Newhaven to Leith Docks. The amount of the whole contract is about 150,000*l*.

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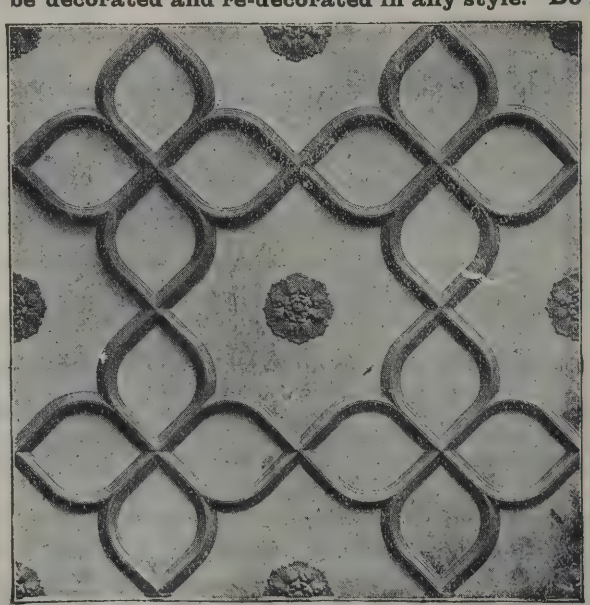
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BUILDING AND BUILDERS.

foundation-stone of the new public hall, Commercial t, Halifax, was laid amid considerable pomp and ceremony aturday afternoon last. The cost of the building is ated at about 30,000*l.*

HE Newport borough engineer has prepared plans for the anent extension of the Town Hall over the whole of the ecently acquired, and the committee to which the matter eferred have agreed to recommend the Council to go on the permanent extensions, instead of mere temporary itions, which would cost 1,000*l.* The plans for the anent extension provide for additional office accommoda- in all public departments, an additional court for civil ess, and new committee-rooms. The present accommoda- s practically doubled.

URING excavating work for the Yarmouth Water Com- s new reservoir at Caister, there was an alarming sub- ce of earth. Tons of soil suddenly fell into the trench at ot where three men were working. Two of them extri- themselves and escaped serious injury, but a labourer d William Barber, a married man, had to be dug out, and fterwards conveyed in a prostrate state to the hospital, e both his legs were found to be fractured. He lies in a rious condition, suffering from the injuries and the shock.

SPECIAL meeting of the Bridlington Urban Council has held to receive the report from the deputation which had d nine refuse destructors at various towns. The report mended the Council to cause a Beaman & Deas destruc- be erected, and also recommended the adoption of air shafts from the tipping platform, and the balance-hanging ikering doors instead of hinging. Mr. Sawdon, chairman sanitary committee, moved the adoption of the report, Mr. Rennard seconded. In reply to Mr. Johnson, Mr. on said they could form an approximate idea of cost the cost of the destructor at Llandudno, which was . 12*s.* 3*d.* There was no question of site as yet, and the n was carried unanimously.

a meeting of Kirkcaldy Town Council on Monday ig, it was reported that at a joint meeting of representa- rom various bodies Councillor Lockhart moved, and Mr. seconded, that Mr. Conacher, N.B. manager, be ached with a proposal that the town, as their half of pense of a new harbour, contribute 100,000*l.*, or a quivalent to that sum if it can be got, and hand over the present harbour, valued at 50,000*l.*, or a sum to be fixed by valuation, the town having an equal share in the management with the railway company. Mr. Thomson proposed, and Mr. Maxton seconded, that in the event of the railway company being willing to make a suitable harbour at Kirkcaldy at their own expense the town should sell to them the present harbour at a sum fixed by arbitration. The joint committee ultimately agreed to meet Mr. Conacher and discuss the question with him without being committed to any definite scheme. The town clerk stated that Mr. Conacher was to fix the date of meeting.

AT the Union Offices, Wolverhampton, on the 9th inst., Mr. E. W. Wethered, one of the inspectors of the Local Government Board, held an inquiry with regard to an application by the Wolverhampton Board of Guardians to borrow 140,000*l.* to erect a new workhouse at Wednesfield. The Guardians were represented by Mr. E. Pritchard (clerk), Mr. W. Price (chairman), and Mr. T. D. Greensill. Mr. Pritchard explained that the rateable value of the union was 499,644*l.*, and that the Guardians had power to borrow a fourth of that amount. The present debt of the Board was 27,397*l.*, so that the actual borrowing power was represented by 95,573*l.* The debt included 11,128*l.*, which had been expended in the site for the new workhouse. The maximum which the Guardians would be entitled to borrow, if they took full advantage of the proposed provisional order, was 195,027*l.* The Guardians did not anticipate that the new workhouse would cost 140,000*l.*, and a margin for contingencies was allowed for, and the money would be obtained as required. Since the original estimate had been sent in, the Guardians had reconsidered their scheme, and decided to add a chapel, which would bring the cost of the buildings up to 119,668*l.* There was no opposition.

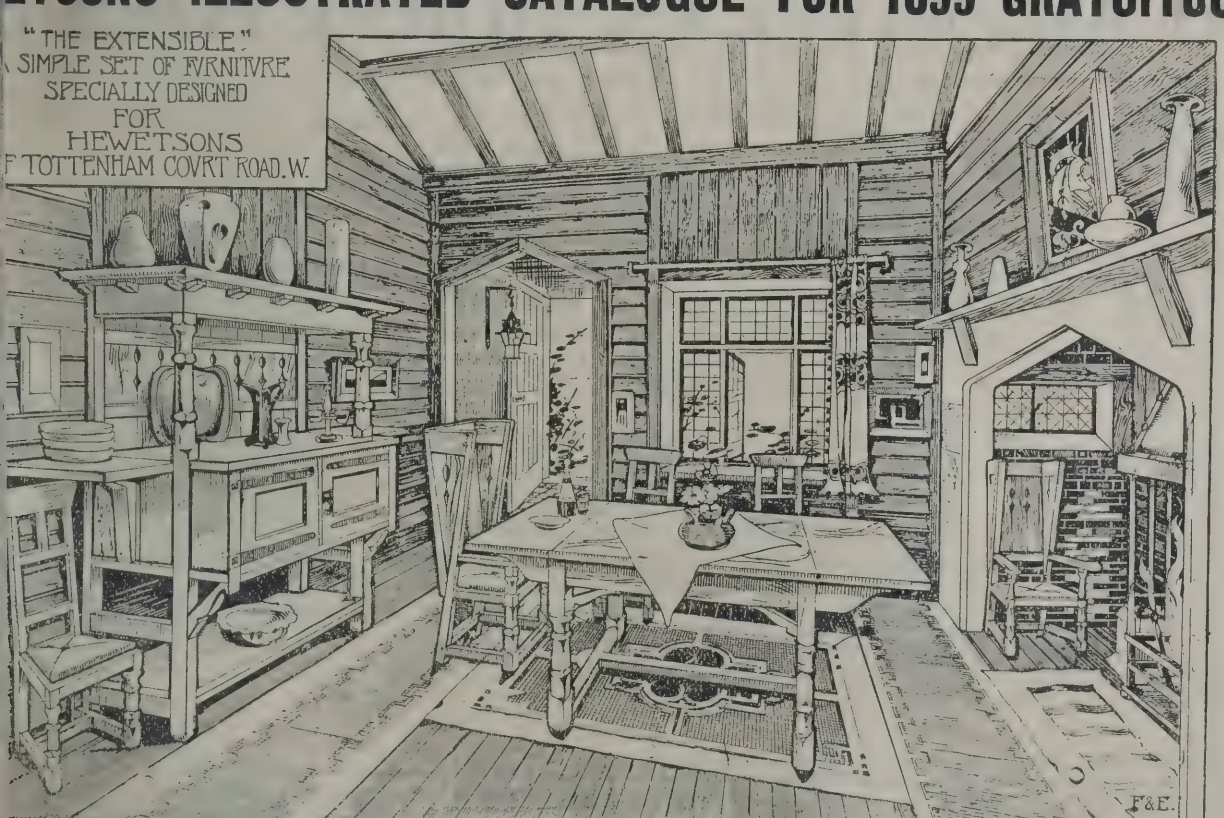
VARIETIES.

THE next congress of the Sanitary Association in Scotland is to be held in Hawick.

A NEW Baptist chapel in Tenterden Street, Bury, which, together with a school adjoining, has been erected at a cost of about 5,000*l.*, was formally opened on the 10th inst.

THE new wings which have been added to the Ripon and Wakefield Diocesan Training College were formally opened on Monday, when the new college chapel was also dedicated by the Bishop of Ripon.

ETSONS ILLUSTRATED CATALOGUE FOR 1899 GRATUITOUS.



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THE new post-office buildings in Dame Alice Street, Bedford, which have been in the course of construction for considerably over a year, are to be opened for public business at Whitsuntide.

THE new Commercial School, Wellingborough, which takes the place of the old Third Grade Grammar School, under the direction of the Grammar School governors, was formally opened last week.

AT a special meeting of the streets and buildings committee of the Preston Corporation the offer of a company to take over the tramways from the Corporation and substitute a service to be worked by the overhead trolley system of electricity was considered. It was announced that it was the intention of the company to extend the tramway to Lytham on the one side and to Blackburn on the other, thus connecting Blackburn, Accrington and Darwen with Preston, Lytham, Blackpool and Fleetwood. The matter was referred to the leading corporate officials and a sub-committee to report upon at an early date.

A DISASTROUS fire occurred at St. Margaret's Church schools at Burton-on-Trent on Sunday night. It was the most extensive block of school buildings in the town. The fire was discovered about half-past five, and originated in a room used by the Sewing Guild, where a large quantity of clothing and materials were stored in readiness for a bazaar on Wednesday. Bass's, Allsopp's and the town fire brigades all assisted, but in less than two hours the whole building was practically gutted. The adjoining schools and church were saved. The water supply at starting was very inadequate. The cause of the fire is unknown. Classes had been held in the schools during the afternoon.

IN the absence through domestic bereavement of Sir T. Fowell Buxton, Bart., recently Governor of South Australia, Mr. E. H. Pickersgill, M.P., took the chair at a meeting on Wednesday in celebration of the twenty-third anniversary of the Bethnal Green Free Library, and the second year of the opening of the free lending department. Eloquent testimony was borne by the chairman, by Sir M. M. Bhownaggree, M.P., and other speakers to the excellent work done by the institution in a district whose poverty alone prevented it establishing a rate-aided library. The committee's appeal for increased financial support was heartily endorsed, and the earnest hope was expressed that the efforts being made to obtain a site contiguous to the Bethnal Green Museum might be crowned with success. Meanwhile the committee are in need of a boys' reading-room to relieve the congested state of the lim reading accommodation.

AT the Sussex County Hospital, Brighton, a large and v equipped new building which is to be used as a home for hospital nursing staff has been opened. High up on the to the hill behind the big central block of the hospital (with w it is conveniently connected by a long, glazed, covered path new house for the nurses could hardly be in a healthie more commanding situation. With its ground floor well a the level of the hospital roof, its numerous windows look ou every side on a wide, breezy expanse of sea or downs. new quarters are for the whole staff of resident nurses, contain some sixty beds. The bedrooms are of a conven size, and are furnished with a regard for the comfort of inmates that is not always exhibited in similar institutions. house is in four storeys, the top storey being set apart for night staff, and provided with a door by which it can entirely shut off from the rest of the house, and so kept in "blessed calm and quiet" that is so necessary for those have to get their sleep during the day. On each floor t is a well-fitted bathroom, and there are several sitting-ro As a precaution against fire, or rather as a means of escap the event of one occurring, there are a couple of iron stair at the back, running from the top floor to the ground out after the sensible American plan, and with an entrance at e storey. Another important part of the establishment is sick-room, which, with a view to making it more cheerful possible invalids is painted white, and opening out of it small bedroom for an attendant nurse.

A NEW church tower and bells were dedicated on the inst. at Fenton (Staffs.) parish church. The tower is buil solid brickwork, with external facings, from the works of Duke of Sutherland at Blurton, whilst the remainder of bricks were made at the works of Messrs. Hewitt, of Fen who generously made a gift of 20,000 bricks. The heigh the tower from the level of the ground to the top of the par is 98 feet, and on plan it is 24 feet square in external dim sions. The parapet of the turret is 6 feet 9 inches above general parapet. The height is divided into three stages, a ground-floor, which forms a main entrance into the churc clock-room and the belfry floor, but there is an interme floor between the entrance and the clock floor designed fo ringing loft, which is open to the lower arch between the n and tower, and therefore visible from the interior of the chu By this arrangement the office of the bellringer is duly ackn

TO ARCHITECTS, SURVEYORS, &

The Original Patentees and Sole Manufacturers of the MICA VALVE CHIMNEY BREAST VENTILATOR (patented by Comyn Ching & Co. under the name of "Thomas Boyle's Patent") having suffered for some time past by WORTHLESS IMITATIONS being supplied to Builders and others, which are badly fitted with inferior materials, neither Smoke-proof nor Proof against back-draught, are very noisy in action and soon get out of order,

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d and his operations are apparent, and it is seen whence the l of the bells originates. Happily the bellringer of to-day knowledged as a church-worker, and there is no reason he should be hidden in a remote chamber, which in former served conveniently enough as a cloak to customs not continued. In consequence of this provision of the ring- oft, the west front appears to be of four stages, in the d of which has been placed the window which, before the lding of the church, was at the east end of the chancel, and was temporarily removed to the west end of the church. e is a stair turret leading from the entrance floor to the top of oof at the north-west angle of the tower, giving access to the floors. In the west front a double entrance is provided, ng into the tower, which at this stage is furnished with le screens and swing doors. The style of the architecture at adopted in the body of the church, and known as rated, but it is treated in the simplest manner, the only hment being in the tympanum over the double doorway, contains a sculpture. The design selected is a large of Christ as the Good Shepherd, and the work has been sted to Mr. Robert Bridgeman, who has been extensively oyed in the restoration of Lichfield Cathedral. The ings to the doors and windows, &c., are of stone and cotta. Messrs. Lynam, Beckett & Lynam are the archi- and Mr. Mould the contractor. The cost has been about l. The bells—provision is made for a peal of eight— been cast and hung by Messrs. Carr, of Smethwick, who, ason of a local connection with the parish, gave the prin- bell.

WHITSUNTIDE ON THE CONTINENT.—Cheap tickets avail- for eight days will be issued to Brussels, May 18 to 20 ive and May 22 *viâ* Harwich and Antwerp. Passengers ng London in the evening reach Brussels next morning, a comfortable night's rest on board the steamer. For ng The Hague, Amsterdam, Utrecht and other parts of nd, the Rhine, North and South Germany, and Bale for erland, special facilities are offered *viâ* the Great rn Railway Company's Royal mail Harwich-Hook of nd route, through carriages being run to Amsterdam and , Cologne and Bale. Restaurant cars are run on the and South German express trains. The General Steam ation Company's fast passenger steamers will leave ch on May 17 and 20, for Hamburg, returning May 21 4.

ELECTRIC NOTES.

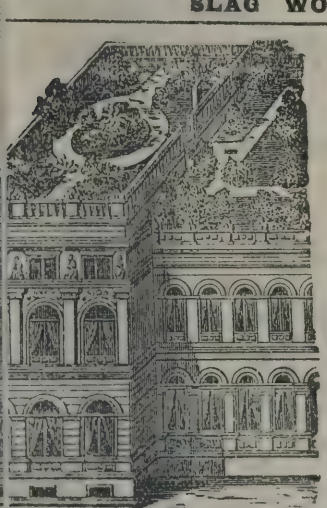
FOR some time the Elland (Yorks) District Council have been considering ways and means of lighting the town with electricity. The Clerk to the District Council has received a letter from the English Industrials, Limited, Manchester, asking whether the Council were open to deal with the question of erecting an electric station for light, power, and eventually tramways purposes for their district. General opinion seems to be against allowing a company to have the monopoly.

GERMANY is at present making rapid strides in the construction of electric street railways, and in the smaller cities a number of such railways are either in progress of construction or are being planned. In Meissen, Weimar and Eisleben the roads are being built. The following cities, according to Consul Harris, of Eibenstock, are planning the immediate construction of electric plants and electric street railroads :— Pforzheim, Trier, Ratisbon, Colmar, Jena, Kaiserslautern and Worms. There are no doubt other cities that are preparing to do the same thing. The population of those above mentioned varies from 15,000 to 50,000.

THE electric-lighting committee of the Perth Police Commission met Mr. Hawtayne and discussed the merits of various sites for the erection of the generating stations for the supply of electricity. Mr. Hawtayne gave the meeting a general idea of the works he proposed to construct, and replied to a number of questions put by members. He suggested that a larger plant than that mentioned in his report should be erected, which would cost some 3,000*l.* more. The meeting then, with Mr. Hawtayne, visited the site near the smallpox hospital on the shore, and also the site near the gasometer at the Upper Harbour. Mr. Hawtayne having stated that the site at the smallpox hospital was much to be preferred, the committee agreed to recommend the Commissioners to adopt that site, and Mr. Hawtayne was instructed to prepare plans and specifications for the execution of the necessary works, making provision for the larger plant which he suggested should be erected, for the consideration of the Commissioners. At the monthly meeting of the Police Commission recently, Lord Provost Dewar presiding, Bailie Wright moved, and Councillor Reid seconded, the adoption of the minutes, and this was unanimously agreed to.

THE Great Eastern Railway Company have erected in their station at Liverpool Street an electric clock, which is said to

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be the largest in the world. The case, with its towers and finials and its columns with carved capitals boldly decorated, weighs between two and three tons; it is entirely of iron and manganese steel, and the clock case is practically an apartment 9 feet square. The four open dials are each 6 feet in diameter, the figures of the hours are about 18 inches apart and of the minutes 3½ inches. This grand clock is in sympathy with several others working in the same electrical circuit, authoritatively giving them the time of day, and doing the business with absolutely accurate unison. In an office adjoining the main telegraph office is a London regulation clock so adjusted that the timekeeping does not vary more than two seconds per week, and for weeks together it has indicated correct Greenwich time to a second. An electrical contact is fixed to the movements of this clock, and every fifteen seconds it transmits an electrical current that moves the hands of all the clocks in unison. Of course this electric control principle in horological work is no novelty.

THE inauguration of Bootle's new system of electric lighting and power supply took place amid considerable pomp and ceremony on the 20th ult., and the municipality may well be proud of the excellent completeness of the equipment. The building is situated in Pim Grove, and the electric system adopted is that known as the three-wire continuous current system, the current being supplied to consumers' lamps at a pressure of 220 volts. The plant in the station consists of three Lancashire type boilers, each 7 feet 6 inches diameter by 28 feet long, with supply steam of three quick-revolution steam engines, two of 125 indicated horse-power and one of 250 indicated horse-power, coupled direct to two dynamos of 150 kilowatt capacity. For economical working each engine is fitted with a Korting ejector condenser, the condensing water being pumped from the canal and delivered into a condensing water-tank on the roof of the pump-house by means of motor-driven centrifugal pumps. Switchboard arrangements are made for coupling up four dynamos, and also for feeding into the distributing network of four points, and all necessary instruments and apparatus are provided for the efficient and economical working of the station. For utilising as far as possible the waste heat from the boilers a Green's economiser, consisting of 192 tubes, has been placed in the main flue, and through these pipes the water for feeding the boilers is pumped, the temperature of the water being thus considerably raised. Under the pump-room, between the engine-room and the canal, a brick feed-tank is provided. All steam and exhaust pipes are drained and tapped. Connec for steam supply to the feed-pumps are arranged for on sides of the main range of steam pipes. In the engine-r travelling crane is provided suitable for lifting 8 tons. present capacity of the plant is 300 kilowatts, which is ca of dealing with about 8,000 lamps of 8 candle-power conn to the mains. The mains are paper insulated lead-co cables, fixed in earthenware troughs, and then run in solic refined bitumen. For the public lighting of the bo 72 10-ampere arc-lamps run four in series are vided, each lamp-post being fitted with two bra for incandescent lamps, arranged so that at mid the arc-lamps may be put out and the incande lamps switched in. The lamps are spaced about 60 apart. The system of charging adopted by the lighting mittee is that known as the "Wright" system. It has decided at Bootle that in the first instance 7*d.* per unit fo first hour at maximum demand be charged, and that all e used in excess of this amount be charged for at the rate per unit. Under this system the greater the number of per day the light is used, the cheaper it becomes to the sumer—thus, for an average use of two hours per day the is 5*d.* per unit, for three hours per day 4½*d.* per unit, four per day 4*d.* per unit, and so on. The Bootle scheme has designed and the carrying out of the works superintende Mr. Thos. L. Miller, M.Inst.C.E., Tower Buildings, Liver the consulting engineer to the Corporation, Mr. O. F. Fra Assoc.Inst.E.E., acting as his clerk of works; the build being from the plans prepared by the borough engineer, J. A. Crowther, Assoc.M.Inst.C.E. At the present time municipal works supply over 2,000 incandescent lamps 52 arc-lamps in the borough.

ACCORDING to an article in the "Centralblatt der verwaltung," overhead wires are universally employed for tr way traction in Germany, only one or two short stretch line in Berlin being supplied with current by subterran conductors. The overhead wire causes great dissatisfac Consequently American experience with the underground duit is being closely watched. The accumulator is admitt unsuccessful. Only one line, the former Eaglewood lin Chicago, is now worked by accumulators. According to "Centralblatt" there are now 230 kilometres of subterran conduit in the United States, and nearly all the companie New York are adopting the system.

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[CONCLUDING NOTICE.]

E. Hotwill.

E. HOLWILL, of Temple Chambers, E.C., had an actively arranged stand, in which he showed some fine imens of architectural and other terra-cotta from the kilns e North Devon Clay Company. Conspicuous among these an excellently modelled lion of almost life size, represented pose of dignified vigilance, a portion of an enriched ice, panels, brackets, name-tablets, string-courses, &c. On same stand the Marland Brick Company was well repre- ed by specimens of their impervious faced (strain-resisting) ed bricks, as specially made for the Blackwall Tunnel. se bricks, which are of good creamy colour, are very dense hard, are non-absorbent, have a smooth washable surface, are good light reflectors. There were also specimens of same company's damp and air-proof engineering bricks, as as a variety of glazed bricks of all kinds, fire-bricks, &c.

Bath Cabinetmakers' Company, Limited.

This company make a specialty of inlaid wood panels, of h they showed a variety of specimens, all of which were acterised by excellence of design and finish. We were icularly struck by a door panel of Renaissance design, in h a number of woods were employed with charming effects; y others were shown, the patterns rising from the simplest e most elaborate, but all bearing the same high quality of manship and finish. The company also turn out effective l-work in repoussé copper, &c. Included in the exhibit several mantelpieces in various woods, more or less orately carved. One of these, of Renaissance design in was especially effective, and another in mahogany with l panels, as above mentioned, attracted a good deal of urable attention, as did a massive oak door with quaint er ornamentation.

Patent Indurated Stone Company, Limited.

The Patent Indurated Stone Company, whose paving has largely used by the Poplar, Whitechapel and Lewisham ds of Works, the Walthamstow, Tottenham and Dartford rict Councils, the Hackney Vestry, the Southend-on-Sea oration, the Brentford, Barnes, Barnet and Ilford Councils, Colchester Corporation, and Wanstead, West Ham and ford School Boards, &c., made an attractive show of their at stone in the various forms in which it can be utilised as slabs for street and stable paving, steps and stairs, concrete manholes, sanitary tubes, architectural dressings in different colours, &c. The centre of the stand was occupied by a handsome *in situ* staircase, with balustrades, &c., of graceful and substantial appearance.

The paving, originally introduced in 1885, has gradually gained in reputation, owing to its durability, economy, freedom from slipperiness and cheapness in first cost. So satisfied is the company of its durability that they have given, and always give with each lot laid down, a guarantee to replace the same, if defective, allowing for fair wear and tear, for a period of ten years. In no case, we are informed, has any application to have defective paving restored been made. This in itself is sufficient to show the superior quality of the paving. This result can only be attained by using the best materials, manipulated with the greatest skill. The materials consist of the best crushed granite from Leicester. This is washed by machinery, to ensure the best results, and afterwards intimately consolidated with the cement in steel-lined moulds. They are afterwards hardened by special chemical processes and put into stacks to mature, which is ordinarily accomplished in six to nine months' time, but if necessary the company can lay down slabs five years old.

John Doughty.

In our notice of the electrical section we omitted to mention the exhibit of Mr. J. M. Doughty, who showed many extremely beautiful designs for electric fittings. These were of such uniform excellence that it is difficult to select any of them for individual description. We may, however, mention a few of the more important pieces; prominent among these was a beautifully executed basket of flowers, the basket itself being in woven copper and the flowers it contained having beaten leaves—the blossoms themselves being, of course, the lamps. A quaint conceit was worked out in antique swords enwreathed in hammered bay-leaves interspersed with lights, a design which would prove very effective for a cornice decoration. Some handsome two-light brackets were shown as designed for the Kaiser's yacht. Another very effective piece was a seven-light ceiling centre in brass and copper, with electro-plated reflectors. Elegant floor and table lamps, and elaborate silk shades—a specialty of the firm—were also here to claim attention. It is not too much to say that the various fittings shown by this firm were in every case distinguished for novelty and elegance of design and beauty of finish.

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Cluse, Limited.

Messrs. Cluse, Limited, had a very attractive and well-arranged stand, on which they exhibited a very large variety of excellent designs in art brasswork, cabinet and builder's brass-foundry, as lock furniture, finger-plates, sash-fasteners, bell-fittings, &c. What, however, especially appealed to us was some fine work in malleable iron of antique design, well and artistically carried out.

S. Clark & Co.

In the Smoke Abatement section, Messrs. Clark & Co. showed an excellent selection of their patent hygienic "Syhon" gas stoves, suitable for halls, rooms, public-house bars, &c. Amongst them were some very attractive designs in majolica. Gas boiling and cooking stoves were also shown, as well as heating stoves for oil, &c.

Graham & Biddle.

This firm showed some good mantelpieces and grates. The latter, which were of the "dog" variety, contained a gas fire of simulated logs in asbestos, which produced a very attractive and cosy effect.

British Compo-board Company.

Compo-board, specimens of which with examples of some of the uses to which it can be applied, were exhibited in bay 7. It is a combination of wood and paper so arranged with relation to each other, and united by a strong, adhesive, fireproof cementing material, that the result of the union (as an independent constructive material, for which it is claimed that it has all the advantages of both) is subject to none of the objections which may be urged against them, and possesses many qualities not found in either of them or any other known material, all of which serve to fit it for use for a large number of purposes where nothing else will answer satisfactorily. The surfaces of the board are heavy, damp-proof paper boards. These are made from finely ground pulp, chemically treated to make the finished board resistant to moisture. They are thoroughly dried and highly calendered. The wooden core is made up of thin narrow slats of uniform thickness, with smoothly sawn faces and straight edges cut from bone dry wood. These slats are cemented together edge to edge and to the inner surfaces of the heavy paper board faces by the cementing material, which, plastic when applied, sets immediately under pressure into a hard stone-like substance completely filling all openings of every kind in and between the slats, firmly uniting them to each other and to the faces, giving the board great rigidity.

Fenlon & Son.

Messrs. Fenlon & Son showed examples of their patent hot-water apparatus, to burn gas or oil, for conservatories, & patent hot-water circulating condensing stoves, to burn gas or oil, fitted with cast-iron radiators; circulating hot-air and hot-water condensing stoves, with propagators combined; patent self-acting washing machines, &c.

W. G. & L. England.

The patent reversible and sliding sash windows shown by Messrs. England are remarkably simple and effective. They dispense with the use of weights, as each sash acts as a counterpoise to the other, they afford an excellent means of ventilation, and are exceptionally easy of manipulation for cleaning and repairing from the inside, as they can be taken off the sliding stays and replaced in a very short time, and it is not necessary to remove any of the beads or disturb the woodwork usually shown in the ordinary sash window; in this way the expense attending the repairing and painting of windows in buildings of great elevation are materially reduced.

Among other firms whose exhibits we are unable to notice at length owing to lack of space are the following:—

H. Hart, drain and chimney cleansing machines; H. Webb, reversible windows; W. Parkinson & Co., cookers, grates, &c.; Rigby, Battcock & Co., paint brushes; A. Cooper, suction and vacuum pumps, &c.; H. Blacknell, post boxes, seed trays, &c.; Howard Bros., Emdeca Metal Decoration Company, Hall & Boordman, Limited, Julius Hulse, H. J & C. Major, Matthews & Yates, Limited, J. Syer & C., Archibald Ansell, Easily Cleaned Window Company, Towers & Willlamson, William Jones & Sons, W. Barnsley Hughes, Hooper & Co., W. Seacombe & Co., J. C. Fawcett, Limited, Cyanite Paint Company, Bilbie, Hobson & Co., Sidney Buth, A. H. Bayley, H. E. Kershaw, W. & C. Johnson, C. J. Eppens, H. Alexander & Co., R. W. Taylor & Co., J. Stone & Co, R. Becker & Co., A. B. Miller & Co., Southwark Manufacturing Company, Wilson & Co., Blackstone & Co., Limited, National Gas-Engine Company, Limited, Horsham Engineering Works, Nuneaton Engineering Company, Lawrance Seager, J. T. Bowen & Co., D. Hurst, the Normanton Brick Company, Limited, J. Buchanan & Son, W. A. Smith, R. Scholefield, C. H. Brookbank, Arthur Koppel, &c.

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ST. MARY'S HOSPITAL, MANCHESTER.

IE new St. Mary's Hospital, now in course of erection in :ford Street and Gloucester Street, will be an ambitious dition to the public buildings of the city. The designs are Messrs. Alfred Waterhouse & Son, of London.

The main front of the hospital, 280 feet in length, which is)ken into by a deep courtyard, takes a full south aspect along oucester Street. The Oxford Street frontage is considerably :tricted, being only some 25 feet in length. The block which mes up to Oxford Street will provide an entrance for the out-tients, for whom accommodation will be arranged upon the ound floor in a series of waiting-rooms and examination-)ms placed in convenient proximity to the dispensary. The neral entrance to the hospital will be in the centre of the ith courtyard. A special feature of the plans is that the :ommodation (which is for women and children) is divided roughout the building into two portions; each portion is tinct, and will be furnished with separate entrances, stair-es and lifts. On the west of the entrance the maternity es will be housed, while the wards on the right will be set art for the diseases of women and children. On the ground or, which will be largely occupied by the out-patients' rooms, e lecture theatre, the chapel, the mortuary, the museum and e residential rooms, this distinction will not be so apparent upon the upper storeys, but there will be separate entrances the two classes of patients as well as for the general public d for tradespeople. In close proximity to each entrance for ients there will be a passenger lift capable of conveying a umbent patient to any floor.

The hospital proper may be said, as far as wards are con-ned, to commence upon the first floor, although the circular ilion, which is one of the principal features of the elevation, l not be made use of for ward purposes at this level. On the r above, where the circular apartment is not cut up by walls, re will be accommodation in this portion for twelve beds, in erfectly circular room, with a diameter of 43 feet. This m will be surrounded on all sides by windows, interrupted y by the small wall spaces taken up in the entrance and in bridgeway to the sanitary tower. The second-floor circular d will form the principal maternity ward. There will be ther precisely similar above it upon the third floor, but on first floor the space will be apportioned for dormitories for ses and for women who are being trained as monthly nurses. the east side of the hospital, set apart for diseases of women, there will be on the first floor a large rectangular ward for twelve beds and three or four separate wards for one or more beds. On the same floor will be the board-room, near the grand staircase, and the library, which will occupy the Oxford Street corner of the site over the out-patients' entrance. This library will extend to the second floor, from the rest of which it will be separated by an air passage, which will admit of the free circulation of air into the south-east court, and thence between the bridges of the isolation wards into the north-east court. The second floor generally will be fully occupied by wards and by the necessary administrative rooms in connection therewith, and the same may be said of the third floor, which will be nearly a repetition of it, the library buildings being roofed in at this point and having no further accommodation above them. The fourth floor will be largely occupied by servants' rooms, and will also contain the kitchen, scullery, bakery, larders and stores.

The most conspicuous features of the elevation are the large circular ward block of the maternity department, the octagonal tower of the Oxford Street front, and the sanitary turrets attached to the circular ward and to the rectangular ward. With regard to material, the exterior will be simple in character and rely for its effect more upon the general outline, which is the outcome of the requirements, than upon elaboration of detail. The main walls are to be faced with hard Accrington red bricks, relieved by a moderate use of terra-cotta made by Messrs. Gibbs & Canning, of Tamworth, and by moulded strings and cornices. The new hospital will be fitted for 125 patients, the larger portion being reserved for diseases of women; further accommodation will be provided inside the buildings for the training of medical students, nurses, midwives and monthly nurses. The contractor is Mr. Vickers, of Nottingham.

PROFESSIONAL CHARGES.*

THE practice of architecture in most countries is governed by "codes of ethics" of professional societies representing recognised professional authority. A schedule of professional charges is usually included, besides rules governing the mutual relations of architect, owner and contractor. The schedules of

* A paper by Mr. Arne Dehli, architect, in *Architecture and Building*.

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charges generally recognise a charge of 5 per cent. on the cost of execution as either an average or a minimum, and may therefore be properly referred to as the "5 per cent. rule."

Historically, I believe, the idea of a percentage charge for architects' services originated in France, where 5 per cent. on the cost seems to have become customary for public buildings some time during the eighteenth century, receiving official sanction during the French Revolution. Up to that time architects received either stated sums or salaries. Whether originally intended as an average for public buildings or a general principle, the rule gradually received general recognition in most countries, and may originally have been a help to the architectural profession in its early struggles.

However, conditions soon changed. New types of buildings necessitated the study of new requirements, demanding added work and training; every known wood, stone, metal, &c, on the globe was thrown upon our markets, added new problems, new studies, new responsibilities; new devices innumerable, new systems of construction, new materials and inventions to render everything from cellar to roof water, fire, damp and bug-proof, convenient and beautiful, turned the old style routine and constructions topsy turvy, and threw upon the architect the solution of problems sufficiently numerous to call for an additional profession. In addition to this the element of speed in construction, the contract system implying the duty of anticipating all contingencies to occur during the entire period of construction, and business growing out of building laws and underwriters' requirements, have in the aggregate added enormously to the architect's work and responsibility, demanding at the same time a more comprehensive professional training and wider experience. The "5 per cent. rule," however, remained unchanged, demonstrating its utter lack of elasticity and adaptability.

The lesson is obviously that a percentage rule is liable to become firmly fixed in the public mind, thus preventing the recognition of the nature and magnitude of services rendered as well as values actually created or benefits conferred by such services. Nor is this lesson a new one, the injustice of percentage rules having frequently been pointed out, for instance, by George Edmund Street, who is said to have denounced it as the greatest of absurdities.

The idea, then, naturally suggests itself to investigate the principles underlying these rules and their working results As a principle the valuing of architects' work as a percentage on the cost of executing designs appears perilously like valuing a sculptor's work as a percentage on the cost of casting Whether architecture is considered as art, invention or skill and expert service, its value is not, as a matter of fa dependent upon the cost of execution or bearing a fixed pr portion to it. The value of art, skill or invention, on t contrary, is measured by the market values created by the and regulated by the law of supply and demand. Howev percentage rules ignore this natural process of establishing t value of architects' work, rendering actual tests impossible.

Incidentally, percentage rules make it profitable for arc tects to increase the cost of buildings, and those accomplishi much with small means are thus mulcted for their pains. P centage rules, furthermore, embody the purest form of labo union principles, ignoring differences in talent, training, expe ence, standing and skill, in fact ignoring the element of tin thus rewarding incompetence, neglect and inefficiency at t expense of good training, experience, skill and painstaki care, the professional charge being the same no matter whom rendered or how carefully or carelessly performed. is, then, fair to conclude that the principle of percentage ru is false—1, in assuming the value of architects' work to dependent upon the cost of execution, and 2, in ignoring diffi ences of talent, skill and experience and actual amount services as rendered.

Equally apparent are the following results:—(1) T antagonising of natural laws governing the recognition of t nature and value of architects' services, and (2) robbing tale skill, experience and success of the increased remunerati which is naturally theirs, thus encouraging the doing of mu in preference to doing it well, no other reward being open the successful practitioner.

Under the operation of the rule in America, by increasi duties and responsibilities and stationary charges, a level h been reached generally prohibitive of the employ of expe assistance except at the expense of the legitimate profit architects, few owners being willing to pay for it. Indirectly, th very fact is the main cause of the absence of specialties in t practice of architecture. The difficulty of obtaining appropri tions even for clerks of the works and the most necessa expert engineering assistance clearly proves that any sugge tion of needed expert co-operation from other architects wou be taken by clients as implying self-confessed incompetenc while lawyers and physicians, in the face of much keen rivalry inside of their far more crowded professions, as con pared with the architectural profession, find no difficulty in th

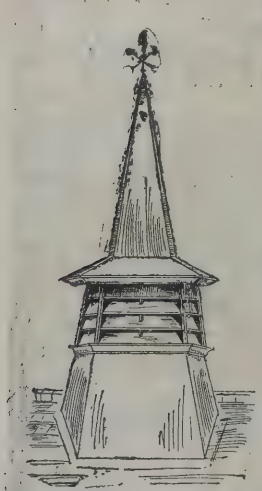
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ction. The employment of specialists is, however, purely he interest of the public and economy of efforts.

The relations of professional men to their clients are, as a , dictated largely by personal considerations, and should, he interest of all, be as permanent as possible. Every nge implies additional and unnecessary effort and trouble oth sides. On the other hand, no barrier should exist to itects engaging such associate architects or generally ring such expert assistance as may appear best to the rests of their clients.

It is obvious that the talent, inclination and experience of erent architects will run in different directions, and it is hing short of a public calamity that the present system uld force so many able practitioners in doing what they are, inclination, training and experience, entirely unfitted for. establishing of specialties would, moreover, mean opportunities for establishing reputations in the different branches of e particularly artistic, constructional or executive work, indirectly effect a great strengthening of the architectural fession by making professional records valuable.

It may not be amiss, in this connection, to mention that, ually, the schedule in the United States is 5 per cent. and England 7½ per cent., with the only difference that English itects furnish bills of quantities, which additional work is formed by quantity surveyors, as independent firms or chés of architects' offices, and at a cost seldom exceeding r cent. on the cost. The English system is certainly better more business-like than ours. The builder, basing his posal on the bill of quantities furnished, and assuming no onsibility for it, the competition is fairer, and occasions for pts as to the interpretation of drawings and specifications ced to a minimum. Percentage rules, however, are open he same objections in all countries, although it may be rved that the injustice worked is less serious in most pean countries, where the old systems of construction the old routine of professional practice still prevail.

The remedy most earnestly needed is a careful understanding between architect and owner as to the amount and of services to be rendered. Even a recognition of the consumed in the work would be a distinct gain. The full ion of the question of value of architects' work must ft to work itself out naturally, the present barriers to this ess to be withdrawn. Generally speaking, it is limited to minimum by the amount of what is commonly called penses," below which architects are working at a loss, and as to its maximum by its market value, both being subject to variation. The actual value of architects' work is ascertained, practically, in various ways by comparing results.

The following test is a suggestive example :—The present professional charge for preliminary work and sketches, general plans and specifications, building and health department work, estimates and work connected with them is 2½ per cent. on the cost of the work. The difference between the highest and lowest proposals will average at least 15 per cent. This, of course, is not a measure of the value of plans and specifications, although the magnitude of the fluctuation is suggestive.

However, it is evident that the technical skill, knowledge of the building market and painstaking care employed in devising the labour saving constructional organisation contained in the general plans and specifications, which constitute the necessary basis for the builder's organisation, is worth the difference between this organised handling of the work and the handling of similar work without such organisation, without regard to the quality established by specification and supervision, art value or value of invention or planning involved, and the fluctuations even of estimate on such data prove that the proper managing of this financial question alone more than repays the owner the entire architect's commission. Thus, what is commonly supposed to be the architect's main or only work is really not paid for at all.

Other tangible elements of market value are appearance and durability of construction, saleable qualities, rentability, convenience, &c. The value of architecture, from a general point of view, may be analysed similarly to that of the other sorts. Architecture is not a mixture of art and engineering, as is often said, but includes in its very nature a technique (defined as the practical details of a fine art) like all other sorts. The technique is the incarnation of art; without it architecture would not exist in stone, wood and metal, &c., right in our midst, but in the clouds with some architectural writers. Did not Michel Angelo spend much time at Carrara doing a vast amount of quarrying until he found the proper material and building bridges, thus giving months of the allotted time of his genius to the technique of his art? The technique is a necessary part of every art, and, in a certain sense, what the body is to the mind. If the art element proper is often overbalanced by the problems presented by the technique, this, of course, affects the nature of the architect's work and the proper estimate of its value.

As an illustration of this point, buildings might be con-

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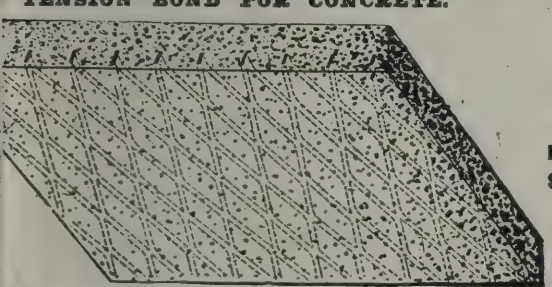
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sidered under two heads, namely:—1. As "plants" erected for a definite utilitarian purpose, the technique overbalancing the element of art proper. 2. As monuments erected mainly for artistic or monumental purposes. In either case the value of the architect's work is decided by its measure of success, usually expressed in the form of market value. The existence of this value is proven by successful buildings and the history of museums, collections and heirlooms all over the world. However, values measurable by the standard of high art cannot be made out of bare walls, sheet metal, or even without sacrificing such space as is necessary to develop it.

We may, for instance, properly conceive a church as a "plant" for worship or as a monumental church. To attempt monumentality where actual conditions require the problem to be treated in the spirit of a "plant" is humbug, and the result is foreordained to bear the stamp of the shabbiness of false pretensions. At the same time, such conditions may exist, indeed do exist in most cases, as to truthfully demand a solution partly "plant," partly "monument," being one of the modern "practical" tendencies which have caused so much foolish comment.

In order to bring the proper order out of the present chaos of this large and varied field the questions involved should be studied by experts like in sculpture and painting, in which values are undoubtedly, directly or indirectly, established by expert purchases.

The enormous values involved in architecture demands this as a public necessity. Every penny invested in architecture and its auxiliary arts, and which is not required for the necessities of support and shelter is art, and can have no value except as such. If its design is such as to preclude art value its cost represents a waste pure and simple, except in so far as it may be justified to a slight extent by existing notions as serving a certain wear. A "practical" grasp at these facts is just what we need.

Monumental work, naturally, is mainly educational, although fame, the attraction of travel, enhancing of values of adjacent property, &c., are elements of tangible value. On the other hand, it can only become of value through its design. If monuments possess value at all it is primarily due to their designs.

In properties for sale or to let, especially where intricate planning is required, the value of good and *vice versa*, the depreciation due to poor designs are often very great, as many apartment houses and blocks after blocks of poorly designed "ready-made" residences have testified. Rent values i sales values often show tremendous losses after a few ye occupancy without being accounted for by other circumstan A new house will, as a rule, sell to an indiscriminating pul but it takes a well-designed and well-executed house to hol value and even increase it. Still more dependent upon t designs are residential properties both in city and country.

Of course there are other factors affecting property val however, apart from these, the value of residences can onl preserved through the excellence of their designs. It is shoddy work was so long the rule in American residences many accepted the rule that a residence was simply built the wear of one generation or such parts of its existence as left at the time of building. However, the unanimous testim of history is to the effect that the good work of all times appreciated, and that excellent design with excellent execu mean a good investment. Mediocre design and medi execution mean bad investment, in fact, often total loss aft short use. What I have here briefly referred to I am s architects will find no difficulties in exemplifying from t own experience.

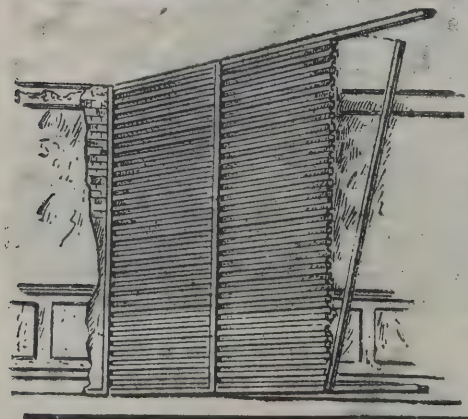
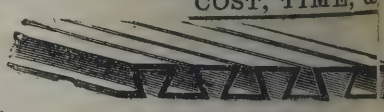
The question of "fashions," as opposed to permanent investment value in architecture can only be referred to a few words. The excellent work of all periods is now rec nised as a matter of fact, and the trend of civilisation be away from narrow prejudices and toward greater liberal broader views and increased individuality, we have a right to expect that this recognition will be permanent.

Manufacturers and salesmen naturally seek to creat market for their "latest," but real architecture is beyond power of this influence, moving with the general currents f human thought, which may be called fashions in a wider ser but constitute in our times no danger to permanent art val In addition to this the value of design in the manufactures absolutely dependent upon the state of architecture.

It is likely that our present percentage rules have blind us to the magnitude of the question of value of architectu However, even a superficial tracing of it into its main ramifi tions speedily reveals the fact that large enough values involved to render the question one of absorbing interest a importance.

As to the practical application of the above, it is for architectural societies to decide what their future policy sh be. It is unlikely, however, that any attempt on their part regulate architects' charges will in the long run be successfu

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CRAVEN HOUSE—OLD AND NEW.

E London County Council, although a body of compara-ely recent formation, has already by its vigorous policy of ening up congested districts and widening narrow thorough-es amply justified its existence. Under its auspices London s fair to become one of the cleanest and most healthy es in the world, as indeed it should, being the centre from ich the highest principles of sanitation have been and are ng disseminated, and the capital of the nation which has en to the world its greatest engineers. One of the most king and important examples of the Council's beneficent on in the direction of "opening up" is to be found in the ghbourhood of Clare Market, a district which has long been orious for its squalid alleys and insanitary surroundings.



Old Craven House.



The New Building.

T: rookeries and slums which have so long existed in this -time aristocratic locality are now being rapidly demolished, in their place wider streets and substantial buildings are earing, buildings devoted principally to commercial and ustrial enterprises. Probably not many Londoners are re of the fact that a few centuries ago the Earls of Craven their family mansion, Craven House, upon the site which ow bounded by the lower end of Drury Lane on the west, re Market on the north and east, and Wych Street on the th. This edifice, which is depicted in an engraving by nson, published in 1800, has long been demolished, and its has been since occupied by a number of smaller buildings used variously as tenements, workshops and warehouses. After many changes the various buildings were eventually acquired by a firm of manufacturing sanitary engineers, who, true to the instincts of their profession, were not content to merely remedy existing defects in the condition of the property, but, having entered into an agreement with the authorities by which a portion of the site was devoted to the much-needed widening of Drury Lane, they have now erected an elaborate terra-cotta building containing extensive and well-lighted showroom, office and warehouse floors, and having its main entrance at the end nearest the Strand—a turret surmounted by a dome and flagstaff. This building has been appropriately named Craven House, thus perpetuating the memory of the historical associations of the site.

NEW SCHOOLS AT NOTTINGHAM.

The Mundella Higher Grade School and School of Science, in the Meadows, Nottingham, were opened on the 29th ult. The contract for the erection of the schools and outbuildings was entrusted to Mr. Enoch Hind, and the work was superintended by the architect, Mr. R. C. Clarke, and the clerk of the works, Mr. W. H. Price. The larger school is in two separate blocks, divided into the higher grade and science department and the laundry, gymnasium and dining-rooms. In these accommodation is provided for 402 girls and 502 boys, whilst in the neighbouring building 230 infants will be accommodated. The front of the graded school, which is in Mundella Road, is of brick, with yellow terra-cotta dressings. On the ground floor is situate the girls' school; on the first floor is the boys' school, and the laboratories, lecture-room and drawing-classroom occupy the second floor, where also are the chemical laboratory, which is 51 feet 3 inches by 19 feet 6 inches, the drawing classroom 31 feet by 27 feet 6 inches, and the lecture-room 31 feet by 27 feet 6 inches, fitted with gallery, desks, &c. Entrance to the girls' school has been established on Mundella Road, the managers' entrance being also at this point. The boys and infants will enter their schools from the Collygate Road. Careful attention has been paid to the important points of lighting, heating and ventilation, and the cloakrooms are neatly and conveniently arranged. There is also on the ground floor a girls' assembly hall, which is 64 feet by 30 feet 6 inches, and is approached from two entrances, and on the same floor is the cookery-room, with adjacent scullery and cloakroom. On the south side of the graded school, in a separate building, are the gymnasium, the laundry and separate dining-rooms for girls and boys, provided with cooking ranges, so that scholars from a distance may obtain their meals in comfort at school. The gymnasium is 44 feet by 22 feet, and is completely fitted with apparatus for the physical development of scholars. The infants' school in Collygate Road, on the north side of the graded school, has a central hall 48 feet by 27 feet, and has two entrances. Three infants' classrooms and one "babies'-room" have been provided. The interior of the buildings presents a clean appearance, all the walls up to 4 feet high being faced with white-glazed bricks. The drainage work has been carried out on the latest sanitary principles, and the whole of the heating has been entrusted to Messrs. T. Danks & Co., of Nottingham. The contract for the schools and outbuildings, exclusive of fittings, amounted to 17,146*l*.

Fosdyke County Bridge, in the Holland Division of Lincolnshire, has been closed for repairs, having become unsafe.

KENSINGTON TOWN HALL EXTENSION.

THE new extension of the building designed by the late Robert Walker has been erected in accordance with plans and designs prepared by Mr. Wm. Weaver, the surveyor to the vestry, and Mr. W. G. Hunt, who were appointed by the vestry to act as joint architects.

The new building is connected with the Town Hall proper by a covered way, which has had to be restricted in height in accordance with the terms of an agreement between the vestry and the managers of the National schools, and owing to the retired situation of the new building, with its frontages abutting almost wholly upon the churchyard, the exterior has been kept plain and is carried up entirely in stock brickwork with Portland stone dressings. The ground floor is occupied by additional offices for the medical officer of health and sanitary inspectors; members' room, to be also used by deputations in waiting, and the remainder of the ground floor is absorbed by the surveyor's department, comprising private office for surveyor, general office and drawing office.

There are two distinct and separate entrances from Church Walk, leading by separate staircases to the first floor, the front portion of which is occupied by a large committee-room, boldly treated in oak. The decoration of committee-room is deferred until the walls are perfectly dry, and it is proposed that the decorations shall be carried out in accordance with sketch exhibited in the room. For similar reasons the rest of the interior of the building has been treated on corresponding lines. In connection with the committee-room are lavatories, hat and cloak-room, &c. The northern portion of the first floor, entirely shut off from the preceding, is occupied by the coroner's court, witnesses' waiting-room and coroner's private room, which will also be used as a retiring-room by the jury. The court-room is fitted up in oak in a very complete manner, and is well lighted by side windows and a glazed dome.

The whole building is lighted by electricity and is warmed by hot-water coils in addition to the fireplaces provided. Over the front or south portion of the building a third storey is built, providing rooms for the accommodation of the hall-keeper.

The building has been erected by Messrs. Leslie & Co., Limited, Kensington Square.

MR. GEORGE MCGUIRE, town clerk of Bradford, died at midnight on Monday. Deceased was formerly town clerk of York.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

8511. Albert Simpson, for "Improvements in the ventilat of buildings."

8527. Mark Joyce, for "Improvements in or relating bricks, cornices, mouldings and the like employed in the c struction of buildings."

8571. James William Glazier, for "Improvements in hing or casement windows."

8639. Patrick Hanley, for "Improvements in means apparatus for use when erecting or building walls or ot structures."

8653. William Windle Pilkington and William Regin Ormany, for "Improvements in hones, grindstones, eme corundum and other wheels, bath or other bricks and the li blocks for abrasive or grinding purposes, tiles, ornamental other slabs, tablets, switch-boards, imitation porcelain a pottery and the like."

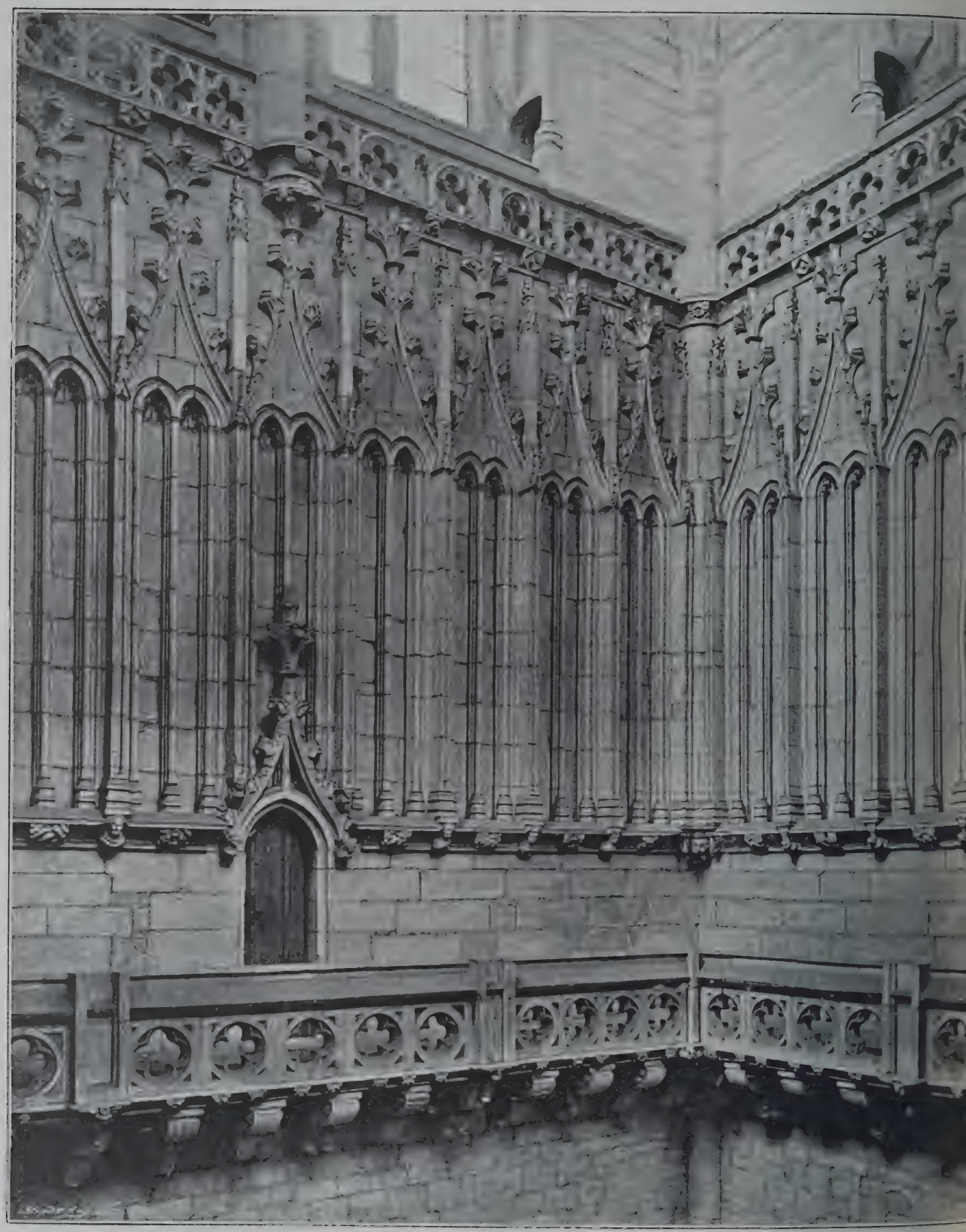
9011. Edwin Blake Smith and Harry Gorton Mason, "Improved system of raising and lowering windows a shutters by hydraulic or pneumatic pressure."

9036. Frank Carew Carey, for "Improvements in windo to facilitate cleaning the same."

TO INVENTORS.—Patents for Inventions, Trade-marks and Desig secured; every assistance given to inventors. Specialists in Buildi matters. Information free.—Messrs. RAYNER & Co., Patent Agen 37 Chancery Lane, London, W.C.

THE foundation-stones of a new Primitive Methodist chur in the West Bromwich Lyng district were laid. The ne building, which is being erected on a prominent site on t main road from West Bromwich to Oldbury, will provi sitting accommodation for about 640 worshippers, and th estimated cost is 4,990*l*. The architect is Mr. A. Long, and th builder Mr. John Mallin.





PHOTOGRAPHED BY S. B. BOLAS & CO., 77 OXFORD STREET, W.

CATHEDRAL SERIES, No. 228.—DURHAM: ARCADE, CENTRAL TOWER.

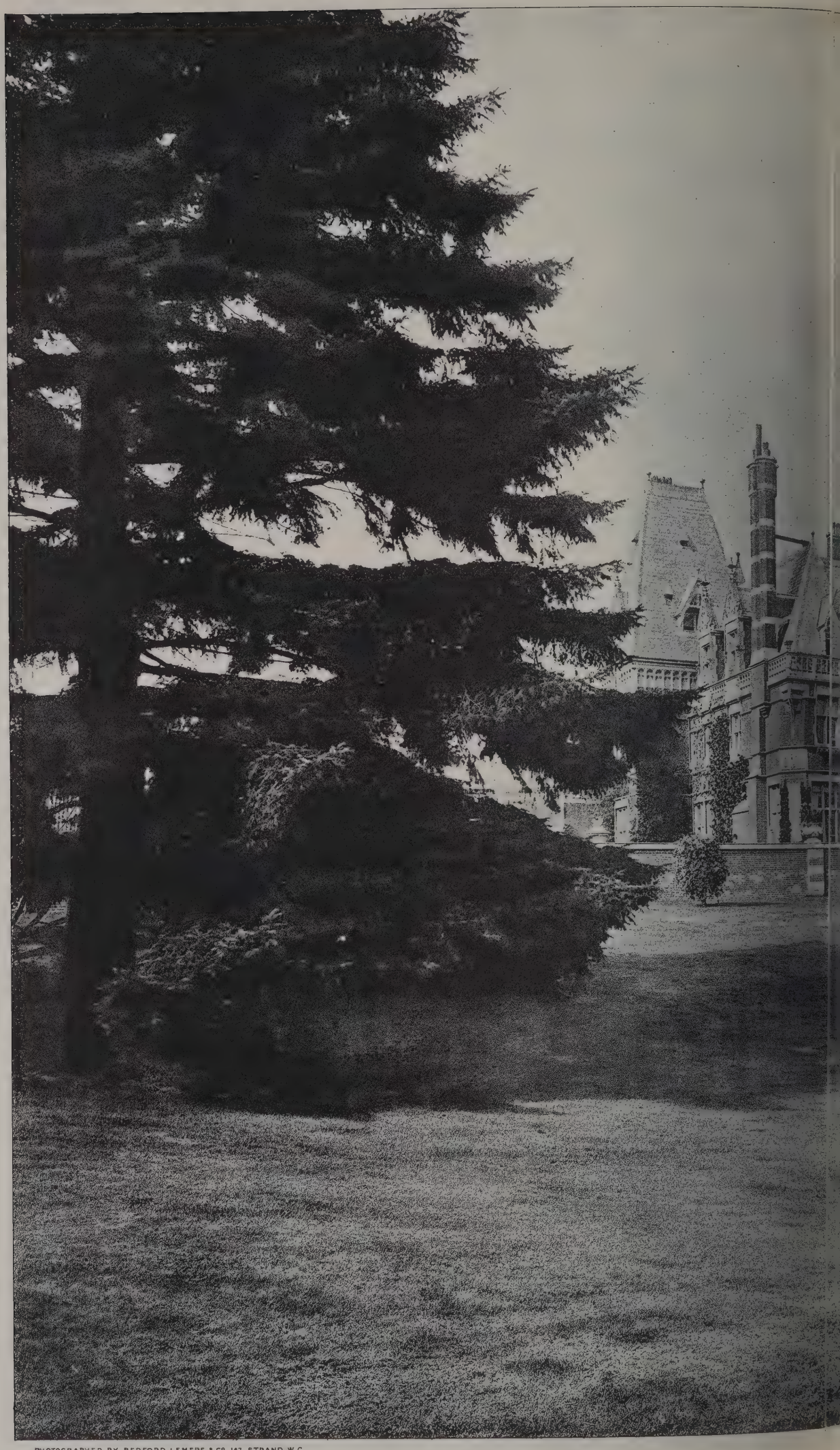




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CATHEDRAL SERIES, No. 227.—DURHAM: CHAPTER-HOUSE, LOOKING EAST.



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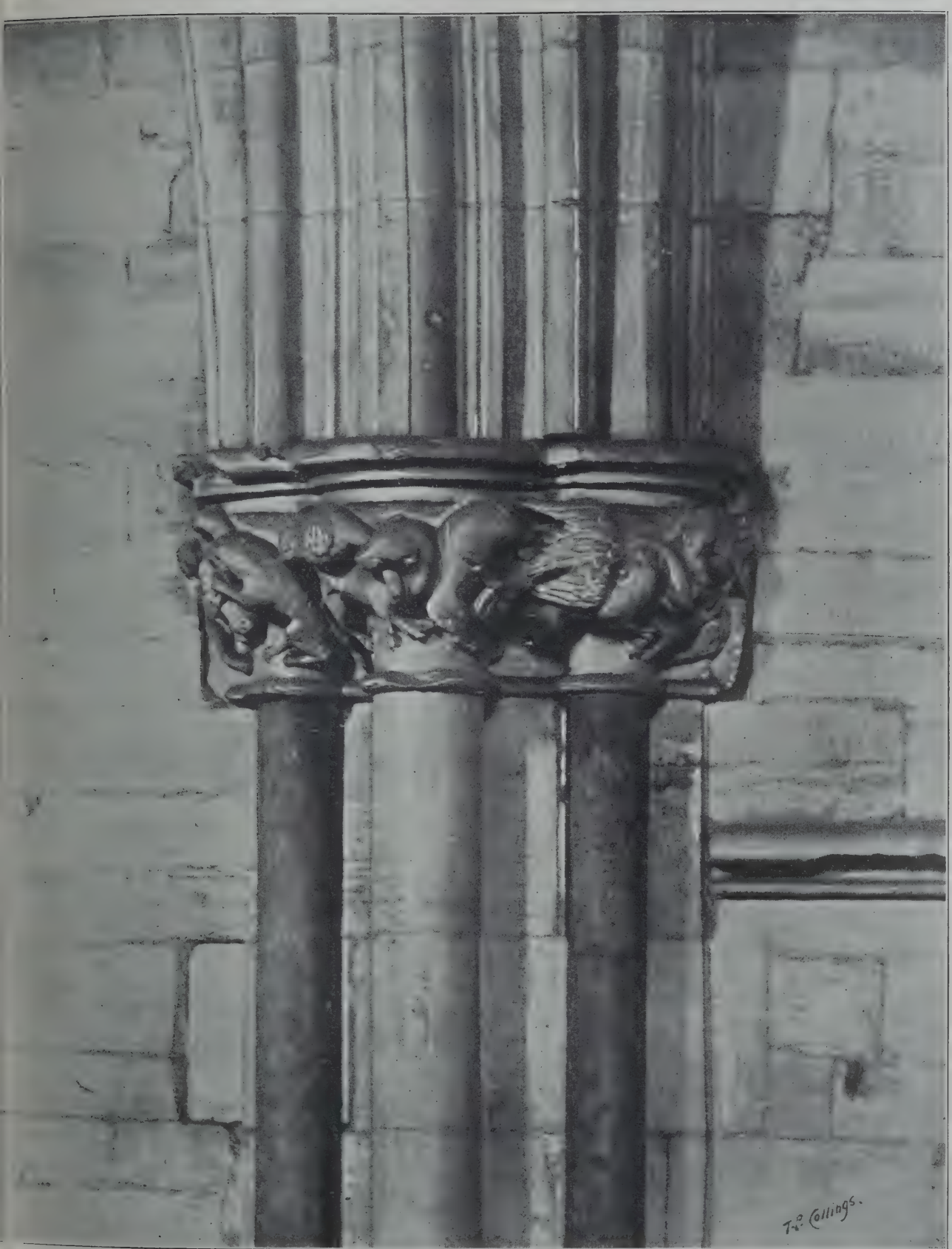
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CATHEDRAL SERIES, No. 229.—DURHAM: DETAIL OF CAPITAL.

The Architect.

THE WEEK.

TRANGE case relating to the building of a church eard before the Irish Master of the Rolls on Monday. r years ago a lady in Dublin left about 8,000*l.* to the an Catholic archbishop of Dublin and one of his s for the erection of a new church. The former con- d the sum was insufficient, but the priest was ine, and believed that if the work were started any y required would be forthcoming. Two houses were ied as a site. The archbishop wished, for the sake of my, to preserve them, and to build the church in the out the priest was eager to have the frontage on the . The aid of the Courts was invoked in order to the two trustees of the will to agree. The priest ied plans, and managed to get a judge to approve of but the archbishop opposed taking out any part of noney. The priest's solicitor wrote to say that if ient were given a free hand he would undertake ild a church in accordance with the plans, and take upon himself the entire responsibility and the archbishop from any further trouble in connec- vith it. In the alternative, if the archbishop would t plans to the priest of which he could approve, he give his grace a free hand to carry out the building church. There is nothing sacred to a thief, and the contention was going on one of the houses was , the lead stripped from the roof, and the place was such a state as to become a nuisance to the neigh- ood. Both parties claim to be in the right, but as ill not agree the only course left is apparently for the of the Rolls to carry out the provisions of the will. rdship says he should like to see a handsome church p, but he is not a builder. As a compromise he d the removal of the house that has become ruined, is doubtful whether the housebreakers will succeed oring harmony between the ecclesiastics after judges wyers have failed.

E members of the National Society of Amalgamated orkers are as hard to please as if they were plasterers. eld a meeting in Birmingham on Tuesday, when it ported that the year's income had increased from *l.* to 16,989*l.* But in compensation for the prosperity iety had to meet demands of employers at Doncaster. the Society's point of view what was sought was ive, but impartial outsiders will, we are sure, have a t opinion on the subject. The following were the ls:—"Conditions as to the casting department:— at no meetings or discussions shall be held in p, except by express permission of the management; t no obstructions shall be placed in the way of bour-saving apparatus or improved methods; (3) e rule formulated by the men concerning the pro- of boys and men in the casting shops be abolished. ions as to the finishing departments:—(1) That the e of paying a bonus to society members only, to the n of non-society men, be entirely abolished; t we manage our shops in our own way, setting son we please to work any machine or machines." er words, the employers did not wish that they be controlled by the workmen employed by them. w system of production will not, however, tolerate ers who manage their business according to old- ed methods, and who do not recognise the advantages ending work to discuss politics. We suppose a ll shortly come when brass-working will be synony- ith talk.

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affords a little solace to Frenchmen at the present e to think of the approaching centenary of HONORÉ ZAC. His memory should be interesting, especially architects, for no novelist was so careful about architectural backgrounds. If he had not taken to literature he must have obtained fame as a draughtsman or as an archæologist. BALZAC lived so long in Paris, it is difficult to believe he was not a native of the city. He arrived in 1819, and his first residence was in an attic of No. 9 Rue de Lesdiguières, in the Marais. There he began to write novels which he never cared to own. Literature did not promise him wealth, and in 1835 he tried to supplement it with printing. He tenanted premises on the other side of Paris, in a street now called after VISCONTI, the architect, and near the Ecole des Beaux-Arts. Afterwards DELACROIX used the printing office as a studio. As author and printer BALZAC was not more fortunate. We next hear of him in a boarding-house near the Observatory, JULES SANDEAU and GEORGE SAND being fellow-boarders. He grew tired of Paris and removed to Chaillot, and from thence emi- grated to Sèvres, where he became acquainted with COROT, the landscapist. BALZAC experienced the "earth-hunger," and somehow contrived to become a proprietor, but it did not long endure. The property had to be sold, and as he was left with his pen for sole property he must have been only a titular landlord. His next abode was No. 47 Rue Raynouard, Passy, which at that time was like a country village. His marriage with the Polish countess enabled BALZAC to believe that his dreams about a building he was to devise, and which was to be a romance in itself, were soon to be realised. A house was erected for him in the street of Passy which bears his name, but he was not destined to occupy it long, and from it he was removed to Père Lachaise. His remains are not to moulder there, for a place has been assigned to them in the Panthéon, and who can say whether hereafter another removal may not be inevitable?

THERE was a time when schoolboys who resembled MACAULAY'S model youth could recall the pursuivants' announcements of Lord MARMION'S titles—"They hail'd him Lord of Fontenaye, of Lutterward and Scrivelbays, of Tamworth tower and town." The MARMIONS have passed away but Tamworth Tower remains, and henceforth it will be the property of the Tamworth townsmen. It was a capital notion to acquire the old castle and grounds as a Jubilee memorial. The price would have shocked Lord MARMION. Castle and three acres cost only 3,000*l.*, so little value have historic remains in our time. The laying out of the grounds will add 1,000*l.* to the expense. It is proposed to convert three of the rooms into a picture gallery, and if paintings are not immediately forthcoming there is an immense collection of stuffed birds to serve as a substitute. Some of the rooms are interesting, and there is a large banqueting hall. Sir WALTER SCOTT tells us how "ROBERT DE MARMION, Lord of Fontenay, a distinguished follower of the Conqueror, obtained a grant of the castle and town of Tamworth, and also of the manor of Scrivelby, in Lincolnshire. One or both of these noble possessions was held by the honourable service of being the royal champion, as the ancestors of MARMION had formerly been to the Dukes of NORMANDY. But after the castle and demesne of Tamworth had passed through four successive barons from ROBERT, the family became extinct in the person of PHILIP DE MARMION, who died in 20th EDWARD I. without issue male. He was suc- ceeded in his castle of Tamworth by ALEXANDER DE FREVILLE, who married MAZERA, his grand-daughter. BALDWIN DE FREVILLE, ALEXANDER'S descendant, in the reign of RICHARD I., by the supposed tenure of his castle of Tamworth, claimed the office of royal champion, and to do the service appertaining; namely, on the day of corona- tion to ride completely armed upon a barbed horse into Westminster Hall, and there to challenge the combat against any who would gainsay the king's title. But this office was adjudged to Sir JOHN DYMOKE, to whom the manor of Scrivelby had descended by another of the co-heiresses of ROBERT DE MARMION; and it remains in that family, whose representative is Hereditary Champion of England at the present day." The greater part of the early castle no longer exists; the oldest work remaining is supposed to date from the period of HENRY VIII.

THE NEW PUBLIC BUILDINGS.

WE postponed the publication of the views and plans of the new buildings which the Government have undertaken until the whole scheme was completed. As Mr. WEBB and the officials of the Science and Art Department and Office of Works have decided upon what is required at the South Kensington Museum, there is no longer any reason for delay. Accordingly we publish this week drawings of the new museums of the Science and Art Department, the War Office and the offices in Parliament Street and Great George Street. On no former occasion was it possible for an English journal to present evidence of so bold an effort to deal with one of the most difficult problems in official organisation. Our plates are a testimony to the courage of the present Government in grappling with obstacles which daunted their predecessors.

It has been often said, and with reason, that the Government offices of this country were discreditable to the authorities. One of the causes which kept back improvements was the vast expense. It is only necessary to walk down Parliament Street and to recall its former condition in order to realise the extent of the property which had to be removed in order to obtain a part of the space which will be required for Mr. BRYDON'S building. If it is remembered that the houses which have vanished formed a hive of industry wherein wealth was easily acquired, the amount of compensation it was necessary to pay may be imagined. Engineers, parliamentary agents and a host of satellites were able to enrich themselves in Parliament Street, and eviction from so profitable a quarter signified the outlay in return of sums of money which the State alone could provide. With all their courage, the projectors of railway schemes avoided Parliament Street, Great George Street and the neighbouring thoroughfares. The District Railway was kept to a region which at the time of construction was no more than a slum.

Besides the expense, there was another reason. For many years we piqued ourselves on our unostentatious ways of ruling the greater part of the world. Foreign representatives used to be amazed at the simplicity of the buildings in which laws were made and laws were enforced, and the mean rooms in which peace and war were determined. HAJJI BABA could not believe his eyes when he saw the legislators of what he supposed was the whole world outside Persia quietly going through their duties while standing with their backs to the fireplace. India he found was swayed by "two swine-eating infidels, shaven, impure, walkers on foot, and who, by way of state, travel in dirty coaches filled with straw." He added, "This seemed to us a greater miracle in government than even that of BEG IAN, the plaiter of whips, who governed the Turcomans and the countries of Samarcand and Bokhara, leading a life more like a beggar than a potentate."

When the grand moguls of the East India Company went about in hackney coaches their subordinates were not likely to fare luxuriously. CHARLES LAMB says of one suite of offices in the old India House that they "were enough to enlarge a man's notions of himself," and consequently care was taken in most Government offices to preserve the clerks from dangerous temptations of that kind. The intention was wise, but it failed of its effect. The meaner the rooms the more the officials' conceit was enlarged, until circumlocutionism became a byword, and the Government service was supposed to be a refuge for those who were not endowed with much energy and industry. As a consequence, nobody cared about the places in which the civil servants were employed. Ordinary houses were bought or leased from time to time, and however inconvenient they might be for the transaction of ordinary business, they were assumed to be good enough for the men who were to use them. As time went on and the staffs had to be enlarged the offices became more unsuitable, but the general public as well as Parliament continued to be indifferent to the inconvenience which others besides the occupants were compelled to suffer.

About forty years ago it became necessary to have some change, unless administrative work was to come to an end. There was a competition, but the architects who took part in it were unable or failed to realise the uses of a Government office. SCOTT, for instance, apparently assumed the building was to accommodate grandees, and therefore certain impressiveness was to be imparted to the and to as large a part as possible of the interior. not realise that the offices were to be a factory production of documents, the registration of "m and a storehouse for red tape. Instead, therefollowing the example set by BARRY, who refronted S building, and in the central part of the elevation en five storeys with square-headed windows, SCOTT pu three storeys only and opened sixteen windows in a of wall where BARRY was able to open twenty-thr bigger and semicircular windows count, SCOTT'S ac exercise is superior to BARRY'S oblongs and squa even officialdom was not satisfied with the price whi to be paid to gain the victory. SCOTT himself was to admit that the rooms were unusually high, but the was, he said, that the beauty and magnificence of JONES'S Banqueting House were always thrown in hi and in self-defence he was compelled to adopt high like those which helped to produce the fine effect f building on the other side of the street. According present Sir JOHN TAYLOR'S evidence in 1877 b parliamentary committee, some of the rooms in the I and Colonial Offices are a great deal too large, while t are too high for official purposes, very much space and unnecessary expense was incurred. It was al that some of the offices were so lofty the clerks co hear themselves speak on account of the echo.

It will be observed that in the offices of the Government Board Mr. BRYDON, following the sugge of the Office of Works, in his arrangement comes nc BARRY than to SCOTT. He contrives to have four (including a mezzanine), as in the Treasury, instead three which are to be found in SCOTT'S elevation latter is the more imposing, but there is a sacrifi floor, which is a consideration to an economical G ment. However, the money expended is not altc wasted, for the Home Office from its treatment serv central object to which the offices of the Treasury and Government Board are pendants. Although his Office will be in juxtaposition with INIGO JONES'S bui Mr. YOUNG has not out of fear of comparison sac utility to height. He also has four storeys at lea some of the departments should complain of the as of distinguishing characteristics from the windows afford them light for the discharge of their public neither from the Government nor the public will sympathy be derived. Each floor is, in fact, dif treated in its fenestration, although there is more unity in general effect.

At Whitehall and Parliament Street the influe existing buildings could not be ignored. More libe able to be exercised at South Kensington. Wi Italian work of JONES and BARRY in presence, it wo considered indecorous to adopt the license wh tolerated in modern Free Classic. At South Ken the three buildings which will be said to adjoin t museum when it is finished, viz. the Natural Museum, the Imperial Institute and the Science Sc have little or nothing in common, or at any rate mu than is found in the Treasury Buildings and the Ban House at Whitehall. Mr. WEBB was therefore jus adopting forms which can only be distant relatives to be found in an Italian town. The museum ha it so many Italian works, a building that recalled P would not be inapposite. But as the Renaissance liberty, the exercise of that quality has likewise its priateness. The museum buildings suggest the imp of light by the area of window openings, and hence it be concluded that within rather than without the ta are to be found. The design would, in consequence likely to have gained HENRY COLE'S approval, altho great showman might have preferred a reproduc which a label could be affixed descriptive of the The building will declare its purpose, and that i The cupolas have also their use, but they were demde an assertion of the precedency which belongs to the and Albert Museum on account of being the repres of the ancient "boilers," which first revealed the tages of the district, and for other additional reason new works, as will be seen from the plan, will not te

the existing courts, and consequently, we suppose, the ding operations can be carried on without any closure e South Kensington Museum against the public.

Taking the buildings as a whole, they reveal an utili- n and very definite inspiration. The late Sir GILBERT T excused his efforts to make his building as fine as possible with an alien style by the indefiniteness of his uctions. His words were :—"All my earlier instruc- ; on the subject led to the idea that a very palatial ding was required. After I had carried out the first on, which contains the Foreign and Indian Offices, I told that we ought not to have done that ; but all my impressions were that that was wanted, and I aimed at In the collection of buildings we illustrate, an excuse iat description cannot be offered ; and if defects are vered they cannot all be ascribed to the architects. Government must share the responsibility. The require- s were furnished to the architects, and the limits within h they were to be realised were rigidly fixed. The lings are therefore not merely evidence of a determina- to have work done, they are also to be taken as models hat offices and museums should be according to the ; of the existing Government. As such the series h now first appears in its entirety is deserving of more ral attention than is usually bestowed on architectural ns.

'hat the QUEEN has been enabled to lay the foundation- : of the additions to the museum—the building which [ER MAJESTY has most interest—has given general satis-)n. The desire of the public now is that the QUEEN be enabled to open the new building, and in that way hance its interest to the Empire.

FRENCH ART.*

LTHOUGH many actions of the French appear to suggest their possession of more than an average of human weakness, in their art they commonly come r to perfection than any other people. Compared ours their art is national, and all classes can exult in ccess as if they were sharers in the operations. For a the French churchmen were its best patrons; their ence was caught by the nobles and by the court. Then people were made to contribute to the education and ort of artists by their taxes, and now a Minister of Fine is an indispensable element in all Governments. It is nerely by obligatory contributions the French people aid promotion of art. Whenever a promising youth appears eople in the town or district are willing to make up a fient sum to enable him to live in Paris or near one of reat provincial schools of art. In that way men who have become agricultural labourers have gained m as artists, and have brought credit to their early actors. In England the State counts for nothing in tist's career. If a painter or a sculptor has attended f the departmental schools he is generally ashamed of debtedness and would gladly destroy the records of it. t of the taxes is devoted to the schools, but the people neral are so indifferent and unknowing about the n followed in them, they cannot say whether it makes rs artistic ability.

'hy there should be so marked a difference between eoples it is difficult to decide. In all such questions peculiarities must count. Miss KINGSLEY believes t' France is the most richly-dowered country on earth, lin the characteristics of her race and in the diversity r natural gifts." No doubt the country became the of strangers, but it cannot be said that they were ed from Britain. The land of England has not always owned by Saxons, and yet who can suppose that the c sense belongs to the very soil? We also have had ught, untrained, nameless monks" working in our hes, without their negative qualities producing much ent benefit in the arts or in making art the heritage of eople.

is, however, with France Miss KINGSLEY concerns f, and to give a representation of French art in a single ne is a task which is enough to scare the boldest littérateur. The names of architects, painters and sculptors are so numerous that with the merest tombstone records about the owners they would be enough to fill a book. Miss KINGSLEY is orderly, patient and industrious, and moreover has been able to obtain the aid of many experts in France. As a consequence, her abstract of the history of art from the twelfth to the nineteenth century has much more animating power, and is more organic than is usual with attempts to present so vast a period and so many individualities before a reader's glances. Another reason is that Miss KINGSLEY seeks to demonstrate "that French art has throughout been in sympathy with the national characteristics of the country and of the peoples of France." We do not believe that artists are always without qualities that relate to the universe, and are bound by conditions arising from petty measures of time and space; still, the mere keeping of that idea always in view has helped to impart unity to the history.

In interest a history of art has an advantage over political histories. Kings, statesmen and warriors have not always left memorials of their existence. But if the artists' works are no longer conserved, we can at least imagine their appearance, and the mere thought of them gives us pleasure. It is generally admitted, for example, that in sculpture the French are more successful than in the other arts. But what a variety of attempts marks its history during eight centuries. Miss KINGSLEY informs us that, "as early as LOUIS LE GROS'S accession in 1108 we get the first faint sign of naturalism; it is shown primarily in ornament; the leaf of the French arum appears in capitals." VIOLLET-LE-DUC speaks of the delight which the early sculptors must have had in the possession of so simple a thing as a leaf or a weed at a time when property was supposed to be the endowment of a few. The twelfth-century carver who attempted with clumsy tools to represent the qualities of a plant was probably one of the happiest men to be found at the time. How different was the state of his mind if compared with that of the sculptor who comes last in the pages of the history, viz. M. ALBERT BARTHOLOMÉ. He has devoted himself to funeral sculpture, not because it is profitable in Paris, but from its correspondence with his thoughts. His masterpiece is the solemn memorial of departed and departing humanity, a work of which a part was seen in the Champ-de-Mars a few years ago, and is to be erected near the entrance to Père Lachaise. As Miss KINGSLEY tells us, "It is not to commemorate one person, one century, one race, this great Monument of the Dead, but to serve as a memorial to all—gentle and simple, statesman and communard alike, known and unknown, the young and the old, who have travelled the unknown road." Whether we consider the mysterious doorway with its flanking and frightened figures as marking the end of an era or the beginning of one, it is equally saddening, especially if taken as a commentary on the majority of figures which appear in annual exhibitions. It is an embodiment of pessimism, a mode of considering things which happily could not have afflicted the shaggy sculptor to whom the arum leaf was a symbol of the endless enjoyment which awaited him when his hand was no longer strong enough to carve capitals.

In painting we have a similar phenomenon. We are told that "the earliest paintings are to be found in missals." As the illuminator in his monastic cell was free from the everyday troubles of the mason, he was able to give his whole thoughts to his art. To him the world was intended to be a beautiful place, of which flowers were the surviving tokens, and although he was ignorant of the arrangements which are now familiar to botanists, he was assured in his simple faith that SOLOMON in all his glory was not equal to a lily from the convent garden. There is as much difference between the placid life of the monastic artists and the combats of modern painters for recognition as between modern painters' work and the miniatures in the missals. Take the life of EDOUARD MANET, the representative of Impressionism, to which Miss KINGSLEY devotes as much space as if the painter were her particular idol. His family opposed his choice of a painter's career. He entered the atelier of COUTURE, the painter of *The Decadence*, who "was specially severe to any student who showed signs of originality." He was forced to become his own instructor. His works were excluded from the

* *A History of French Art*, 1100-1899. By Rose G. Kingsley, r de l'Instruction Publique. Longmans, Green & Co.

Salons and from the International Exhibition of 1867. Although M. DURAND-RUEL invested 50,000 francs in paintings which the crowd despised, MANET was considered as an ISHMAEL until 1878, and if it were not for the courage of ANTONIN PROUST the artist's name would not be allowed to appear on the roll of the Legion of Honour, where so many mediocrities are found. MANET did not long enjoy the distinction. The artist, who was a pioneer of the "plein-air" school, was no doubt as sincere an admirer of creation as any of the monks; but the conditions under which art is practised in the nineteenth century are different.

As for architecture, we all know too well how far the present is unlike the past in acceptance of the grandest of arts. Miss KINGSLEY, in describing pre-Renaissance work, says:— "Gothic architecture is a living thing. In its constructive system, in its decorative system, it is instinct with life. It is to nature that it goes for its decorative system. It is to the profoundest principles of mechanical science that it goes for its constructive system. And thus the pure Gothic building rises from the earth like the tree in the forest, its living beauty co-existent with absolute obedience to architectural laws. The charming legend at Laon, which tells how the oxen harnessed themselves to the carts to transport stone for the cathedral up the precipitous rock on which it stands, is but typical of the fervent religious enthusiasm which possessed the whole population, and the zeal with which they voluntarily gave themselves over to the building of innumerable churches and cathedrals." But whatever may be thought of architecture by the world, there is no doubt its representatives continue to be as faithful to nature and its statical principles as were their Gothic predecessors. The Galerie des Machines in the Champs-de-Mars was supposed to be essentially a novel construction, and in its dimensions it was almost without precedent, but the proportions of the parts were determined by a process not unlike that employed for a Mediæval cathedral. M. DUTERT, the architect, is not merely an adept in mechanics. He also goes to nature for his decoration. In describing his new Museum of Natural History it is said:—

> M. Dutert has had the courage to return to the methods of the Gothic architects, and to seek his suggestions for decoration in the natural world. Therefore, as he has built a Museum of Natural History, his capitals are no longer Doric, Ionic or Corinthian, but formed of gigantic lions and lionesses. The round-headed arcade of the principal door is composed of great palm leaves; the band above of cockle-shells. Along the bands of shells, in very faint relief, which separate the two storeys, huge birds of prey spread their wings at intervals, each the work of sculptors such as MM. Gardet, Valton, Boutry, Louis Noël, &c., and each forms a crown of the arcade of the ground floor. It is one of the best and most striking portions of the building. Saurians and crustaceans are used as consoles to some of the upper windows, and while they represent rare or extinct species, they are always so interpreted as to lend themselves to the strict architectural necessity of their position. Lines of shells replace the usual dentils beneath the windows, and insects decorate the gutter below the roof, while in the interior the beautiful balusters and balconies of stairs and galleries are composed of iris, ferns, chrysanthemums and laurels, absolutely true to the nature of each plant and yet subordinated to the exigencies of architectural harmony.

It will be observed from what we have said that Miss KINGSLEY endeavours to grasp principles, and although her work must mainly be biographical, she is able to realise the influence exerted by artists and the influences which have acted upon them. The reader feels there has been evolution, although in some things there may not be improvement. The forces which are still in operation are necessarily the most interesting to artists and lovers of art. Accordingly, one-half of the book is assigned to the art of the nineteenth century, an arrangement which is sure to satisfy the majority of readers. In dealing with the artists of the period, Miss KINGSLEY shows her good sense. DAVID is commonly supposed to have been more academical than the Academicians, and his big classical scenes are enough to freeze a visitor when they are seen in the Louvre on a winter's day. But Miss KINGSLEY is right when she says that he was the father of modern art, and "that face to face with the living human being DAVID'S genius seems vitalised by the contact." The portrait of MARAT is cited as a proof of his modernity. THACKERAY considered DA portrait of a washerwoman was excellent, and he spea single figures as full of life, truth and gaiety. DAVI no colourist, and INGRES, who was one of his pupils, v colour at so low a rate that he said, "A thing well dra always well enough painted." INGRES'S works are, how far richer in colour than DAVID'S. Miss KINGSLEY a the credit to DELACROIX of bringing back the colou methods of the great masters to France. It wa ambition of DELAROCHE to be the modern eclectic by bining the methods of DELACROIX and INGRES, but ac ing to Miss KINGSLEY no artist's reputation has ever su more disastrous defeat and calamity from his too en astic disciples than that of PAUL DELAROCHE, when his death they organised an exhibition of his DELACROIX, INGRES and DELAROCHE adorned buil with their paintings. But, as Miss KINGSLEY says speaking of PUVIS DE CHAVANNES, "In decorative pai it is not enough to cover an immense canvas with pain people. The building for which it is destined, exigencies of position, must be ever present to the a eye in his vision of the whole, which is to enhanc beauty of architectural line, that inflexible setting in his conception is to live."

The landscapists would be worthy of a volume. hard a struggle some of them were compelled to take p is suggested when we learn that during thirty years C never sold a picture. THÉODORE ROUSSEAU was an sufferer. The Academicians kept him out of the his crime being his devotion to nature. Then ther peasant painters like MILLET and COURBET, who appeared to have been born in an age which coul comprehend them. The military painters were fortunate, for they were capable of depicting scenes of all Frenchmen were proud. Compared with painters sculptors, the architects' lives will be considered romantic and prosperous, but the capable men to wo the public are indifferent and will give no commission buildings have to pass away without the consolatio knowing they are to have a line or two in a history of Miss KINGSLEY is sympathetic towards all artists, and occasional revelations of a kindly woman's nature inc the interest of her book.

ROYAL INSTITUTE OF BRITISH ARCHITE

AN ordinary general meeting of this Institute was h Monday at No. 9 Conduit Street, Regent Street, fessor Aitchison, R.A., the president, in the chair.

The minutes of the last meeting having been taken a Mr. H. H. Statham read a paper on

The Architectural Element in Engineering Wor

of which the following is an abstract:—

The author said he hoped no member of the In supposed that this paper was intended in any sense as an on the engineering profession. So far from entertainin such intention, it seemed to him that in the century just ing to a close engineers had played a far more importa n the world than architects. This was partly, no doubt, to circumstances not altogether within their own contr which they had turned to splendid account. The enc development of locomotion by means of steam power, would be remembered in history as the great character the present century, had led to a demand for immen structional works all over the world for the crossing of valleys and estuaries. The viaduct was to the nine century what the cathedral was to the twelfth, thirteen fourteenth centuries.

Many persons, artists especially, had been mour indignant over this, and complained that the world was covered with structures which had no beauty. He h much sympathy with this constant depreciation of en and their works, and considered it to be very much exagg What was the real mistake of modern engineers he come to presently. But in regard to a large proportion purely utilitarian structures which had been erected neers, he held that there was a great deal more of int them than many of those who complained of them were perceive. Structure was in itself a subject of interest, and those who could find nothing to in a great piece of construction devised to ov a practical obstacle to intercommunication or loco

evidence not so much of a superior as of a ded education. You could hardly design a structure to me a great natural obstacle, or to resist one of the forces of nature, without giving it a certain character, an st of its own, provided it was carried out in a simple and cted manner, and with direct reference to its practical se. You could not build a stone bridge across a river t producing a fine object in the sweep of the arch and sisting mass of the abutments. A suspension bridge, with the catenary curve of the chains designed for us, as , by nature herself, was so beautiful an object that it was lingly difficult to spoil it. Engineers had succeeded in g it in some cases, as he would have occasion to show, was because they were not always content to let ne sufficiently; and where the span to be bridged was e one, even the girder was redeemed in our eyes, or l be, by its obvious practical suitability to its purpose. irdo-phobia, as we might call it, of many artists and s of æsthetic sensitiveness was exaggerated. A girder was certainly not so pleasing in its lines as an arch or ension chain, but, after all, it was only a beam on a large If a structure of this kind was let well alone, simply d as a piece of unadorned construction, it would in a make its own æsthetic. On the Intercolonial Railway in la, across a good many of the minor valleys the line was d on lattice girder bridges supported on simple rect- ar pyramids of undressed stones, rather wider at the top the width of the girder, without any "treatment" of nd, the girders being just laid across the tops of these piles. These really looked quite picturesque; it was the oor rustic bridge on a large scale.

ing through some lantern illustrations of engineering of a practical and unadorned character, among others ld point to the lattice girder bridge near Fribourg, on ttice piers, as an erection which illustrated favourably gument that perfectly frank display of structure in engi- g works, with no pretence at ornament, was not offensive uresque effect; at all events he could not regard a struc- ke this as an injury to the landscape. The same remark d to the Crumlin Viaduct, a structure of the same class. ether the Forth Bridge was or was not an ugly thing was a n which there might be a difference of opinion. Pro- it would be viewed in different lights according as people anything about construction or not. Those who did, ed it with interest; those who did not, probably with bewilderment. As to artistic or decorative treatment, tempt at that in a work of this kind would have been piterous and would have defeated its own ends.

ming to the arched masonry type of structure, after ning some older examples, he referred to Kingston e, London Bridge and new Putney Bridge, all very fine ures which had this quality in common, that they were d with the greatest breadth and simplicity, relying for effect entirely on the disposition of the masses of ry, not even indulging in the use of an order on the s

king bridges in which masonry was used in combination on construction, we had in the Victoria Bridge over the wrence a remarkable example of what was suggested —that a structure built to resist the forces of nature almost always have character and interest. Here we mple massive stone piers, which on the up-stream side were ill out in long spurs to meet and break up the ice coming after the thaws. There was not a particle of ornament, e piers and the great box girder laid like a beam over formed a most impressive structure, which would only be ed by any attempt at ornamental treatment. The Tubular Bridge was built amid many criticisms to the that it was a thing of no beauty, which would be an to the effect of the suspension bridge, &c. Yet Hamerton, the most discerning and enthusiastic of art critics, wrote me time after:—

"he whole bridge is admirable as a work of art, though is very simple and severe. The long line of tube (which like a great beam) is fortunately broken by the piers of which are finished above the beam as towers, and the y that naturally belongs to a work of colossal size and is enhanced by the prudent use of some architectural ent. The tubular bridge over the river Conway near stle is less fortunate, because the neighbourhood of a Mediæval building led the architect of the bridge to adopt llated style for the entrances to the tubes—a style which be more or less in harmony with the fortress, but would y in any other situation have been chosen to accompany e which was nothing but two parallel beams."

king examples of suspension bridges, the Menai Sus- n Bridge was in every respect one of the most beautiful res of any kind in England. The simple but massive ent of the towers, spreading toward the base, was admir- ited to their situation and function. All the things they en looking at hitherto were characterised by simplicity, sometimes showing nothing but the unadorned construction. It was within the last quarter of a century or so that the minds of engineers had been poisoned with the terrible ambition to produce "handsome" structures, and in the endeavour after that they had entered on a field for which their training had in no way fitted them. It seemed impossible to get engineers to understand that the handling of decorative architectural detail was a matter requiring special training.

The two mistakes we most frequently met with in these ornate modern engineering works were coarseness of design in ornament and mouldings, and want of perception of scale. In fact, it appeared that engineers hardly realised what scale meant, and thought that a detail which was good on a small scale was good on a large scale, which by no means follows. Scale might be regarded in two lights. It consisted, firstly, in so proportioning all the parts and details of a design that they should have a harmonious relation to one another, which might be called perception of scale in the abstract. There was also what might be called conventional scale: the recognised and habitual proportion to each other of details (such as those of the orders) which had by long use come to have a certain recognised relation to one another, so that a use of one of them on an entirely different scale to what we were accustomed to confused our sense of proportion in the structure. This sense of scale was conventional and acquired, no doubt; but if these conventional materials of architectural design were made use of at all, they ought to be used with knowledge and not at haphazard. After citing some examples, especially Blackfriars and Hammersmith bridges, of bad detail and falsity of scale, he directed attention to illustrations of the bridge at Coulouvrière, near Geneva, which was understood to have given the suggestion for the Vauxhall Bridge design. The general aspect of the Coulouvrière Bridge, from a distance, was picturesque, but the details would not bear examination, and in fact, from an architect's point of view, it was a very bad design. The columns on the bridge had no proper foundations, but were bracketed over the side in a very clumsy manner. The decorative details showed badly-designed rococo ornament meandering partly over the surface of rusticated quoins, to which they bear no relation. The archivolts of the arches were strongly emphasised by sham quoins of very pronounced character, executed in cement in imitation of stone. In the Vauxhall Bridge design immense quoins, with a rustication of 1 foot projection from the wall-face, were carried round the archivolts. The defect of this design in regard to appearance was that it was unusually thin at the crown of the arch; the concrete construction allowed of this, but in facing it with granite the visible arch looked exceedingly thin and weak at the crown. By emphasising the archivolt course by rustication, and at the same time entirely separating it from the spandrel masonry, which was kept quite flat, this thin and weak appearance of the visible granite arch was increased; and at the same time the large and deep cornice, of very coarse mouldings, still further reduced the visible depth of the arch at the crown. The details showed a complete ignoring of scale. The single moulding which crowned the plinth of the main piers was nearly 3 feet in vertical height, and this magnified moulding operated to reduce the whole scale of the rest of the work, making the quoins on the face of the pier, which were really very large, appear trivial; while the insertion of a necking moulding on the semicircular projection on the face of the pier at once transformed it to a column of immense thickness, and quite out of proportion to any function of a column in such a position. The whole thing was a jumble of incongruous details, put together by some one who did not understand the language of architectural design.

The problem of treating a concrete bridge with a granite facing was, in fact, rather a new one; the granite was here, in reality, only what the French call a *revêtement*, and should be treated accordingly.

In regard to the general subject of the designing of bridges, he would suggest that if it was urged that, in the case of bridges which were to be decoratively treated, the engineer should be assisted by an architect, why should it not be put the other way about—that an architect should build the bridge assisted by an engineer? Architects were not familiar with the problems incident to forming foundations in deep water, in the bed of the sea or of a river; but as soon as the structure cleared the water, if it was to be an architecturally treated bridge, it was really more of an architect's business than an engineer's. But he feared that this was throwing an apple of discord on the board.

In Connection with the building of the new East Sussex Asylum at Hellingly, the County Council, finding the tenders from contractors unsatisfactory, have determined to make the bricks themselves, and have decided to purchase machinery and plant to the value of 4,700*l*. They also mean to lay down and maintain a tramway from Hellingly station to the asylum. The purchase of the necessary land and the making of the roadway for the tram will cost about 10,000*l*.

THE DECORATION OF ST. PAUL'S.

THE following memorial from Messrs. John Belcher, John F. Bentley, Reginald Blomfield, J. M. Brydon, James Brooks, Basil Champneys, T. E. Collcutt, Alexander Graham, M. E. Macartney, E. W. Mountford, W. C. Marshall, E. Newton, F. C. Penrose, Beresford Pite, E. S. Prior, E. R. Robson, J. Oldrid Scott, J. J. Stevenson, Leonard Stokes, E. P. Warren, Thomas H. Watson, H. Wilson and R. Seldon Wornum has been presented to the Dean and Chapter of St. Paul's :—

In a letter to the *Times*, which appeared on May 6, Sir W. Richmond has to all intents defied the instructed opinion of this country in regard to the decoration of St. Paul's. We, the undersigned architects, therefore feel it our duty to protest against the continuance of the works of decoration until full opportunity has been given for the consideration of the whole scheme by the best expert opinion available. St. Paul's Cathedral is the most characteristic of our national monuments. It is now in imminent danger of losing the grave dignity which has endeared it to the heart of the majority of Englishmen, and, in our opinion, this is due to the fact that Sir W. Richmond's scheme, whatever its abstract merits, has not been thought out in sympathy with and in subordination to the architecture of the cathedral.

1. The chief inspiration of Sir W. Richmond's design has been sought in Byzantine art, with certain motives suggested by English designers of this century. It would be impossible to conceive anything more alien to Wren's genius and to the intellectual atmosphere in which he lived and worked.

2. In St. Paul's Cathedral, as in any other masterpiece in architecture, a certain scale has been set by the original designer which cannot be abandoned without serious injury to the effect of the whole building. The scale that Wren intended was followed by Stevens in the designs that he made for the spandrels under the central dome, and the discrepancy between this scale and that adopted by Sir W. Richmond can be measured by a comparison of the figures on the spandrels with Sir W. Richmond's figures in the half-domes over the canted angles below. In our opinion a fatal injury is being done to the proportions of St. Paul's by this substitution of Sir W. Richmond's scale for the scale of Sir Christopher Wren.

3. The decorations now being carried out involve actual injury to the stonework of the cathedral as left by Wren.

In the four great arches at the N.E., S.E., N.W., and S.W. angles under the dome, Wren, in order to satisfy the eye as to the constructive stability of his arches, left plain piers or abutments under the arches, and he deliberately abstained from any ornament to these piers in order to make clear the idea of strong support, which is their actual function. Sir W. Richmond has formed raised panels on these piers and studded the margins and divisions with *paterœ*—that is to say, Sir W. Richmond has stultified the architect's design, and in nearly every detail of his decoration he has, in our opinion, shown the same indifference to the clear intention of the architecture.

Sir William Richmond has practically admitted his dislike of that architecture in his letter of May 6, a letter more remarkable for its courage than for any appreciation of the gravity of the case. It seems to us that an artist so evidently out of touch with the conditions of his work should not be permitted to alter the character of the finest work of modern English architecture, and this feeling we believe to be that of the great majority of intelligent and educated Englishmen. We desire in no way to disparage Sir W. Richmond's attainments and well-earned reputation, but we cannot regard them in comparison with the fame of Sir Christopher Wren and the loyal preservation of his work. We protest as Englishmen against this subversion of the character of our national cathedral, and we resent, as artists and admirers of Wren, this tampering with the intention of one of the greatest of English architects.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE last of the monthly meetings of this Society for the present session was held in the library at the National Museum of Antiquaries, Queen Street, Edinburgh, on May 8, Sir Arthur Mitchell, K.C.B., M.D., LL.D., in the chair. In the first paper, Mr. John Bruce, F.S.A.Scot., Helensburgh, gave an account of the excavation of a pile structure situated near the Hill of Dumbuck, on the north bank of the Clyde, and about a mile to the east of Dumbarton Rock, which was discovered last summer by Mr. W. A. Donnelly, artist, Milton of Colquhoun, and excavated for the Helensburgh Natural History and Antiquarian Society, under the superintendence of Mr. Donnelly and the late Mr. Adam Millar, secretary of the Helensburgh Society, and Mr. John Bruce, F.S.A.Scot. The situation of the pile structure being within high-water mark rendered the work difficult, but by persevering efforts its remains were freed from mud and silt, and a ground plan and sections carefully made. The structure is circular, having an outer circumference defined by tw seven piles, enclosing an area of about 56 feet in dian within which is a series of layers of tree-trunks and brush chiefly of fir, alder and birch, the outside piles being of In the centre is a circular space defined by stones, and dis around it, in the space between it and the outside ring of there were five circular paved spaces, outlined by smaller wood piles, placed about 2 feet apart. These all rested o substructure of tree-trunks and brushwood, which again rest the bed of blue clay forming the solum of the river valley. 20 yards to the north-east a canoe hollowed out of an oal trunk, 35 feet 7 inches in length, 4 feet in breadth at the which was square, and 2 feet in depth, was discovered lyin sort of dock, the walls of which were defined by piles at inte and partly formed of wood and stone. A kind of caus connected the dock with the pile structure. About 12 to 1 outside of the ring of piles defining the margin of the stru there was a construction in the nature of a breakwater, was in the space between it and the enclosed pile stru proper that the refuse heap, containing a quantity of bo animals mixed with charcoal and ashes and other débri discovered. Among the refuse, and here and there amon débris of the site, were found a considerable numb implements and other objects of stone and bone. Among are several spearhead-like objects of slaty stone scratched ornamentation, several small rude and grot imitations of the human figure in shale and cannel coa mouth in some cases represented by the hole by the figure is suggested to have been hung as a pen and other small stones of various shapes, and oyster-s incised with lines or with small pittings in the surface arra in groups. Some hammer-stones and a quern, 18½ i diameter, were also found. Both on account of the char of the structure itself and the unusual nature of the ob found in it, there had been considerable diversity of op among archæologists ; but the author was confident that would throw light upon the archæological relations of h structure and the Dunbuie fort, which had yielded ob of similar character. The bones of the animals f have been provisionally determined by Dr. Traquair as in ing the "Bos longifrons," or ancient short-horned ox, ulna of which has been often shaped into impleme the sheep, the swine, the horse, the red-deer, and the roe-d Unfortunately, the boxes containing the bulk of the implem and relics, which had been despatched by rail some days re vious to the meeting, had not arrived, but will be exhibited sequently. Dr. Munro indicated his opinion that this w stone structure, superimposed on a basis of piles and horiz timbers, and that it belonged to a period later than the Ro occupation. Sir Arthur Mitchell commended the mann which Mr. Bruce had presented the record of a pie scientific work of great interest, and expressed the regr the Society for the death of Mr. A. Millar, who had associated with Mr. Bruce and Mr. Donnelly in this explor

TESSERÆ.

"What's in a Name?"

AS in a good many other things, nominalism is the sour no little mischief, error and humbug in architecture puts us off with mere delusions—words, names and instead of realities. Because the style which a building be described as belonging to—for want of other mea indicating the mode it affects—is good in itself, it nom ranks as being of it, although it may be a positive disgra it. Notwithstanding that the contrary opinion seems to pra there is no talismanic power in the name of a style. Gri Roman, Italian, Gothic may be all alike rendered detes thoroughly mean and paltry ; and when that is the cas excellence of the style adopted only renders failure in more ignominious, proving that he who has attempted to has neither understood it nor had the least feeling for it. name of a style is of infinitely less importance than the m in which it is treated. Instead of taking one that is merely to emasculate, impoverish and vulgarise it, it wou far better to make use at once of what is considered a one, and try to infuse some spirit and quality into matters little what style an architect employs, if out of th best he can only produce what is decidedly unsatisfa Before determining upon what style he shall select, an tect would do well to ask himself if he can treat any style with geniality. Unless he be content to be nothing mor a mere builder, geniality is a *sine qua non* pre-requisite f who would not unworthily write himself architect. Ca indeed, we have no right to demand, because it cann commanded even by the most diligent and the most z but geniality—intense relish for his pursuit, earnest an application to it, generous and enthusiastic devotion to it not unreasonably be looked for in him who enlists und

ers of art, which is presumed to admit into its service only nteers. A coward in a red coat is less pitiable and contible than he who enrols himself in the ranks of art, though cious of his own disqualifications, and animated by no er stimulus than the hope of pay and plunder.

Inigo Jones and the Stage.

nigo Jones may be considered the father of scene-painting ngland, and it is reasonable to suppose, from his acknowed talents, that the little stage which he prepared for the ate theatre at Whitehall could not be wanting in scenery, hinery and decorations that would be admired even in these s. Walpole, with reference to these elegant masques, rves :—"During the prosperous state of the king's affairs pleasures of the court were carried on with much taste and nificence. Poetry, painting, music and architecture were alled in to make them rational amusements, and I have no ot but the celebrated festivals of Louis XIV. were copied the shows exhibited at Whitehall, in its time the most e court in Europe. Ben Jonson was the poet; Inigo Jones nventor of the decorations; Laniere and Ferrabosco comd the symphonies; the king, the queen and the young lity danced in the interludes. These pieces, which originin the reign of James I., were sometimes composed by mand of the king in compliment to the nuptials of certain lity of his court, a custom productive of much good, by uraging marriage among the young nobility, the best rity for that dignified and virtuous conduct which regulated ouseholds of our great families of old, and rendered the hbourhood of a palace or a noble seat desirable in proporto the virtues of their noble possessors." On occasion of marriage of Robert Earl of Essex with the Lady Frances, hter of the Earl of Suffolk, a Hymenæi, or solemnities of sque, was performed at court on Twelfth Night, 1606. In piece, which was written by Jonson, Master Alphonso abosco sung; Master Thomas Giles made and taught the es. That this great English architect designed these antic and chaste amusements with taste we may infer from ncomiums of his compeers, for the masque presented on creation of Henry Prince of Wales, June 5, 1610, which written by Daniel, induced the author to make known t the machinery and contrivance and ornaments of the es made the most conspicuous part of the entertainment." masque was entitled the "Queen's Wake." Three years equent to this period, on the marriage of the Count Palatine e Rhine and the Princess Elizabeth, a masque was per-ed at Whitehall, composed by Chapman, a dramatic r of eminence and contemporary of Shakespeare. The t of our first scene-painter for his share in the getting up e piece is thus set forth :—"Invented and fashioned by our dom's most artfull and ingenious Architect, Inigo Jones. superb exhibition was provided in compliment to the royal at the expence of the gentlemen of the societies of the lle Temple and Lincoln's Inn, at the cost of 2,400*l.* and rmed at court." It should be observed that these masques introduced into England by the queen of James I. We therefore place the introduction of scene-painting in and in the reign of the royal father of Charles I., however n the art might have been improved under the reign of this reign.

Pope and Painting.

pe, the poet, really loved painting for its own sake, and worked daubed as inveterately as though he had been labouring in est for a seat in that society of painting, sculpture and itecture which had been talked of from the time of Charles I. met Sir Godfrey Kneller; the painter gave the poet a re, and the poet returned the compliment in a copy of verses. Pope's intimacy with the picture-makers was not confined ir Godfrey Kneller; he had a great crony in Charles s, they were inseparable; and his friendship for the hy Jonathan Richardson, of Queen Square, was no less g. His friendship for Jervas commenced early in life. A mporary, who knew his history well, observed, "He e) took delight when a child in drawing, and afterward g had masters for that purpose, made a tolerable good cress soon." His letter to his dearly loved John Gay, dated ist 23, 1713, will best express how meanly he thought of s rst essays in the sister art, after having his eyes opened to superior merits of painting by his friend Jervas. In it he :—"I have been near a week in London, where I am o remain till I become, by Mr. Jervas's help, 'Elegans arum spectator.' I begin to discover beauties that were ow imperceptible to me. Every corner of an eye or turn nose or ear, the smallest degree of light or shade on a k or in a dimple, have charms to distract me. I no er look upon Lord Plausible as ridiculous for admiring a s fine tip of an ear and pretty elbow (as the 'Plain ler' has it), but I am in some danger even from the ugly disagreeable, since they may have their retired beauties in part or other about them. You may guess in how uneasy a state I am, when every day the performances of others appear more beautiful and excellent and my own despicable. I have thrown away three Dr. Swifts, each of which was once my vanity; two Lady Bridgewaters, a Duchess of Montague, half a dozen earls and one Knight of the Garter." How it happened that the Dean of St. Patrick's, restless and fidgety as he was known to be, and a grudger of time to any idle purpose, could afford his sittings to Pope for three portraits no one has yet been vain enough to account for. There remained an uninterrupted friendship between poet and painter until dissolved by the death of Jervas in 1739. Jervas, who was a native of Ireland, went to Dublin to paint portraits. Pope meanwhile took up his abode in the painter's house in London, and there by way of relaxing from the laborious drudgery of transforming Greek phrases into English ones (for as he himself facetiously says, "A translator is no more a poet than a tailor is a man"), he toiled at the easel for a part of each day.

Landscape Art.

The practice of an artist in the study of nature is carefully to distinguish between those associations he has imbibed from nature at large, and which are cherished by all, and those which owe their origin to accident, or local observation and habit; he must likewise distinguish the effects of their application. The acuteness of his researches should not so much be directed to the discovery of beauties, which make no impression on others, as in the powerful and faithful representation of those scenes, tones of colour and effects in nature with which mankind have always been delighted; and in recalling impressions, which all receive, but which in many have lain dormant until awakened by the hand of the painter, who (conscious of the great force nature derives from motion, and a thousand objects and minute gradations of tints in unison with and auxiliary to the general effect, which cannot be imitated) nevertheless surmount these obstacles by the omission or concealment of those objects which in nature are inconsistent with the general sentiment, and not content with being consistent only, makes every object expressive of that sentiment which roused him to the attempt and is the ruling character of the scene. Now, as light, shade and colour form a great portion of the impressions of most scenes in landscape, by a judicious attention to them he can obscure those objects which cannot, though unpleasant to the eye in a view, be dispensed with, and increase the effect of those on which the subject principally depends; and from subjects, trifling in the estimation of common observers, form a picture so forcible and imposing, and one that owes so much to his own taste and powers, which are so artfully exerted, that every spectator, conscious of the general truth of the objects delineated, wonders that they had ever escaped his notice before. An artist should be more anxious to create general beauties than to avoid partial errors, as by the first he is sure to strengthen his imagination, and always produce something marked with character; but by the last his works will be generally insipid, which is the greatest of all faults in any one pretending to works of imagination.

Assyrian Buildings.

There are buildings in Assyria which so far differ in their sculptures, in their mythological and sacred symbols, and in the character and language of their inscriptions, as to lead to the inference that there were at least two distinct periods of Assyrian history. We may, moreover, conclude that either the people inhabiting the country at those distinct periods were of different races or of different branches of the same race, or that by intermixture with foreigners, perhaps Egyptians, great changes had taken place in their language, religion and customs between the building of the first palace of Nimroud and that of the edifices at Khorsabad and Kouyunjik. The names of the kings on the monuments show a lapse even of some centuries between the foundation of the most ancient and most recent of these edifices. From the symbols introduced into the sculptures of the second Assyrian period, and the Egyptian character of the small objects found in the earth above the ruins of the buildings of the oldest period, there was a close connection with Egypt, either by conquest or friendly intercourse, between the time of the erection of the earliest and latest palaces, and that the monuments of Egypt, the names of kings in certain Egyptian dynasties, the ivories from Nimroud, the introduction of several Assyrian divinities into the Egyptian pantheon, and other evidence, point to the fourteenth century as the probable time of the commencement, and the ninth as the period of the termination of that intercourse. The earlier palaces of Nimroud were already in ruins and buried before the foundation of the later, and it is probable they may have been thus destroyed about the time of the fourteenth Egyptian dynasty. The existence of two distinct dynasties in Assyria, and the foundation, about 2,000 years before Christ, of an Assyrian monarchy may be inferred from the testimony of the most ancient authors, and is in accordance with the evidence of Scripture and of Egyptian monuments.

NOTES AND COMMENTS.

IT is generally supposed by frequenters of Parliamentary committee-rooms that gas and water companies are more influential in the House of Commons than railway companies. We are not surprised that the Sutton, Southcoates and Drypool Gas Company believed they were able to block out a man's lights and commit other damage to houses with impunity. They possessed Parliamentary powers, and what was the advantage of the privilege of the company must be treated like an individual? A big gasometer which was 70 feet high was enlarged and extended to a height of 105 feet. In the course of the operations springs were tapped by cutting through a bed of silt, and the plaintiff's houses were flooded. Mr. Justice NORTH granted an injunction restraining the gas company from further elevating the gasometer, and awarded 340*l.* for the damage by the flooding. The company considered that hard treatment was meted out to them and appealed. The case was heard last month and judgment was given on Tuesday. There was a division of opinion among their lordships. The Master of the Rolls declined to consider a gas company as being in the same position as a railway company, for it was distinctly stated in one of the general Acts relating to gasworks that "Nothing in this or the special Act shall exonerate the undertakers from any indictment, action, or other proceeding for nuisance in the event of any nuisance being caused by them." The judgment in DALTON *v.* ANGUS relating to the question of support was applicable to the gas company. The equilibrium of the foundations of the plaintiff's houses was disturbed, and the company must be held responsible for what was an actionable nuisance. But, strange to say, the Master of the Rolls was obliged to admit there was no English case relating to cutting through quicksand, and he therefore relied on a judgment given in the Supreme Court of Massachusetts by Chief Justice FIELD, who said:—"Whatever may be true of percolating waters, we think that the defendants had no right to take away the soil of the plaintiff in land which they had not taken under the statutes, and that it is immaterial that the soil was removed by means of pumps from the trench into which it had fallen by its own weight, or had been carried by percolating water. We are unable to distinguish the case from one where the soil falls in from the surface in consequence of an excavation in the adjoining land." Lord Justice RIGBY agreed with the Master of the Rolls in dismissing the gas company's appeal. Lord Justice VAUGHAN WILLIAMS held that "an obligation not to withdraw water support from under your neighbour's land by digging or excavation in your own land is an obligation which may well be unwittingly contravened, for it is practically impossible in such a case to predict at what point or at what distance the withdrawal of the equal pressure of the water may cause motion or subsidence in the soil previously affected by water pressure. To affirm the right of support is to affirm that no land can be drained, or well or trench dug without the risk of an action for letting down the surface of neighbouring land." Neither in English nor in Roman law could his lordship find authority in favour of the right of support by water. As the majority took the other view the appeal was dismissed.

THE fountain in the Place du Châtelet, Paris, is now called the Palmier, from the column having a resemblance to a palm tree tightly enclosed in bands. It was formerly known as the Fountain of Victory, from the figure offering two laurel wreaths with which the column is surmounted. But with more reason it could be described as the Fountain of Sphinxes, for four of these figures are employed to emit water. In its first state the water came from four cornucopias. The fountain was constructed in 1807 from the designs of BRALLE, the architect, who secured the aid of BOSIO, the sculptor, to co-operate with him. The idea was ingenious. The bands encircling the column served for inscribing the names of places when French troops conquered. At the base of the column are figures to typify Faith, Vigilance, Law and Force. Originally the fountain stood in the Place du Châtelet, about 40 feet distant from the present site. It was found to be an obstruction to the new Boulevard de Sébastopol, and in 1858 M. BALLU, the architect, was instructed to remove it. The fountain was, inclined to a horizontal position, and then moved *en* [illegible] On arriving at the place arranged it was raise machinery to a new pedestal, with the four sphinx supporters. M. BALLU superintended the operations, were performed in about twenty minutes. The fou was lately allowed to become dilapidated, but it is n the hands of restorers.

ALEXANDRE DUMAS fils was one of the most sighted judges of pictures to be found in Paris. Fr friendship with painters he was able to obtain wo much less than their market value. It was allege while he was supposed to be buying as an amateur f own gratification he was really speculating in pictures. a man of his standing could not escape slander. made plain in one of the Paris law courts a few days ag with all his acuteness DUMAS was occasionally dec About fifteen years ago he bought a landscape calle *Fontaine des Gabourets*, which bore the name of C After a time it was ascertained that the painte M. TROUILLEBERT. An action was taken against h the author of a falsification, but he demonstrated th signature was covered by COROT's name and witho knowledge, and was acquitted. Recently a writer in ce the Paris journals related the story, but apparently n nothing of the defence or of the issue of the trial. TROUILLEBERT at once commenced an action, whic gained; a fine was imposed, and an apology has to appe thirty journals. A landscapist whose work is made to as COROT's, to the deception of a judge so competent younger DUMAS, should command the attention of lov French art.

WHEN EMERSON visited England he describe country as appearing to have been finished with a pi That was not altogether paradoxical, for in Ameri could then see very little land which corresponded wit market gardens and lawns of England. His own gard Concord preserved much of the primal wildness. Americans of our time are less disposed to allow natu have her own way. Landscape gardening is now a recogn profession in America, and there are architects who ar indisposed to make it a part of their business. In fact art is now becoming known as landscape architecture. requirements according to the American standard lately explained to the members of the Brooklyn Ins by Colonel JOHN Y. CULYER. According to him, the fession of the landscape architect is one that both me women may adopt with advantage. Feminine taste feminine love of nature will find many opportuniti display. One or two women in the States have al gone into the study actively. The prejudice tha existed in some quarters against landscape arch ture as not being a legitimate department o work, the Colonel said, is breaking down, the profession is receiving the recognition th deserves. In giving hints to the intending studen Colonel said that a common school education was pr requisite, high school training was desirable, and a c education even more so. Drawing and designing, knowledge of mathematics, acquaintance with bo horticulture and forestry, knowledge of methods of construction, and, above all, ability to grapple with ra tical problems, are among the numerous acquire demanded of the landscape architect. His work i confined to city parks, but also includes the laying u private estates, caring for rural forest areas and for and Governmental reservations. The Colonel's progr suggests a new scope for the activity of his countr But we wish he had also said a word or two abo advantages of masterly inactivity. Nature sometimes s be let alone, and in America especially.

ILLUSTRATIONS.

COMPLETION OF VICTORIA AND ALBERT MUSEUM: SK OF FRONT TOWARDS CROMWELL ROAD.

ROYAL COLLEGE OF SCIENCE, SOUTH KENSINGTON

NEW GOVERNMENT OFFICES, WHITEHALL.

NEW WAR OFFICE, WHITEHALL.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

By the Author of "Ecclesiologia Germanica," &c.

(*Continued from page 260.*)

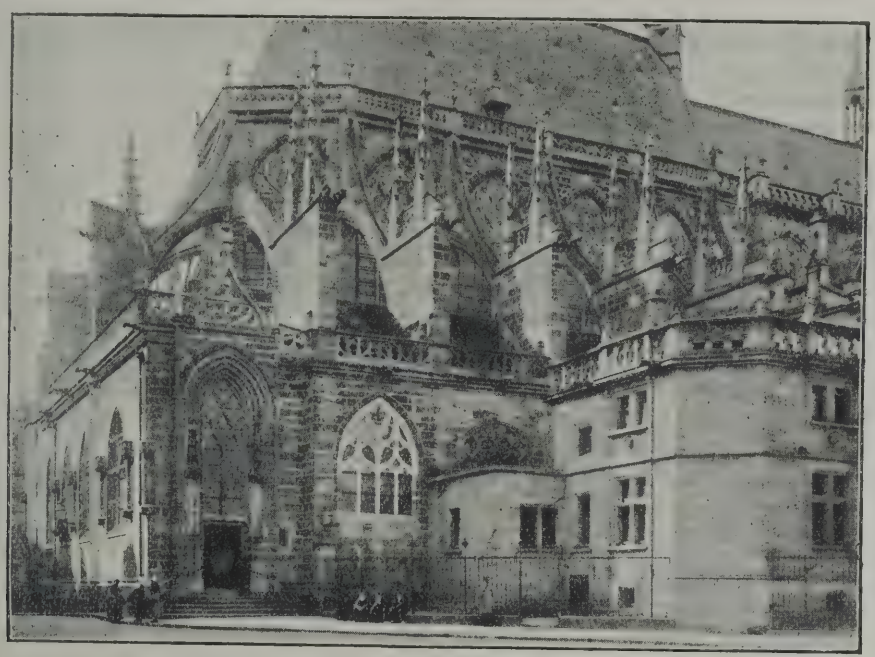
XIX.

Autun—Moulins sur Allier.

THE separation between the two great architectural divisions of France may be effected by a line drawn across its map in an oblique direction from the mouth of the Loire to Lausanne. In the provinces to the north of that line we find the churches of an earlier age replaced either entirely or in greater part by others, the outcome of that great age of architectural enthusiasm comprised between the last twenty years of the twelfth and the first half of the thirteenth centuries.

Southwards, church architecture after reaching a certain point stood still, never except in a few instances being carried to such perfection as in the north.*

Pointed arches, domical vaults over large spaces, and an excellent school of sculpture had, it is true, made their appearance in Aquitaine and Burgundy half a century before Normandy, Picardy and Champagne received them, yet the people of those provinces had attained to much greater elevation in their buildings and more expansion in their ground plans, so that all things considered the two schools were tolerably well balanced.



N.E. View of Cathedral at Moulins sur Allier.

With the glories of Amiens, Paris, Rheims, Rouen and Troyes fresh in his mind, the ordinary visitor will doubtless experience a slight feeling of disappointment on encountering the gloomy grandeur of Autun and Toulouse, Issoire and Le Puy, Tournus and Châlons-sur-Saône. No enormous sheeps of jewelled glass in lofty clerestory or transeptal rose are here, nor spacious procession paths with chapels radiating from them to impart such an air of mystery and indefinite length to the building viewed from its western extremity, but rather such features and details as are appropriate to a country whose climate for a considerable portion of the year obliges its inhabitants to seek speluncar shade.

At Autun, despite the absence of thirteenth-century grace, witness and luminosity, there is something truly awful in the early Pointed sternness of its nave, choir, and crossing, upon the two former of which the Flamboyant epoch has engrafted a series of chapels—good examples of that boldness and lightness sometimes found in combination in this latest phase of Gothic.

Of course, to accommodate these accretions the original plan of Autun Cathedral has been much disturbed, but above the cusped and ogee-canopied arches opening into the southern range of chapels portions of the original Romanesque work—the upper part of the windows—still remain.

One chapel in this aisle has a doorway of singular beauty. Cunningly wrought and brilliantly coloured, its tympanum is charged with a group of the Blessed Virgin attended by angels.

Another doorway exhibiting choice Late Gothic workmanship admits to the sacristies from the south transept. This portal has its ogee canopy richly finialed, crocketed and flanked by pinnacled buttresses, the actual door being obtuse-headed, with the superimposed space between it and the canopy relieved by an elongated rose, Flamboyantly traceried and of great beauty.

Ingres's picture of *The Martyrdom of St. Symphorien at Autun for Refusing to join a Procession in Honour of Cybele* appropriately lends an additional solemnity to that portion of the cathedral graced by the doorway of which I have sketched the salient features.

Classicism is not carried at Autun to the same extent as at Langres, where the pier capitals wholly Corinthianise. Here they are carved more conformably to Gothic models, each in itself forming a study. Not a few are strikingly curious, and it is interesting to find subjects from fabled as well as scriptural story. Two near the western entrance illustrate "Androcles and the Lion," and the "Wolf and the Stork." Of the sacred subjects, that of the "Pelican in her Piety," upon a capital in the eastern limb, is perhaps the most striking.*

Its cumbersome fittings deprive the nave of Autun Cathedral of that spaciousness which forms so pleasing a feature at Langres. A wide Late Gothic arch, foliated and subfoliated, spans the church at its west end and supports the organ. Nave and aisles are closely chaired, as at Tours. The two easternmost bays contain the chorus cantorum, the stalls being backed by screens copied from the arcades in the triforium and filled with glass; a poor sham Gothic pulpit replaces the one from which Talleyrand must have preached; the central tower does

* Among the churches to the south of this boundary line evincing their construction a northern character, the cathedrals of Bordeaux, Nevers, Bourges, Clermont Ferrand, Limoges, portions of Lyons, Narbonne, St. Flour and Mende, and the churches of La Chaise Dieu and St. Maximin, St. Cecile at Albi and that of the Jacobins at Toulouse, deserve mention.

* The study of this cathedral may contribute to mature theories of the highest interest in the principles of Christian art, for during the time that it was in progress the cathedral school of Autun was being presided over by Honorius, by whom a Liturgical Summa, in which are found the boldest ideas of Christian mysticism applied to the construction of basilicas, was composed. The whole sculpture of Autun Cathedral—the portal, nave and aisles—has for its end to trace the pictorial history of the Church's life amid the agitations of earth.

not form a lantern, the presbytery is arranged beneath it, and within the two-bayed eastern limb ; and the high altar with its surrounding furniture bespeaks too plainly the depraved taste of the First Empire.

The northern choir aisle constitutes the lady chapel, where, on the first morning of my visit, a memorial Mass was being said. The celebrant was attended by deacon and sub-deacon, all in vestments of black with silver orphreys. At the conclusion of the Mass a picturesque scene was presented by one of the officiants standing at the foot of the catafalque, processional crucifix in hand, during the aspersing and censing by the celebrant, who assumed a black cope for the function.

About 9 o'clock Terce, Mass and Sext were said by the canons in a Flamboyant chapel opening out of the south choir aisle, the reduced pecuniary resources of the chapter militating against the choral rendering of these offices.

A long country walk had been planned, but the unsettled state of the weather forbade its being carried into execution. However, there was plenty to be seen and to cause diversion in and about the Hôtel des Négociants, whose kind proprietress was all anxiety as to what I would do "pour passer le temps." The hotel was at my disposal, and I was to do exactly as though I were "chez moi." "Would I sit in the bureau or in the petit salon," or "Would I walk in the garden?" In the first-named retreat—déjeuner having concluded—the market folks were constantly in and out, paying their reckonings, exchanging a variety of compliments with Madame, and I fear somewhat seriously interfering with the artistic pursuits of a juvenile who was portraying houses and animals in a primitive and Anglo-Saxon fashion upon paper. Then there was the "petit salon" alluded to by Madame—an elegant apartment with a piano in it, upon which, if musically inclined, you might play tunes ; where mats artfully spread here and there upon the frottéed floor tripped up unwary visitors ; where china dogs and cats "set" to one another on the aforesaid piano ; where, in short, everything was on the most genteel scale imaginable. But the garden, a very charming one—a square plot of ground entered from the courtyard of the hotel—was the best place after all.

Here vegetables and fruit grew in homely propinquity with

> Large dropping poppies and queen hollyhocks,
> With butterflies for crowns—tree peonies
> And pinks and goldilocks.

Above its wall on one side rose the roofs of the Maison Dieu, which when darkness fell was silhouetted with charming effect against a stormy-looking sunset sky.

Thus the day wore on—varied by another visit to the cathedral—until five o'clock, when a dish of tea was prepared and brought to me in the garden by Madame herself. An ideal French lady this, and I hope that, should any of my readers find themselves in this district of Burgundy, they will not fail to make the well-ordered Hôtel des Négociants their headquarters, and themselves agreeable to its affable proprietress.

Thus refreshed, I started forth on a ramble, despite the somewhat threatening aspect of the heavens. Traversing the city in the direction of the railway, I soon arrived at the grand Roman "Porte d'Arroux," already mentioned as having furnished the model for several details in the cathedral. Passing through it, I found myself in a straggling suburb of Autun, consisting of cottages lining the road for a considerable distance. Upon a stall in front of a humble café were spread some fairings, evidently too attractive for a child who was being whipped to bed by its mother to the tune of "When the heart of a man is oppressed with care," which somebody or other was scraping upon a fiddle in the adjacent estaminet. Soon the cottages were left behind, and I emerged upon a road whence a glorious panorama of Burgundian country was spread, bounded in the distance by what seemed to be an interminable chain of hills, which every now and then a gleam of sunshine lit up with an effect almost magical. A modern Romanesque church, situated upon a knoll, challenged inspection. It proved to be a very poor affair indeed, with a roof groined in plaster, which precious material had in places fallen off in great patches, revealing the laths above it.

The nave was aisleless, but there were transepts opening from it, and an apsidal sanctuary. Here a Sister of Char was reverently attending to the wants of the several lam pendant before the altars, which, although tricked out w imagery from the toy-shop, were pleasing from the fact that, lieu of frontal, each had a subject in outline from the Life Our Lord simply incised in the stonework.

The situation of the church was delightful, and from t door of its transept Autun could be seen, including the catl dral, whose crocketed, Lichfield-like central spire was thro into startling relief by the dark hills impending the city j behind it.

Upon these hills I spent the early part of the second day my visit, before starting for Moulins. It was a delightful char from the gloom of the preceding day. The sun shone bright the turf, formed almost exclusively of thyme, was soft a springy ; streamlets of water trickled down in every directi and Autun, spread like a map at the feet, nestled just bel Beyond the Roman gates a sunflooded tract of country bounc by the hills above mentioned combined to form a truly delig ful picture.

Of the hare bells growing in abundance here I was able gather quite a bouquet for Madame, who, upon its presen tion, expressed herself "ravissée," instantly placing the posy a tumbler of water and carrying it in triumph to the salle manger, where it subsequently graced the table at déjeuner.

The railway ride from Autun to Nevers, although exceedingly picturesque and interesting one scenically—lyi as it did through the lovely district of the Morvan—was not all fertile in the study of the provincial character. Indeed, h it not been for a slight ebullition of mirth called forth by t frantic efforts of an old farmer to discern the whereabouts f his railway ticket, which eventually, at my suggestion, turn up in his umbrella, the ride would have passed without incide of any kind.

There was just time, on arriving at Nevers, to get "Sandwich au jambon de York" and a run round t cathedral before I was once more in the train and rushi southwards through the valley of the Allier towards Moulins.

On my return to the railway station at Nevers I had fou its salle d'attente a scene of much animation and bustle, cons quent upon the departure of the pupils from some large lyc which had evidently just broken up. The young gentlem with whom there was a large contingent of papas and mamm uncles, aunts, and cousins by dozens, were oozing away their homes in a genteel and Blimber-like fashion that wo excite the greatest contempt in the mind of an Etoniana Harrovian, or a Marlburian. Two of these young academicia are my compagnons de voyage as far as Moulins. A lady, parasoled and gloved *à merveille*, comes to see tha off, providing them with sweetmeats and some juvenile lite ture, which serve to beguile the tedium of the journey r half an hour or so, at the expiration of which per the juveniles begin to show signs of what I believe technically termed by their elders "the fidgets." A vici forming a portion of their *impedimenta*, is taken from case and a few excruciating noises are produced from interior. Then they proceed to translate the titles of my bo and papers—"Le Neuvième Siècle de Juin, 1894;" "Dus Duval, par W. M. Thackeray," "Manuel des Voyageurs Murray pour la France, Tom. II." and so forth. As approach Moulins the elder of the youths draws from his wa coat pocket a cigarette—a pallid weed that looks as if it d been smoking by itself—eyeing me meanwhile, evidently hopes of my proffering a light. But I do nothing of the kin being no business of mine to encourage the young whipp snapper in his naughtiness the moment he is released from control of his pastors and masters. So, while peering over leaves, observant of all this, I feign to be absorbed in Mr. Pater's elegant essay on Vézelay in the pages of the *Nineteenth Century*. Arriving at Moulins, the carriage door is opened for me by my young compagnon de voyage with as much politeness as the frustrated hope that anticipated a light would permit, and so we part.

The afternoon is intensely hot, and as the train steams into the very imposing station of this little city, the modern twin spires of its cathedral and church of the Sacred Hart rise up white against a cloudless blue sky from the monotonous

plain in which it is located, and through which runs the Allier, shrunken by the dry season to a mere thread, with a large tract of sand intervening between it and the banks.

Moulins is one of the new sees created since the re-establishment in 1801* of religious order in France after the great Revolution. Before 1789 there were eighteen archbishoprics, exclusive of Avignon. Of these, one (Cambrai) was reduced to a simple bishopric, but was subsequently restored to its former higher dignity; four were united with others, viz. Arles and Embrun with Aix; Vienne with Lyons; and Narbonne with Toulouse. The addition of Avignon makes the present number fifteen. Of the suffragan sees some five-and-forty were suppressed, the rest being so arranged that one should be as far as possible coextensive with the department in which it was situated. Among the Northern French sees suppressed in 1801, those of St. Omer, Laon, Noyon, Senlis, Lisieux, Avranches and Auxerre may be named.

When Moulins was made the seat of a bishop, the diocesan had assigned to him as his cathedral the Flamboyant chapel of the Duke of Bourbon's old château. To this inadequate cathedral a nave with western steeples was added (1855-71), in a grand and bold early French Gothic style from the designs of Viollet-le-Duc, who felicitously introduced bands of puce-coloured stone in imitation of those streaks of lava which form so important a feature in the churches of the Auvergnat, notably at Le Puy and in Notre-Dame at Clermont Ferrand.

I was somewhat prepared for disappointment (indeed I only looked upon Moulins as a convenient centre whence to visit the neighbouring abbey of Souvigny), but a few hours in and about its cathedral served to dispel this idea, and I finally left it much impressed with its grace and with the spirit of Mediævalism which has been allowed, contrary to custom, to pervade not only its instrumenta, but which has extended to the vestments of its clergy—ameliorations due to Mgr. de Dreux Brêzé, a prelate of great ecclesiological knowledge and research, and who was called to preside over the see nearly half a century ago.

In the side chapels of the choir, however, the altar-pieces still retain their eighteenth-century character. Poor they are, and utterly wanting that beautiful symbolism which is so characteristic a feature of such works belonging to the Early Renaissance period; still, as a mark of history, they deserve to be spared, and after all do not harmonise ill with the late fourteenth-century Flamboyant work of the choir—a structure exhibiting all the faults of its class, and one not to be named with the magnificent and substantial works which in England were being raised by Wykeham, Chillenden and Thoresby.

My visit to Moulins was paid on August 1, the festival of St. Peter's Chains, when all the altars were vested in white frontals, and the clergy celebrating at them wore flowing, Mediævally-shaped chasubles of the same colour. A little server whom I noticed preceding one of the canons to the sacristy at the conclusion of a low Mass, presented quite a striking combination of colours, for he had on a pink-girdled surplice, a puce-coloured cassock, rather short, revealing a considerable interval of grey trouser and not overclean white stocking, and the débris of a pair of yellow sand-shoes.

The high altar in the cathedral at Moulins stands at the top of the few steps just beneath the arch opening into the choir. It is a double one, with frontals facing east and west, the same "ornaments" of course serving for either side. Over this is reared a magnificent Gothic baldacchino of brass, having a cusped arch beneath a gable on each side, and a spiral roof of elegantly wrought work. Behind it is the chorus cantorum, and in the chord of the three-sided apse is placed the episcopal throne, which, with its overhanging canopy of brass, is, as well as the baldacchino, a good example of revived Mediæval work in that material. There is a considerable quantity of Late Gothic painted glass in the aisles and also in the procession path, which, singularly enough, does not follow the line of the three-sided apse, but has a perfectly straight eastern wall* pierced with large Flamboyant windows, and presenting externally at its north-east corner a pretty "bit" in the shape of a square-headed doorway, above which, and incorporated with it, is an elongated-headed window of two lights Flamboyantly traceried. This is the door by which the cathedral should for the first time be entered, for the sake of the picturesque cross views embracing the fourteenth-century choir with its old painted glass and gorgeous baldacchino, and the nave with its severe First Pointed arcade and clerestory—the latter reminiscent of Chartres. There are no transepts, but upon the western point of the choir roof, which rises a few feet above that of the nave, a small flèche is placed, masking in some degree the disparity in the two heights. Moulins presents another good example of the Gothic revival in France in the shape of the church of the Sacred Heart—a truly noble specimen of the genius of M. Lassus, between whom and our Ecclesiological Society a friendly intercourse was long kept up. With the object, apparently, of getting the main front with its two spires to "give" on to the Place, orientation has been disregarded. This rule, so rightly adhered to with us, unless set aside by some cogent reason, even in the laxest times of church discipline, is by no means so strictly followed in France. Mr. Fergusson rejoices in this fact. "Fortunately," he says, "for their architectural designs the French have not the same superstition with regard to orientation as the English. Many of our best modern churches are ruined by being turned the wrong way."

The church of the Sacré Cœur at Moulins is, like that of Sainte Clothilde at Paris, a miniature cathedral—comprising nave with double aisles and western steeples, transepts and choir, with procession path and radiating chapels; yet neither of these churches has that solidity, nor can they ever wear that "air of eld" which our English architects have, in their more humbly dimensioned buildings, so often and so successfully attained. But the interior of the Sacré Cœur at Moulins, as I remarked above, is wonderfully minsterlike and impressive, and the views across the nave—whose piers, by the way, are gathered up into very harmonious clusters—from the large unchained space at its western extremity have considerable poetry. There is no painted glass in the nave clerestory. Here the windows are of that very early French type we see at Chartres. Those in the eastern (really western) clerestory of either transept and choir, as well as those in the tall thickly-set lancets of the apse—for which Chartres has evidently again furnished the model—have all received their complement from the atelier of Lorin. The general effect is rich and good, but the introduction into the clerestory windows of the south transept of figures of Louis XVI. and Marie Antoinette, Napoleon III. and the Empress Eugénie, sufficiently indicates the utter incongruity of the costume of the last and present centuries for ecclesiastical decoration. The finest figures are those of the Apostles and Doctors in the choir clerestory—they are truly superb; finer, I think, than those very striking ones in the choir of Notre-Dame at Paris.

(To be continued.)

* The restoration of a National Church establishment in France is announced with becoming solemnity by a grand ceremonial at Notre-Dame on Easter Day, April 18, 1802, attended by the three Consuls, the diplomatic body, the Cardinal-Legate, the new archbishops and bishops, and a numerous cortège of civil and military authorities.

* I observed this same arrangement of the procession path in other churches of this part of France—notably at Clamécy, an Early Pointed example. Evidently it is a localism.

BROCKENHURST AND BOLDRE.

THE members of the Hampshire Field Club recently visited Brockenhurst and Boldre in the New Forest. The party, according to the *Hampshire Advertiser*, first proceeded to Brockenhurst Church, and as they walked around it Mr. Shore said the characteristic features of the building were seen better outside than inside. The chancel was a very good illustration of thirteenth-century work, and so was the east window, which had been restored in places; but much of the old work remained. The east wall was interesting from a geological point of view, for they would notice in it blocks of the iron-stone of the New Forest district, now so scarce, quarried in olden time and put into the building by Norman and Early English workers. The orientation of the church was east-north-east, allowing 20 degs. for magnetic variation. The north chancel window was well preserved. The ruined tree near the gate was an oak, which was very old, because it

had not only had time to grow, but time to decay, and an oak tree he was told took as long to decay as it did to grow. The yew tree before them was not so old as the oak; it was probably 600 years old, but there were many older in Hampshire. Under the shade of this tree Mr. Shore then read a few notes on Brockenhurst Manor.

Domesday entry states there were only six borderers and four slaves on the manor. This shows that it was a small manor without any large village community attached to it. Being in the forest its surrounding land was all under forest government, and that in Norman time was different from the common law of the county. The sheriff had no jurisdiction. The rigour of the forest law must have been felt in all its severity here. The village has on several sides of it extensive lawns or forest pastures. These pastures and the right of the inhabitants to their use dates further back than the Norman Conquest. The common privileges of the New Forest can be traced by incidental reference to Saxon times. "Domesday Book" shows us in detail how the New Forest was formed, and the entries concerning it do not confirm the legendary accounts which originated in the guesses of later historians. In all the digging which has gone on in the New Forest for planting or for obtaining gravel or marl, no foundations of ancient churches, such as have been stated by some Mediæval chroniclers were destroyed, have ever been found. It is scarcely possible such churches could have existed without some traces of them coming to light in the course of centuries, and the parts of the forest where they would have existed would have been the most fertile parts, which are those where most digging and excavations have been made. Brockenhurst Church itself, however, contains Norman work, and consequently there can be no doubt about a church having existed on this spot in Norman times. According to the account of a Norman-French writer or poet, Brockenhurst was incidentally connected with the death of King Rufus. His account says he was passing through this place on the morning of the day he was killed, when a local smith approached and offered the king some arrows of his own manufacture. The king accepted the gift, and the account says the arrows were passed on to Walter Tyrrell, and that it is not improbable that one of them later in the day caused the king's death. This church shows by its remains that it must have had liberal benefactors in the Norman and Early English periods. Its orientation points to a church of the Saxon period. In no case in Hampshire had he met with a church with an east-north-east orientation which was built in Norman times. The Norman churches are nearly always placed east and west, but not E.N.E. Where Norman work exists in such churches it points to the line of an older building. Entering the church Mr. Shore pointed out that a recess in the south wall of the chancel was thought by some to be an Easter sepulchre, but he could scarcely take that view himself. He pointed out that the stone chancel arch had been covered with plaster in recent restorations.

The Rev. F. Bowden-Smith said the stone arch had not been covered within the memory of man. He added that the enlargement on the north side was effected in 1832 or 1833 by the removal of the north wall. The work, he said, was done by the village carpenter.

Mr. Shore called attention to the royal arms over the chancel arch. These were of the time of George I.—1719. Few Hampshire churches had any royal arms that were older. A few had Queen Anne's arms, and still fewer the arms of Elizabeth. He should be very sorry to see these royal arms abolished in churches.

The Rev. Bowden-Smith said there was a royal arms on the other side of the arch, the date of which he should like determined. The ancient font—similar to that at Barton-Stacey—which has been treated by modern hands, was inspected. The church has three bells, the smallest of which has no inscription.

The party then walked to Boldre, about 2½ miles distant, and were received at the church gate by the Rev. E. H. Elers, vicar of the parish. Inside the edifice Mr. Moens, F.S.A., a member of the club, read a history of the church, of which he said no mention was made in Domesday Book. The church was probably built between the time of a grant made by King Henry I. to Richard de Redvers in 1100, and the king's death in 1109. It was dedicated to St. John. He dwelt on its connection with Christchurch Twyneham, and Brockenhurst and Lymington, and pointed out the leading architectural features, the south aisle being separated from the nave by Norman arches on stone shafts; the northern arches being Pointed and supported on Purbeck marble columns. This part was probably built in the time of Henry III., though "Warner" gave the time as that of King John. Mr. Moens alluded with regret to the removal from windows he pointed out of some of the most ancient stained-glass in the kingdom. Boldre Church was subject to Christchurch till the Dissolution. He had, he continued, a list of vicars since 1382, with only a gap or two which might be filled up without difficulty, and said one of the most celebrated was the Rev. William Gilpin, M.A., who was instituted in 1777, and in 1791 publish his "Forest Scenery," which ran through four editions. H also wrote other books. He died on April 5, 1804. His wi died in 1807. He left funds which were devoted to scho building. His tomb was in the churchyard, and the inscriptio was as follows:—"In the quiet mansion beneath this ston secured from the afflictions, and still more dangerous enjo ments of life, lye the remains of William Gilpin, sometim vicar of this parish, together with the remains of Margaret, h wife. After living above fifty years in happy union they ho to be raised in God's due time, through the atonement of t blessed Redeemer for their repented transgressions, to a sta of joyful immortality. There it will be a new joy to me several of their good neighbours who lye scattered in the sacred precincts around them" He died April 5, 1804, at t age of 80; she died July 14, 1807, at the age of 72.

This inscription Mr. Gilpin wrote in readiness for his ov departure. "A visit to the tomb of Gilpin," Mr. Moens co cluded, "is the duty of all literary men who visit this locality In Boldre Church Southey was married to his second wi Caroline Bowles.

The Rev. G. W. Minns proposed a vote of thanks to M Moens for the information he had given, and expressed a ho that he would enlarge it into a paper for publication in the cl proceedings. He added that Mr. Gilpin was supposed to l the original of Dr. Syntax, "a simple-minded clergyman, excellent taste and scholarship, who left home in search of t picturesque." His adventures were told by William Cooml in verse, published with some humorous sketches in 181 His horse was called Grizzle.

Mr. Moens, whose remarks had been supplemented wi some ancient pictures of the church interior lent him for t occasion by the Earl of Northbrook, president of the clu mentioned in reply that forty histories of English counties we to be published, and the history of Hampshire was to be t first. It would be in four volumes of 500 pages each. M Doubleday was to be editor, and several others, including M Shore, were to assist. He hoped any one who possesse papers relating to the county would send the particulars. county advisory committee was about to be appointed in t matter, with the Earl of Northbrook as chairman and M Shore as secretary.

The visitors then quitted the church to inspect Gilpin tomb, over which the Rev. J. E. Kelsall, of Milton, readin from a printed list he had prepared on "Our summer migrant when to inspect them and how to recognise them," gave som interesting details of forest birds, for which he was thanke The party then returned to Brockenhurst.

THE ART UNION OF LONDON.

At the annual meeting of the Art Union of London held April 27 in the lecture hall of the Society of Arts, t Marquis of Lothian, as president, in moving the adoption the report, expressed regret that there had been some fallin off in their numbers, and attributed it in a large measure to t many facilities which now existed for obtaining drawings do by cheap mechanical processes. He said that with so ma competitive means of obtaining works of art it was natur enough that the number of those who belonged to the Socie should divide and tail off in different ways. But there w a good deal of misunderstanding among the public as what the objects of the Society really were. It was not commercial undertaking, nor was it a society for floodi houses with cheap works of art. The object was to jud in what direction the tastes of the public lay and to fos that taste, and to lead it into the best possible chann by producing for the members, or giving as prizes, the b possible works. The amount which had been spent by t Society since the beginning in prizes and works of art was less than 487,000*l*. The money had been expended by t Society in a way which had been of the greatest possi advantage to the public. He thought it was not too much say that if it had not been for the Society the beautiful art f line engraving would have disappeared many years earlier. was now trying to encourage another beautiful art, that etching. One of the great difficulties of the Council had bn to know exactly what style of work of art would best meet e wishes and artistic taste of the members of the Society. Te public taste seemed now to lie in the direction of landsca which was not surprising in these days when so many peo e lived in large towns.

Turning to general topics, he said there were several n public works being commenced in London which called r attention. There were the new Vauxhall Bridge, the n buildings in Parliament Street and the new War Office bui ings in Whitehall. All these things now seemed to him to e done without any Parliamentary or popular control. Te public had no opportunity at all, so far as he could see, f saying one word about them until they were finished. e

hought it would be an immense advantage if some control ere exercised by an expert Parliamentary committee or in ome other way, and all the details of the proposals were sub-nitted for public inspection, or at any rate for expert opinion, efore it was too late. Mr. Woodward had called attention to he subject in the *Times* of that morning. He dealt particularly with the railway station near St. John's Wood, and if his escription of it was true it was not likely to add very much to he beauty or amenity of that part of London.

Then there was the question of the decoration of St. Paul's Cathedral. He had had some means of knowing what was oing on with regard to that great work, and he was very lad that public interest had at last been aroused by criticism n the press and in other ways. The building had a splendid ignity in itself, and they were all deeply concerned that othing should be done to derogate in any way from its ppearance, either inside or outside. The question resolved self principally into two matters—one was that of the use f mosaics, and the other that of the decoration of the stone-ork. It had been said that the mosaics were of a Byzantine haracter, and were therefore not suitable to a building f the architectural character of St. Paul's. With that iew he entirely disagreed. The art of mosaic decoration was ssentially a Byzantine art. The art of decorating in mosaic as necessarily cramped and circumscribed by the material hich was used for it, but in itself it was essentially rnamental and dignified. He was not one of those purists ho objected to anything, however beautiful and satisfactory n itself, being used in a building which was not of the same ate as the art decoration which was placed in it. If it were ranted that it was right, in accordance with Wren's original ntention, that the small domes should be filled with mosaics, e could conceive of no better way of doing it than the way n which it had been done now. It was true that the design n the first dome treated was somewhat small, but it was mpossible to judge of the effect from below until the caffolding had been removed, and this defect had been emedied in the proportion of the designs for the other small omes. The other question was that of the treatment of the onework. He thought it must be obvious to everyone that if he small domes had been filled with mosaics, and all the onework around them had been left untouched, the work ould have appeared very patchy, and anything but effec-ve from below. Undoubtedly Wren had contemplated some ecoration; but there was a medium in all things, and he ould not help thinking that too much colouring of the onework had been made use of in the decoration. If the onework was to be entirely covered with paint and gilding, here might, for aught one could tell, be only iron girders nd plaster beneath, and much of the dignity and impressive-ess and sense of space which the massive stonework gave the building would be lost. He was afraid that it was ow too late to rectify some of that which had been done; but e trusted that in the future there would be less gilding and ss colouring used. As to the stencilling on the arches, he ould only say that the pattern was only suitable for embroidery, nt it would be removed. The decoration committee which ad been appointed by the Dean would give careful attention the subject, and he hoped that the decoration might yet be ompleted in a manner which would give rise to no further omplaints.

Mr. Sebastian seconded the motion, and the report was dopted.

THE ARCHITECTURAL ASSOCIATION.

THE concluding meeting of the session of the Association was held on May 12, at 9 Conduit Street, W., Mr. G. H. ellowes Prynne, president, in the chair.

It was announced that the first summer visit, which will be Cobham Hall, Kent, was arranged for June 3.

Votes of thanks were passed to Messrs. G. H. Fellowes-rynne and F. A. Walters for conducting visitors over urches at Ealing on April 29, and to Mr. E. R. Barrow for s hospitality on that occasion. Also to Mr. H. Greville ontgomery for arranging visit to the Building Trades xhibition on May 6, and for providing refreshment.

The following were elected members:—Messrs. W. H. aines, Bowes H. MacGowan, J. Farraday, W. H. Lovegrove, . A. Peache and W. J. Windrum.

Dr. G. V. Poore, M.D., read the following paper on

Aspect and Soil in Relation to the Dwelling-house.

Although I have presumed to accept the invitation of the rchitectural Association to read a paper, I hope I shall be quitted of any desire to step outside my province and to cture architects on matters which they obviously understand uch better than I.

My excuse for addressing you must be found in the fact at, as a physician and sanitarian, I believe that of all circumstances which make for or against the health of the public, the individual dwelling-house is most important.

The conditions under which dwelling-houses are built have been revolutionised by steam machinery. Houses are nowadays run up in a wholesale fashion, very often with little attention to the details which he would dwell upon to-night. Modern facilities as regards water supply and sewerage have made curtilage unnecessary, and have enabled us to build towers of flats which, from the sanitarian's point of view, are most undesirable.

We all recognise that overcrowding is the greatest of social evils, whether it be regarded from the point of view of morals or health, and we all protest that it is useless to attempt to check it. Most of us, I hope, are sensible of the magic influence of the word "home." Many of us believe that the "home" and the "family" are the units out of which the greatness of a nation is constructed, and that if a nation is to continue to be imbued with feelings of true patriotism, the sacredness of the home and the sentiment of family must be maintained. I wonder if the offspring of parents who fluctuates between Capel Court and Newmarket, and whose only dwellings are West-End flats on a three-years' agreement, and rooms in hotels at fashionable resorts, has any home sentiments? Would these sentiments be increased if his fashionable mother died of constructive murder in getting quit of that which might have been a brother or sister? and lastly, can any such sentiment persist if papa and mamma are finally poked into a fashionable crematorium?

It is very doubtful if the sentiments of home and family are likely to be strengthened by the mode of life of what are known as "smart" people.

The opinion has lately been expressed by a great authority on labour questions that the industrial classes do not want "homes," and that anything which tends to fix them in one spot or to create an affection for any locality is contrary to their best interests. Labour must be organised as an army, and quick mobilisation is essential if the fight with "capital" is to be successful. There can be no doubt that public opinion is at present mainly in favour of overcrowding in cities, and further, there can be no doubt that overcrowding is encouraged both directly and indirectly by modern municipalism and the by-laws which regulate building operations.

Very little attention is paid in the present day to the aspect of a house, and it is evident that the public barely consider the question of aspect.

The speculative builder considers the question of cost and cost only, and until the public recognise that aspect has a real money value and is worth paying for, there is no likelihood that the question of aspect will trouble the mind of the builder.

It appears to me that the engineer and the surveyor have too much the "whip hand" of the architect, and that by the time the building estate has been laid out the whole question of aspect has been practically settled, and the architect has really no choice in the matter.

In the Thames valley, where I have a cottage, I have for the past twelve years watched the "development" (so-called) and the wholesale urbanising of a rural spot. This process is a simple one, and is familiar to all of you.

1. The locality is constituted an "urban district."
2. The Council is elected for three years.
3. The Council immediately borrows a sum which works out to about 10,000*l.* for each councillor, and thus increases all existing rents for thirty years at least.
4. The roads (main roads and by-roads) are all provided with sewers and water-pipes.
5. The lands abutting on these roads suddenly change from farms and gardens to building sites.
6. These lands are bought by building societies or building speculators, and are laid out with one object, and one only, in view, *i.e.* the placing thereupon of the maximum number of houses which is permitted by the by-laws. This means that no house has any curtilage other than a backyard 25 feet deep.

In "laying out" a building estate the new roads are almost invariably at right angles to or are parallel to existing roads, and it is needless to say that they are absolutely straight. Curves of beauty are scarcely permissible in modern sanitation. The result of all this is that the building estate when complete has all the regularity and symmetry of a gridiron. The houses are possibly all built to pattern. There is no individuality, no variety, no change, no rest for the eye.

The extent to which this kind of thing is carried is well exemplified in the district to which I have alluded, in which there is a "recreation ground" dating from a time anterior to the sewering and urbanising.

This recreation-ground is five acres in extent, and its northern and southern boundaries are formed by high roads, while its eastern and western boundaries are formed by market gardens, which, in consequence of the changes indicated above, have suddenly developed into building estates. One would have thought that the building speculator would have turned the fronts of his houses to overlook the recreation-ground, and

that by giving his houses (as he might have done) a south-easterly aspect with the pleasant prospect of the recreation-ground he might have commanded some extra rent.

This does not appear to be the case, for the privies and washhouses have been turned to the recreation-ground, while the chief rooms of the houses look at their stuccoed twins on the other side of the street.

The recreation-ground will, I suppose, remain a rather gaunt spot, hedged in by prim railings and flanked by lines of fluttering linen. The opportunity of making a pretty "village green" has been allowed to slip, and I am not aware that the Urban District Council have troubled their heads about the question.

If we are to continue to build houses in a wholesale fashion in straight rows it is almost useless to appeal to the architect on the question of aspect, although some good might be done by directing the attention of engineers and surveyors to the

If we concede that the best aspect for the chief rooms of a house is one looking to the south-east, then it is obvious that if the main roads of a building estate run from south-west to north-east, the houses flanking such road would have one side turned to the south-east. On the north side of the road the fronts would face the south-east, and on the south side the backs would face the south-east, unless the local council permitted and the builder were willing to allow the backs of the houses on the southern side of the road to be turned to the street. Speaking as a doctor, I have no doubt that it would be advisable to turn the backs to the street, if by so doing a good aspect can be obtained for the chief rooms. By adopting this plan we have the additional advantage of bringing the culinary and sanitary arrangements close to the street, and thereby greatly simplifying the sewerage arrangements, which would result in some saving of money. It is very important from the point of view of health that food should be stored in a cool place. Sour milk and putrid food is a great cause of infantile diarrhœa. This is an additional reason for the rule of "living rooms to the sun, larders and kitchens to the north."

I need not remind this Association that some of the finest houses in London (Hyde Park Gardens) are built with their "backs" to the street, and with the main rooms overlooking a private garden with the Park beyond. Whether houses with their backs to the street would meet with the approval of "the masses," I cannot say. A stuccoed head over the front door probably does more to let this class of house than the fact of its rooms being exposed to the sun. If it were considered essential that the chief rooms of a house should face the south-east, there could be no difficulty in attaining this end (except in streets running from north-west to south-east), provided the houses were placed obliquely to the street line and were built *en échelon*, a mode of building which tends to secure privacy, although it probably adds to the expense of building and the difficulties of plotting out the estate.

It is evident that the laying out of the roads on a building estate is a most important matter in relation to the aspect which the houses are to enjoy. Is it necessary that all such roads should be absolutely straight and at right angles to each other? Is it quite impossible to rest the eye and give some variety by an occasional curve? Is it any use to appeal to the ogre jerry-builder on a purely æsthetic question?

The question of aspect is very much a question of sunlight, and there can be no doubt that sunlight has great influence on health. The Italians have a proverb which says, "Dove non va il sole va il medico"—that the doctor comes to those places which the sun does not visit. It is an established fact that many of the microbes which are the causes of disease are killed by sunlight. This appears to be the case with regard to tuberculosis, and it is certain that there is most tuberculosis in places which are overcrowded, and to which the sun finds access with difficulty.

In the supplement to the fifty-fifth annual report of the Registrar-General is a table giving the annual death-rate per million living among children under five years of age from tuberculosis in the ten years 1881-90.

By selecting the death-rate among children under five we practically exclude the disturbing influences of varied age, sex and occupation, and we may conclude that amongst this class the influences which make for health or the reverse are home influences. Again, when a man selects a house, no single consideration is of more importance than the effect which his dwelling is likely to have upon his children. This table of the Registrar-General's is therefore one which ought to be carefully studied, and as it deals with a period of ten years it may be concluded that the statistical results arrived at are reliable.

Among children under five there is more tubercular disease in London than in any other county, and probably for the reason that the number of persons on a given area is greater in London than in any other county.

Thus the death-rates from tuberculosis are in :—

London	6,581
Durham	5,650
Lancashire	5,364
Dorsetshire	2,401

Again, when we come to examine the death rates fro tuberculosis in the different registration districts of London, w find them as follows :—

Strand	11,881
Stepney	9,310
City	8,858
Chelsea	8,129
St. George's, Hanover Square	7,952
St. Saviour's	7,839
Holborn	7,876
Westminster	7,766
Shoreditch	7,675
Poplar	7,219
St. George, E.	7,204
St. Pancras	7,064
St. Giles	7,055
Marylebone	6,920
Bethnal Green	6,988
Fulham	6,731
Kensington	6,571
Islington	6,532
Whitechapel	6,098
Paddington	6,029
Hackney	5,989
Mile End	5,975
St. Olave	5,910
Lambeth	5,907
Woolwich	5,641
Wandsworth	5,581
Camberwell	5,537
Greenwich	5,528
ENGLAND AS A WHOLE	4,499
Lewisham	4,018
Hampstead	3,661

It is a remarkable fact that in only two of the registrati districts in London is the death-rate of children from tube culosis less than it is in England as a whole. In all the oth districts the death-rate from the tubercular diseases is muc higher than in the country at large. Possibly some of the figur are influenced by the position of hospitals, but not to any gre extent. Seeing that tubercular diseases are all chronic, ar that many children are moved out of London at the fir threatening, I am afraid it is impossible to conclude that th figures give an exaggerated idea as to the extent to which th malady prevails in this dark, overgrown town.

This prevalence of tuberculosis is due to overcrowding houses on the land and overcrowding of people in the house to the dirt-laden air and the darkness and the gloom.

In London it is almost idle to talk of aspect. If aspect mainly a question of sunlight, then in London it is not on necessary to have your house facing towards the sun, but al to make sure that no screen in the shape of a tower of fla intervenes between it and the sun. To discuss the question almost absurd. If what I have said, and the figures I ha quoted, are sufficient to convince you and others that the co ditions which pertain in London are to be avoided in le crowded places, a good work has been done. To have yo house facing the sun, and with its chief living rooms w exposed to it, means a considerable saving of fuel and gas. am unable to tell you what is the potential value of the he in a room facing the south over and above that of a roo facing north, but we must all feel sure that it is considerable. am fond of telling people to look at the north and south sid of a garden wall. Go to the south side and bask in t brightness and warmth, feast on the peaches ripe and rud and listen to the hum of insects glinting in the sunbear. Then go to the north side, damp all in chilling shadow, contr you with a few hard pears or acid cherries, scrape off the dan mildew growing in the mortar and sniff the fusty smell arisi from the dank sour soil.

It is idle to contend that aspect has not a most import influence on health. If a house face right and has a veranc the occupants can often enjoy the fresh air, instead of crowdg into a stuffy room.

If a dwelling be detached and isolated it is generally pi sible to give the chief rooms any aspect which may be desir It is common to find, however, that detached villas have th fronts parallel to the road, even though this position shod entail a north-east aspect. How far by-laws and regulati may be answerable for this state of things I do not know.

Not only on account of the freedom as regards aspect, it on the general ground that overcrowding is to be lessened by every means in our power, it seems to me that sanitary auth i-ties should encourage the erection of detached and isola d dwellings.

The most important part about a "home" is not the hou but the garden round it, and I have no hesitation in saying tat the children of a country labourer, born in the commonest d cheapest erection of wood or mud and thatch, standing int rood of potato-ground, have a much better chance of growg up healthy in body and mind than those who have been bn under the fostering care of urban district councils in hou

with concrete foundations, damp-proof walls, patent water-closets and traps, sewer pipes and rain-water pipes, with an expensive paving in front and a tiny concreted yard behind, which is practically an air-well with putrification traps in its floor. This last class of dwelling, be it remembered, the outcome of by-laws which seem to be designed for the purpose of rapidly urbanising rural places, is very expensive, and the artisan finds that he has to pay relatively an enormous part of his earnings in rent and rates, and that his children have no private playground.

I freely admit that the stringent building by-laws which are now in force in many places are very necessary in crowded centres of population; and if they were still more strict on the question of height and the relation to be enforced between the cubic contents of the building and its surroundings, I for one should not object. On the other hand, it must be remembered that these by-laws very much augment the cost of building, and that it is becoming increasingly difficult to get an adequate return for houses erected for the wage-earning class. So much is this the case that it seems not unlikely that municipalities will be called upon to provide dwellings and run them at the expense of the ratepayers as a whole.

Many rural municipalities have adopted these by-laws and appear to me to enforce them very often to the detriment rather than the advantage of the locality. A little town in Hampshire, which I know well, includes within its official boundaries places which are three or four miles from the town hall, places which are in the wilds and as thinly populated as Sahara. And yet this municipality enforces its by-laws so that the farmers and gentry of these outlying spots are obliged to submit plans of even outhouses or ovens which they are proposing to erect, to the collection of tradesmen who happen to constitute the Council for the time being.

I am very strongly of opinion that the builder of an isolated dwelling ought to be allowed to escape from these harassing by-laws, and ought to be permitted greater freedom in the choice of building materials and in other matters than the speculator who is trying his hardest to put the maximum population on the minimum legal area. In relation to fire and infectious disease the surest preventive measure is the isolation of the dwelling. If the dwelling be separated from the boundaries of other premises and the public thoroughfare by a distance equal to its height (*i.e.* the distance from the ground to the top of the highest chimney or gable) it ought to be allowed to escape from the by-laws. I need hardly say that the insurance offices will know how to enforce an adequate security against fire. Mr. Till, of Eynsford, in Kent, recently erected two timber cottages in the country on either side of a road. One of these cottages was condemned because it happened to be within the boundary of a council which had adopted model by-laws. The only valid reason for such condemnation was the danger of fire. But it is evident that the danger of loss of *life* from fire is very slight in an isolated cottage with the bedroom windows some 10 feet at most above the ground. On the other hand, the danger to loss of property is indicated by the fact that the insurance offices charge 2*s.* 6*d.* per cent. instead of 1*s.* 6*d.* If, however, a model by-law cottage costs 250*l.* while a wooden cottage equally large and wholesome costs 150*l.*, it is evident that the cost of insurance is equal in the two cases. The rent of the first at 5 per cent. would be 12*l.* 10*s.*, and the rent of the second 7*l.* 10*s.* If the local charges (rates) be 4*s.* in the pound, then we have as the annual cost of these two cottages :—

Model By-law Cottage.	£	s.	d.
Rent	12	10	0
Rates	2	10	0
Insurance		3	9
Total	15	3	9

Wooden Cottage.	£	s.	d.
Rent	7	10	0
Rates	1	10	0
Insurance		3	9
Total	9	3	9

By living in a wooden cottage the working man would save 6*l.* year, or nearly 2*s.* 4*d.* a week. And if he have a rood of round the produce will be worth at least 12*l.*, which will leave im with nearly 3*l.* in pocket after paying all charges on his ouse. Further, he will have made an intelligent use of his eisure instead of consecrating it all to beer and betting.

I need hardly say that even the isolated cottage must be nder control as regards cesspools or any underground sanitary bominations, which may be an unseen danger to the neighours, but I am very strongly of opinion that, on the grounds f the health and safety of the public, builders of isolated wellings ought not to be harassed by by-laws, which are in heir case merely a source of delay and increased expense.

I should be very happy if my remarks on this head should licit a decided expression of opinion from an influential society uch as I have the honour of addressing.

In these days of railways, trams, motor cars, telegraphs, elephones and bicycles—machines which have practically nultiplied time and to a great extent annihilated space—it ught to be possible for populations to spread out and to live more decently and wholesomely than is the case in crowded cities.

It ought to be possible to build detached houses in increasing numbers, and as a consequence to give to the chief rooms of the house any aspect which may be desired.

The question of soil in relation to the dwelling is necessarily one of great importance.

Assuming, in the first instance, that the soil selected is a pure soil, I may as well say that I have no evidence to bring before you that in the matter of wholesomeness there is any difference between rocks, sand, gravel or chalk, and I am not aware that there is any evidence that either of these soils gives rise to unwholesome emanations.

The interstices of all porous soils are filled with air and a certain excess of carbonic acid, which may be considerable if there be much organic matter in the soil, and a house with lighted fires necessarily tends to aspirate the gases from the earth upon which it is built. Now I am not aware that there is any real evidence to show that damage has ever resulted to persons from the gases emanating from a pure soil.

In cities where organic filth has been buried in the soil for ages, it seems likely that the gases of putrefaction may gain access to the house. In London we know that when the soil is opened up there is always a stink of illuminating gas, and, obviously, it is desirable to keep that out of our dwellings. Further, we know that impurities from sewers and cesspools are sure, under the existing order of things, to leak into the soils of populous places. Therefore, the model by-laws insist that the ground upon which a house is built shall be covered with a regulation thickness of concrete. This is a reasonable provision in a populous place, but I would remark that, so soon as a crack or pinhole is accidentally made in the concrete, the alleged security given by it vanishes. In country places which have adopted the model by-laws, the covering of pure chalk or sand or gravel with concrete is equally insisted upon before a cottage can be built. This has the effect of increasing the cost and rent of the cottage, unless it be thought advisable to make the floor of concrete finished with cement. It goes without saying that for houses built in low-lying damp situations, an impermeable layer of concrete is necessary. The above remarks are intended to apply to concrete as a barrier against the gases in dry soils.

The soil upon which a house is built influences the comfort, and therefore the health, of the indwellers. On a dry soil it is possible to take exercise in comfort, while on stiff clay soils walking or any other exercise in the winter months is a disagreeable and dirty proceeding. It is quite possible to build a house upon clay which shall be perfectly dry, and through clay unwholesome gases find it difficult to travel, which is a theoretical advantage. Fogs are frequent on clay lands, but it is not clear that an occasional pure fog does any harm to a healthy person. I say nothing of the foul irritating fogs of London, which are dangerous to many and deadly to not a few.

The nature of the soil upon which a house is built has great influence on the ease with which the waste drainage waters are got rid of. On porous soils—such as sand, gravel and many chalks—they soak away, and hence there has been a great temptation on such soils to construct soak-away cesspools, which in the days of our ancestors, before the use of water-closets and fixed baths, or even daily "tubs" became general, were little likely to contain infective matter, and continued to act efficiently for years. Modern sanitation has raised the amount of waste water enormously, and the invention of the water-closet has greatly increased the danger and foulness of the waste waters. It is probable that the amount of sewage to be dealt with in country houses has, in modern times, as compared with the last century, been multiplied by ten, and it is now quite common for the owner of a biggish country house with stables to have to grapple with 1,000 gallons of sewage per diem, or 160 cubic feet, an amount which will stand about an inch high on an area measuring 50 feet in length and 40 feet wide, or which in a month will fill a water-tight cesspool measuring 24 feet by 20 feet and 10 feet deep, the dimensions of a fine dining-room, and which when full will contain more than 130 tons of foul liquid, which will all have to be raised and distributed. On a porous soil such an amount of fluid, if delivered on the surface of the ground, may be got rid of with ease and without offence if the few pounds weight of excreta (12 pounds at the outside) of the twenty-five people living in one country house be dealt with separately.

On a clay soil, especially in winter, a very much larger area of ground must be used for the waste water.

The foulness of the river Brent, of which we have heard so much, is probably due to the fact that the foul liquids on the clay soil through which it flows tend to run off the surface instead of percolating through the soil and thereby becoming purified.

I must not pursue this subject further, as it is not my intention to discuss the question of slop-drainage and sewage

treatment, which I have dealt with at length in my little book "The Dwelling-house." I will merely add that whether a house be on a permeable or impermeable soil—

1. All waste fluids should be dealt with before putrefaction sets in.

2. They should be delivered on to the surface and not beneath the surface of the ground.

3. They should never be allowed to collect in cesspools, which encourage putrefaction, and merely postpone the inevitable work of distributing them over the ground.

The following officers have been elected for the year 1899–1900 :—

President.—G. H. Fellowes Prynne. *Vice Presidents.*—E. Howley Sim, H. T. Hare.

Committee.—B. Pite, W. A. Pite, P. J. Marvin, A. H. Hart, F. G. F. Hooper, H. A. Satchell, M. Garbutt, W. A. Forsyth, W. H. Seth-Smith, A. Bolton.

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BERKSHIRE ARCHÆOLOGICAL SOCIETY.

AT the annual meeting of this Society the president, Mr. C. E. Keyser, of Aldermaston Court, read a highly interesting paper on "Norman Doorways of Berkshire Churches." Mr. Keyser opened his remarks by observing that as the object of the Society was to make known to those who resided in the county the objects of interest in it, he did not think it was a bad thing to begin with what might be called a narrow subject, in order that they might see the very interesting examples of that particular subject which they possessed in the county. When he first took an interest in Norman architecture, and in Norman doorways particularly, he was told that it was a subject of very limited interest, because doorways were all exactly alike. But it was most unusual to find any two Norman doorways which exactly corresponded, and the only two such which they had in Berkshire were the north and south doorways of Buckland Church, near Faringdon, which were among the earliest of all the doorways still existing in the county. The doorways in Oxfordshire were more numerous, and were more interesting on the whole than those in Berkshire. He believed that there were four periods of Norman architecture. He did not suggest that because they found an ornate doorway it must be a late one, or that if they had a plain one it must be an early one; they had to look at the details and the various mouldings, but the finest doorways usually belonged to the early portion of the third period. Though the Norman Conquest took place in 1066, the Norman style did not make headway or was not generally adopted till about the year 1080; then they had the Norman style coming in—very plain as a rule. The examples at Buckland were very fair specimens of what the plain early Norman doorways were like. That style lasted—of course their cathedrals were more ornate—till 1130, about the time of Stephen, and strange to say it was during his troublous reign that some of their finest Norman buildings were erected. The third period lasted from 1130 till 1170, and then came in what they called the Transitional style, which lasted well into the Early English period, into which it overlapped. There were doorways in this country which might be as late as 1220, which either retained their "semicircular head," or which still had the characteristics of the Norman period in their mouldings. A conspicuous example was the south doorway of St. Lawrence's Church, Reading. It had pure Early English mouldings in the arch, but it retained its semicircular head, and it had shafts attached to the jambs of the door, which was a sign of late work in itself, and which still retained their Norman characteristics. There were eighty-six churches in Berkshire, or other buildings, which have at present, or till recently had, Norman doorways. He was sorry he had to put in the words "till recently," because there was no doubt that within the past fifty years a great many of their old doorways had been swept away. Restoration did sometimes a great deal of mischief, and was often synonymous with destruction. It was a great pity when these old doorways, which were sometimes the only relic of the original building, were destroyed, and it was a thing which he hoped would not be repeated in these more enlightened times. Norman doorways also existed at Sutton Courtney and at Appleton Manor House, where there was an Early Norman doorway, and another remained in a barn at Brimpton. It was a very interesting one and contained a Maltese cross, which was especially applicable to the Order of St. John of Jerusalem, by whom it was erected. There w nothing unusual about their Berkshire doorways—in some par of England there were some special characteristics in t moulding—but they had interesting doorways which dat from early, or what he called the third period, at Padworth, Ti marsh, Avington, Thatcham, Chaddleworth, Bucklebury and o or two others. They had a few examples at Wantage, Shillingfo and elsewhere of what he might call most remarkable moulding in the curious beakheads, the meaning of which appeared to be mystery. The doorway at Charney was also unique, as far Berkshire was concerned. Thirty-two of the most interesti of the old doorways were shown on the screen, Mr. Keys explaining the interesting features of each. They could rough be divided into four periods :—1st period, Aston Tirrol 2nd period, Buckland and Marlstone; 3rd period, Padwor (north and south doorways), Aldermaston, Hanney, Wargra Bucklebury, Tidmarsh, Avington, Thatcham, North Hinkse Hatford, Chaddleworth, Lockinge, Faringdon, Kintbur Cholsey and Brimpton; 4th period, Charney Basset (Wantage, Shillingford (with north and south doorway Lambourn, Ashbury, Woolstone, Abingdon, Wokingha Stanford Dingley, Childrey, and St. Lawrence, Reading.

Some time was afterwards spent in examining a fine co lection of large photographs, belonging to Mr. Keyser, Norman doorways in Berkshire, and which included, in additio to those mentioned, photographs of the doorways at Catmo and Sparsholt, and also a series of five of the fine old doorwa at Iffley, Oxon, one of the most beautiful specimens in t country. Mr. Keyser also showed on a screen a miscellaneo collection of some of the best relics of Norman doorways i the country, and a complete series of those existing in Yorl shire and Oxfordshire were also on view.

GENERAL.

The Annual Dinner of the Architectural Association take place on Wednesday, May 31, at the Holborn Restaurant.

An Exhibition of drawings by the late Puvis de Chavenne will be opened next month in the Musée Galliera, Paris.

A Meeting of the Municipal Officers' Association will b held at the offices of the Wimbledon Urban District Council o Wednesday next.

The Government have, it is said, resolved to take ove the building and grounds of the Imperial Institute, making i national property. A prominent portion of the scheme is pro vision for the housing of the London University. The Uni versity will be the tenant, not of the Imperial Institute, but c the Imperial Government.

The Visitors to the Salon have paid for admission durin the first fortnight of the exhibition 104,315 frs. On Thursda in last week 15,269 frs. were received. The daily average 5,000 to 6,000 frs.

Mr. W. Roland Peck, of Messrs. Hampton & Son London, has been unanimously elected president of th Auctioneers' Institute of the United Kingdom.

The London County Council have declared that, whils unable to take action in the erection or subsidy of a permaner opera house, they are prepared to consider proposals fo reserving a site in connection with one of its central improv ments for the purpose of its being used for the encouragemen of the art of operatic music.

Mr. A. Carnegie has offered 50,000*l.* towards th Birmingham University endowment fund, and an anonymou friend has promised 37,500*l.* The quarter of a million require is nearly obtained.

The Surveyors' Institution have awarded the Penfo Gold Medal to Mr. Sydney A. Smith, of Messrs. Weatherall Green, 22 Chancery Lane.

Tudor House is not at present to be demolished by th County Council, and may be saved if the public of London w show an interest in the building.

Messrs. David Burnett & Co. have sold at the Mart t freehold of No. 54 Cheapside, in the occupation of the Lond Stereoscopic Company, for 28,500*l.*, subject to the lease havi eighteen years unexpired at 400*l.* per annum. This price equivalent to 60*l.* per foot super in possession.

Mr. B. T. Batsford will shortly have ready a new bo on "Embroidery." It will be the combined work of Mr. Lew F. Day, who is just completing a course of lectures on t subject at the Royal Institution, and of Miss Mary Buckle, accomplished embroideress and teacher of the art. Its sco is practical, and it is addressed to all interested in embroide and embroidery design. It will be fully illustrated by repr ductions of needlework on a scale large enough to show t stitch, and the artistic and technical sides of the art will treated with equal thoroughness.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must not necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. *on Thursdays.*

NEW READING CASE.

Librarians of the Public Libraries and Reading-Rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s.. by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

DESIGNS invited for a new patent stove. Premium 25*l.* Geo. B. Haite. Particulars from 159 Victoria Street, Westminster, S.W.

HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed [illegible]. Mr. S. Stead, Municipal Offices, Harrogate.

PLUMSTEAD.—July 27.—Designs are invited for proposed new municipal buildings and public library, at a cost of about 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

SALFORD.—June 6.—Premiums of 30*l.*, 20*l.* and 10*l.* are offered for designs for laying-out the site of the Infantry Barracks, and for erection thereon of public hall, shops and model cottages. Borough Engineer, Town Hall, Salford.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ABERDEEN.—May 22.—For erection of a villa at Tarland. Messrs. Walker & Duncan, architects, 3 Golden Square, Aberdeen.

ANNAN.—May 27.—For building Brydekirk Library Hall. Mr. Wm. Thorburn, Schoolhouse, Brydekirk, Annan.

ALTRINCHAM.—May 22.—For erection of a new church of St. Alban's, Broadheath, Altrincham. Messrs. Austin & Paley, architects, Castle Hill, Lancaster.

ARUNDEL.—For re-erection of offices of the *West Sussex Gazette*. Messrs. Frederick Wheeler & Lodge, architects, Bank Chambers, Horsham.

BARKING.—June 5.—For erection of eighty-three cottages for the working classes in Creeksmouth Lane, Barking, in blocks, as follows:—(Block A) 13 cottages, (B) 12 cottages, (C) 15 cottages, (D) 16 cottages, (E) 15 cottages, (F) 12 cottages (tenders may be sent in for one or more blocks); for erection of an office, store, testing-room, workshop and caretaker's apartments, in one block, at the electricity supply works, East Street; for sewering and making-up the roadway in front of the public baths and on the eastern side of the public offices, and for the erection of entrance-gates, boundary-walls and fencing. Mr. C. J. Dawson, Public Offices, Barking.

BARNSLEY.—For erection of a chimney 100 feet high at Tankersley. Manager, Lidgett Colliery Company, Limited, Tankersley, Barnsley.

BARROW-IN-FURNESS.—For erection of a house. Mr. E. M. Young, architect, 90 Duke Street, Barrow.

BASFORD.—May 22.—For erection of wood-chopping shed, joiner, fitter, shoemaker and tailor's workshops, new staircase to chapel and lavatories at the Basford Union Workhouse. Mr. William V. Betts, architect, Radford Road, Old Basford.

BATTERSEA.—June 7.—For supply and erection and carrying out of work in connection with the electric lighting of the parish. Vestry Clerk, Municipal Buildings, Lavender Hill, S.W.

BEDALE.—May 27.—For erection of a manse and a pair of cottages. Mr. William Peachey, architect, 3 Amber Street, Saltburn.

BELFAST.—May 22.—For erection of buildings in the townland of Carrigenagh, in the Silent Valley, near Kilkeel; also the townland of Mullartown, in the Annalong Valley, near Annalong; also for erection of six linesmen's cottages on the line of the New Mourne aqueduct, near to Newcastle and Ballynahinch, co. Down. Mr. Acheson Ferguson, quantity surveyor, 35 Royal Avenue, Belfast.

BIRTLEY.—May 29.—For erection of proposed literary institute. Messrs. Liddle & Browne, architects, Prudential Buildings, Newcastle.

BOSTON SPA.—May 30.—For erection of residence, &c. Messrs. W. H. & A. Sugden, architects, Keighley.



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ESTIMATES FREE.



BRADFORD.—For erection of twenty-two terrace-houses (in three blocks) in Duckworth Lane, Manningham. Messrs. Fairbank & Wall, architects, Craven Bank Chambers, Bradford.

BRADFORD.—For erection of house, workshop and stabling off Manningham Lane. Messrs. James Young & Co., architects, 62 Market Street, Bradford.

BRADFORD-ON-AVON. — May 31. — For alterations and additions to the King's Arms brewery. Mr. W. H. Stanley, architect, Market House Chambers, Trowbridge.

BRIERLEY HILL.—June 6.—For alterations and additions to hot-water apparatus at the Brierley Hill Board schools. Mr. Thomas Robinson, architect, Victoria Chambers, Stourbridge.

BRIGHTON.—July 27.—For alterations and additions to the public library, museum and art gallery on the Pavilion estate. Mr. Francis J. C. May, Town Hall, Brighton.

BRISTOL.—May 29.—For erection of a school at Luckwell Lane, Bedminster. Mr. H. C. M. Hirst, 30 Broad Street, Bristol.

BRISTOL.—May 29.—For erection of a school at Wells Road, Knowle. Mr. H. Dare Bryan, 38 College Green, Bristol.

BROTHERTOFT.—June 12.—For enlargement of the Barley Sheaf school, at the Barley Sheaf, in the parish of Brothertoft. Mr. Jno. H. Tooley, 6 Bridge Street, Boston.

BURNTISLAND.—For erection of tenement in Somerville Street, Burntisland. Messrs. R. & A. K. Smith, surveyors, 1 Albyn Place, Edinburgh.

CARDIFF.—For alterations to the Theatre Royal hotel, St. Mary Street. Mr. H. Tudor Thornley, architect, 110 St. Mary Street, Cardiff.

CARDIFF.—June 6.—For erection of a carriage-shed at Canton and a covering over steps at Cardiff Station, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

CARLETON.—May 26.—For erection of six cottages. Mr. James Hartley, architect. Exchange Buildings, Skipton.

CHELTENHAM. — May 30. — For reconstruction of the Montpellier Baths. Mr. Joseph Hall, borough surveyor, Cheltenham.

COLCHESTER.—May 26.—For erection of an additional kiln and other works at The Hythe. Mr. W. Stopher, 11 Queen Victoria Street, London.

CORNWALL.—May 31.—For erection of a post office a postmaster's residence at Camborne. Mr. Oliver Caldw architect, Penzance.

DARLINGTON.—May 30.—For erection of electric-lighti station. The Borough Surveyor, Town Hall, Darlington.

EDENFIELD. — For outside pointing, painting, &, of Edenfield Church. Mr. R. Walton, Hawthorn Hou Edenfield.

ELGIN.—May 24.—For erection of two shops and th houses to be built in Harbour Street, Hopeman. Mr. Jo Milne, architect, Elgin.

ELGIN.—May 26.—For additions and alterations to W field House. Mr. Charles C. Doig, architect, Elgin.

ELLAND.—May 24.—For erection of four houses and sh Mr. Joseph Wilson, Brook Street, Elland.

EMSWORTH.—For erection of a steam laundry and buildings. Mr. Frank Swinburne, architect, West Str Emsworth, Hants.

EVESHAM.—May 31.—For erection of shops and residen in Bridge Street. Mr. G. H. Hunt, architect, Evesham.

EXMOUTH.—May 24.—For erection of a shop and dwelli house in the Exeter Road. Mr. R. M. Challice, archit 9 Bedford Circus, Exeter.

FALKIRK.—May 25.—For erection of tenements at Fa Mr. James Strang, architect, Falkirk.

GATESHEAD.—June 1.—For erection of an isolation hosp Sheriff Hill. Mr. J. C. Bower, borough engineer, Town Ha

GLASGOW.—May 24.—For erection of a foreman's ho waiting-rooms and lavatories at the Ruchill Park. Mr. A M'Donald, city engineer, City Chambers, Cochrane Street.

GRAFFHAM.—May 24.—For erection of two cottages. Mr. Rawley Lascelles, The Rectory, Graffham, Sussex.

GRAVESEND.—May 31.—For erection of an engine-hou and boiler-house at their works at Gravesend, for the Gravesd and Milton Waterworks Company. Mr. James Mansel engineer, 5 Victoria Street, Westminster.

HALIFAX.—June 1.—For erection of Liberal club premis at the junction of Dyson Road and Battinson Road. Mr. Medley Hall, architect, 29 Northgate, Halifax.

HAMPTON.—May 27.—For connecting with the pu sewer and sundry other works at the Volunteer drill hall. Mr. F. G. Hughes, surveyor, Estates Office, Hampton-on-Tham.

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HAWARDEN.—May 26.—For erection of six cottages at ndycroft. Mr. R. J. Kendrick, solicitor, Wrexham.

HAYDON BRIDGE.—May 27.—For erection of villa. Mr. m. Bedlington, architect, 23 Eldon Square, Newcastle.

HEBBURN.—May 23.—For erection of a bandstand in the blic park, Hebburn-on-Tyne. Mr. J. B. Renton, surveyor, ebburn.

HENLEY-IN-ARDEN.—May 27.—For erection of a school- om, &c., at Burman House. Mr. F. B. Endall, architect, lihull.

HEYWOOD.—For erection of stables in Green Lane. Mr. H. Openshaw, architect, Fleet Street, Bury.

HUNSTANTON.—For erection of two semi-detached villas. . Herbert J. Green, architect, Tuesday Market Place, King's nn.

IRELAND.—May 22.—For erection of a Masonic hall at gan. Mr. Godfrey W. Ferguson, architect, Avenue mbers, Belfast.

IRELAND.—June 3.—For erection of twelve labourers' tages (with offices), fencing of cottages, &c., Lisnaskea. J. O'R. Hoey, clerk, Lisnaskea.

KEIGHLEY.—May 30.—For construction of a bridge in een's Road. Mr. W. H. Hopkinson, borough engineer.

KIRBY MUXLOE.—May 22.—For constructing sewers, &c. J. B. Everard, 6 Millstone Lane, Leicester.

LEEDS.—For erection of a chimney shaft, 120 feet high n ground level. Mr. R. Routledge, manager, Garforth iery.

LEYTON.—June 6.—For construction of chimney shaft at electric light station. Mr. William Dawson, Town Hall, on, Essex.

LONDON, N.—May 24.—For pulling-down and removal of in buildings abutting on the site of the Vestry's electric- ing station, Eden Grove, Holloway. Mr. Wm. F. Dewey, y clerk, Vestry Hall, Upper Street, N.

LONDON.—June 6.—For erection of a station at Acton, llesex, for the Great Western Railway Company. Mr. . Mills, secretary, Paddington Station.

ONDON.—For alterations to premises, Caledonian Road. rs. Mallett, Porter & Dowd, 465 Caledonian Road, N.

OWESTOFT.—May 23.—For erection of an isolation tal, caretaker's cottage, laundry and boundary walls at Oulton, near Lowestoft. Mr. Alfred Clarke, architect, 126 London Road, Lowestoft.

MANSFIELD.—May 24.—For building a new lock-up at Shirebrook, near Mansfield. Mr. J. Somes Story, County Offices, St. Mary's Gate, Derby.

MORLEY.—June 5.—For erection of mixed school and infants' school in Victoria Road. Messrs. Buttery & Birds, architects, Queen Street, Morley.

NAPLES.—July 10.—For construction of harbour and docks. Public Works Department, Rome.

NEWARK.—For alterations and repairs to farm buildings at Bathley. Mr. F. B. Foottit, clerk, Newark.

NEW CROSS.—May 24.—For building chimney-shaft and altering boiler-house, for the Metropolitan Asylums Board. Mr. E. Stanley Peach, architect, 28 Victoria Street, S.W.

NEWTON ABBOT.—May 23.—For building a boundary wall and iron fencing on the east side of the workhouse grounds. Mr. Samuel Segar, Union Street, Newton Abbot, Devon.

NEWTON HEATH.—May 30.—For construction of a culvert for Moston Brook, near Lightbown Road, Newton Heath, for the Lancashire and Yorkshire Railway Company. Mr. C. W. Bayley, secretary, Hunt's Bank, Manchester.

NOTTINGHAM.—For improvements to out-offices at the Scotholme school, or for erection of a partition at the Southwark school. Mr. A. N. Bromley, architect, Prudential Buildings, Queen Street.

PEEBLES.—For erection of a volunteer drill hall. Mr. R. S. Anderson, County Buildings, Peebles.

RUNCORN.—May 24.—For alterations and additions to the Granville Street school. Clerk of the School Board, Town Hall, Runcorn.

SCOTLAND.—May 22.—For erection of a parapet wall at Soroba Road, Oban. Mr. John Alcorn, surveyor, Municipal Buildings, Oban.

SCOTLAND.—May 23.—For additions and alterations to Strathmill Distillery, Keith. Mr. Charles Doig, architect, Elgin.

SCOTLAND.—May 23.—For additions to farm steading, Sillerton, Auchterless. Messrs. James Duncan & Son, architects, Turiff.

SCOTLAND.—May 24.—For erection of several new cottages and other buildings near Inverurie and Laurencekirk. Mr. W. J. Sandford-Thompson, Kintore Estate Office, Montrose.

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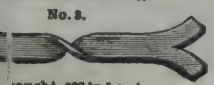
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SCOTLAND.—May 26.—For alterations and additions to offices, Mill of Cavil, Disblair, near Newmachar Station. Mr. George Reid, Bellfield, Disblair.

SCOTLAND.—June 3.—For construction and erection of roof and other works in connection with the new central station at Leith, for the North British Railway Company. Messrs. Blyth & Westland, civil engineers, 135 George Street, Edinburgh.

SHEFFIELD.—For erection of house and additional stores at the Britannia Brewery, Bramall Lane. Messrs. Hall & Fenton, architects, 14 St. James's Row, Sheffield.

SKIPTON.—May 26.—For erection of an infirmary at the workhouse. Mr. Jas. Hartley, architect, Exchange Buildings, Skipton.

SOUTHAMPTON.—May 23.—For constructing sewers. Mr. W. B. G. Bennett, borough engineer, Southampton.

SOUTHAMPTON.—May 29.—For erection of cook's room at the workhouse, Westend, South Stoneham. Messrs. Mitchell, Son & Gutteridge, architects, 9 Portland Street, Southampton.

STONEHAVEN.—May 27.—For erection of cottages in High Street. Messrs. D. & J. R. M'Millan, architects, 211 Union Street, Aberdeen.

SUTTON.—May 31.—For erection of new Council office and fire station, for the Sutton Urban District Council. Mr. C. Chambers Smith, C.E., surveyor, Public Offices, Sutton, Surrey

TAVISTOCK.—May 24.—For erection of a reading-room in the village of North Brentor. Mr. J. N. Jackman, Burnville, North Brentor.

TENDRING.—May 23.—For building infirmary wards. Mr. F. Whitmore, architect, Chelmsford.

THATCHAM.—May 24.—For erection of four cottages at Thatcham, Berks. Mr. Walter Henry Bell, architect, The Market Place, Newbury.

UPWELL.—May 25.—For erection of a manse. Messrs. Kerridge & Sons, architects, The Club Chambers, Old Market, Wisbech.

WAKEFIELD.—For erection of five houses and shop at South Kirkby, near Wakefield. Mr. Walter E. Richardson, architect, 28 Bond Street, Leeds.

WAKEFIELD.—May 30.—For construction and erection of roofing, loading stage and office accommodation at Wakefield, for the Lancashire and Yorkshire and Great Northern Railwa Joint Stations Committee. Mr. A. Boocock, secretary to t Joint Committee, Hunt's Bank, Manchester.

WALES.—For erection of a farmhouse at Tan-y-gra Pentraeth, Anglesey. Mr. I. Taylor, Estate Office, Colesh Holywell.

WALES.—May 22.—For erection of a minister's hou chapel house, and Sunday school, for the committee of t Croesywaen C.M. chapel, Waenfawr. Mr. Benjamin Williar architect, Brynhyfryd, Waenfawr.

WALES.—May 22.—For erection of a Baptist chapel Hafod, near Pontypridd. Mr. Wm. David, 34 Wayne Stre Hafod, near Pontypridd.

WALES.—May 22.—For altering and renovating Sal Independent chapel, Robertstown, near Aberdare. Mr. Roderick, architect, Aberdare.

WALES.—May 22.—For altering and renovating Bethleh chapel, Capcoch, near Aberdare. Mr. Augustus Dav 7 John Street, Capcoch.

WALES.—For erection of a hotel at Bargoed. Mr. Roderick, architect, Ashbrook House, Aberdare.

WALES.—May 24.—For erection of hotel at Bargoed, Messrs. Buchan & Co., Rhymney Brewery, Rhymney. T. T. Roderick, architect, Ashbrook House, Aberdare.

WALES.—May 25.—For erection of a boys' school Cwmaman, Aberdare. Mr. T. Roderick, architect, Cliff Street, Aberdare.

WALES.—May 30.—For building asylum at Talgar Messrs. Giles, Gough & Trollope, 28 Craven Street, Lond W.C.

WALES.—June 2.—For altering and renovating the Hh Street Baptist chapel, Merthyr Tydfil. Mr. W. Probt, 11 New Castle Street, Merthyr Tydfil.

WALES.—June 3.—For alterations and additions to e Pontypridd County school. Mr. A. O. Evans, architect, 1st Office Chambers, Pontypridd.

WALES.—June 5.—For alterations and additions to Ebener English Baptist chapel, Cefn Mawr. Mr. J. W. Jones, architect, Brooklea, Acrefair, Ruabon.

WARMINSTER.—May 24.—For erection of a pumpi station, collecting-chambers, &c., at Smallbrook Mill. A. F. Long, town engineer.

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WARRINGTON.—June 15.—For erection of police buildings and constabulary offices in Wilson, Patten and other streets. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-on-Tyne.

WATH-UPON-DEARNE.—May 23.—For erection of business premises. Messrs. Senior & Clegg, architects, 55 Regent Street, Barnsley.

WATFORD.—May 23.—For an extension to brewery premises. Messrs. Benskin's Watford Brewery Co., Watford.

WARWICK.—For erection of two cottages at Kineton. Mrs. Colegrave, Warwick Road, Kineton.

WINLATON.—May 22.—For pulling-down and rebuilding new inn. Mr. J. G. Crone, architect, 50 Grainger Street, Newcastle.

WOOLER.—May 22.—For erection of a pair of houses, Lamsey's Lane. Mr. Wm. Robson Hindmarsh, jun., architect, Wooler.

WORKINGTON.—May 23.—For alterations to the Green Dragon hotel. Messrs. Castiglione & Gibbings, surveyors, Washington Street, Workington.

WORKINGTON.—May 27.—For erection of two cottages, three-stalled stable, and out-offices in Cumberland Street. Messrs. W. G. Scott & Co., architects, Victoria Buildings, Workington.

YORK.—May 26.—For stripping and slating with new Westmorland slates a portion of the asylum buildings. Mr. Wm. Hepper, architect, 4 Spurriergate, York.

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For erection of a school, classrooms and lecture-hall in Race Common Road. Messrs. SENIOR & CLEGG, architects, 15 Regent Street, Barnsley.

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E. Ashworth, carpenter and joiner	570 0 0
W. Squire, plumber and glazier	119 10 0
W. Scholey, slater	115 14 6
M. Fleming, plasterer	72 0 0
E. R. Fletcher, painter	23 18 5

For erection of house and shop, Cudworth. Mr. HERBERT CRAWSHAW, architect, 13 Regent Street, Barnsley.

Accepted tenders.

J. Thornley, carpenter and joiner.
Dawber & Son, slater.
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H. Payne, painter.

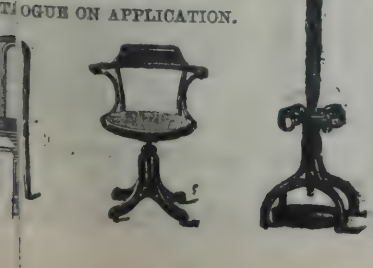
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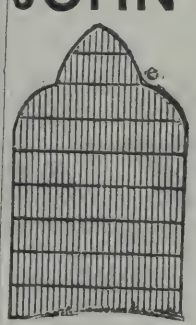
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For alterations and additions to pair of cottages, Thelsey Park. Mr. ALFRED COX, architect, 4 Adam Street, Adelphi.

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For reconstruction of the grand stand on the Roodee Race-course.

PARKER BROS, Crewe (*accepted*)	£11,395 0 0

For erection of public baths in Union Street. Messrs. DOUGLAS & MINSHULL, architects, Abbey Square, Chester.

Hughes & Stirling	£12,230 0 0
G. Woods & Sons	12,170 0 0
Parker Bros.	11,947 0 0
J. Hamilton & Son	11,880 0 0
J. Mayers	11,654 0 0
J. Jones & Sons	11,600 0 0
W. W. Freeman, Chester*	11,600 0 0

* Accepted subject to the approval of the Local Government Board.

DENBIGH.

For construction of iron and stoneware pipe drains with manholes, surface-traps, &c., and the construction of soil, vent and waste pipes, and other work at the Denbighshire Infirmary.

Scull Bros.	£446 18 0
W. BAILEY & Co, 20 St. Mary's Parsonage, Manchester (*accepted*)	239 14 2

DURHAM.

For erection of a portion of a new boundary wall at the parish churchyard, Hetton-le-Hole. Mr. GEORGE GRAY FORSTER, surveyor.

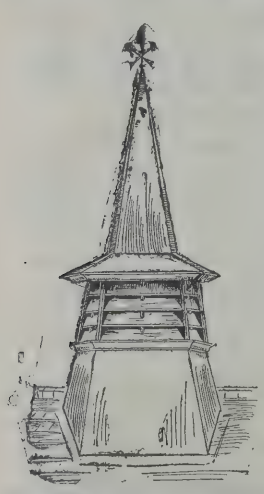
	Per lineal yard.
Pratt & Sons	£2 5 8
J. Kemble & Co.	1 13 0
Sparrow	1 9 6
P. B. Bradley	1 7 0
R. WADE, Moorsley, Hetton-le-Hole (*accepted*)	1 1 0

FAVERSHAM.

For construction of a covered service reservoir and inlet and outlet works at the pumping station. Mr. BALDWIN LATHAM, engineer, 13 Victoria Street, Westminster, S.W. G. BELL, Tottenham and Manchester (*accepted*).

HAM HILL STONE.
DOULTING STONE.
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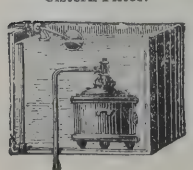


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GREAT YARMOUTH.

or a mission church and institute for the Missions to Seamen. Quantities by architects. Messrs. BOTTLE & OLLEY, architects, Great Yarmouth.

Jas. Rand	£1,780	0	0
F. Grimble	1,685	0	0
J. Ward	1,669	15	0
J. S. Read	1,650	0	0
A. E. Bond	1,645	0	0
Carter & Wright	1,619	0	0
W. CORK (*accepted*)	1,235	0	0
Plumbers.			
W. J. Rushmer	168	15	0
Woolverton & Son	152	0	0
R. H. Tooley	142	5	0
J. T. Goffin	138	3	6
J. E. Dyson	138	0	0
R. A. EASTOE (*accepted*)	137	0	0

GLOUCESTER.

erection of a new school on the south-eastern edge of the city.

Parnell	£14,376	0	0
J. A. Forse & Son	14,332	0	0
Upcote & Son	14,276	0	0
Broad	13,878	0	0
J. Jones	13,750	0	0
Warren	13,478	0	0
Smith & Pitts	12,487	0	0
Gurney & Sons	11,548	10	0
URNEY BROTHERS, Gloucester (*accepted*)	8,700	0	0

HANDSWORTH.

erection of a fire-engine station, engineer's cottage, hose tower, &c., adjoining the Council House. Mr. E. KENWORTHY, engineer.

Bentham	£2,600	0	0
Hopkins	2,590	0	0
Grinder	2,210	0	0
Vins	2,131	0	0
Ghes	2,045	0	0
Scholls	2,044	0	0
WEBB, Handsworth (*accepted*)	2,026	0	0

HECKMONDWIKE.

For erection of offices and other additions to Orchard Dye-works. Mr. HENRY STEAD, architect, Heckmondwike.

Accepted tenders.

W. & H. Oldroyd, mason.
W. & T. Milnes, joiner.
E. Walker, plumber.
W. Parker, plasterer.
J. M. Thornton, slater.
H. Exley, painter.

HINCKLEY.

For erection of foul mains and four annular condensers. R. & J. DEMPSTER, LIMITED, Newton Heath, Manchester (*accepted*).

ILFORD.

For erection of the Town Hall. Mr. B. WOOLLARD, architect, Finsbury Circus, E.C. Quantities by Mr. GEO. T. G. WRIGHT, Great Winchester Street, E.C.

Symes	£27,969	0	0
Mitchell	27,100	0	0
Patman & Fotheringham	26,500	0	0
Chessum & Sons	25,469	0	0
Stephens, Bastow & Co., Limited	24,998	0	0
Sharpe	24,900	0	0
Pridmore	23,948	0	0

KEIGHLEY.

For additions to Holme Mill. Mr. JOHN HAGGAS, architect North Street, Keighley.

Accepted tenders.

H. V. Robinson, Keighley, mason and joiner.
W. Thornton, Bingley, slater.
E. Sharp, Keighley, plasterer.
T. Lambert & Son, Haworth, near Keighley, plumber.
Bradley, Krischke & Co., Bradford, concreter.
Total, £870.

LONDON.

For repairs to be done at the Licensed Victuallers' Asylum, Asylum Road, Old Kent Road, S.E. Mr. A. L. Annett, secretary. Mr. W. F. POTTER, architect.

R. J. Young	£250	0	0
T. Dawes	225	0	0
W. CROFT, Sydenham (*accepted*)	175	0	0

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LONDON—*continued.*

For alterations, repairs and decorations, 8 Rutland Gate, S.W.

Marble stairs.

W. H. T. Kelland	£2,580 0 0
A. Bush	2,577 0 0
R. S. Buckeridge	2,400 0 0
J. Cannon	2,275 0 0
Spiers & Son	2,140 0 0

Portland stairs.

J. Cannon	2,115 0 0
Spiers & Son	2,060 0 0

For proposed billiard-room, &c., 147 Barking Road, E. Mr. H. C. Lander, architect, Effingham House, Arundel Street, Strand, W.C. Quantities by Mr. J. T. Carew, 22 Surrey Street, Strand, W.C.

W. M. Norton	£452 10 0
W. J. Maddison	400 0 0
Dove, Euston Road (*accepted*)	370 0 0

LONDONDERRY.

For erection of a dwelling-house at Strand Road. Mr. Daniel Conroy, architect, 2 Bishop Street, Londonderry.

A. Dunlop, Little James Street	£300 0 0

MANCHESTER.

For erection of a new South-Eastern District Post Office.

R. Neill & Sons	£2,373 0 0
A. R. Bullivant & Son	2,045 0 0
Burgess & Galt, Upton Street, Manchester (*accepted*)	1,870 0 0

MEXBOROUGH.

For construction of a length of 5 ft. 3 in. by 3 ft. 6 in. brick sewer and other works. Mr. G. Fenwick Carter, surveyor, Market Hall, Mexborough.

G. Eyre	£1,728 15 6
G. H. Smith, Mexborough (*accepted*)	1,280 0 0

MORECAMBE.

For erection of a cottage off Alexandra Road. Mr. A. Lancelot Lang, architect, 12A Pedder Street, Morecambe.

D. Whitehead, Morecambe (*accepted*)	£189 11 0

MORTLAKE.

For erection of seventy-six workmen's dwellings, South Worple Way. Mr. G. Bruce Tomes, surveyor.

Lorden & Sons	£23,444 0 0
B. M. Heywood	23,196 0 0
J. W. Brooking	22,776 0 0
Martin, Wells & Co.	22,759 0 0
W. Pearce	21,680 0 0
A. Hunt & Sons	21,486 0 0
Messum & Sons	20,777 0 0
S. Redhouse	20,123 0 0
J. Redhouse	19,520 0 0
C. R. Gurr	19,219 0 0

NOTTINGHAM.

For additions to factory at New Basford. Messrs. R. C. & E. R. Sutton, architects, Bromley House, Angel Row, Nottingham.

W. Clews	£726 0 0
Gilbert & Gabbitass	720 0 0
W. Woodsand	672 0 0
Cooper & Crane	669 0 0
J. Cuthbert	666 0 0
Hudson & Son	658 0 0
T. Barlow (*accepted*)	644 0 0

For improvement of the Forster Street Board school. Messrs. R. C. & E. R. Sutton, architects, Bromley House, Angel Row, Nottingham.

Gilbert & Gabbitass	£353 0 0
J. Skerritt	322 0 0
T. Barlow	320 0 0
J. Hutchinson	313 0 0
Cooper & Crane	312 0 0
Hodson & Son	310 0 0
J. G. Thomas, Nottingham (*accepted*)	261 0 0

PRESTEIGN.

For the repair of the tower, &c., of Cascob Church, near Presteign. Mr. Ernest Collier, architect, Carmarthen.

J. Price	£138 0 0
J. Lingen	120 16 0
J. Sandford, Letton, R.S.O., Herefordshire (*accepted*)	110 10 0
H. Smith	105 0 0

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Prices for Doors in not less than 200 lots.

	Each.	
1⅛ 6 ft. 4 in. × 2 ft. 4 in. Doors Square,	4/-	IF MOULDED 9d. Per side extra.
1¼ 6 ft. 6 in. × 2 ft. 6 in. „ „	4/2	
1½ 6 ft. 4 in. × 2 ft. 4 in. „ „	4/4	
1½ 6 ft. 6 in. × 2 ft. 6 in. „ „	4/6	
1½ 6 ft. 8 in. × 2 ft. 8 in. „ „	4/10	

Doors O. G. Moulded on the solid both sides in above quantities and sizes, 2d. per door extra.

Prices for ¾ in. Sashes and Frames.
5d. per Foot Super extreme measure.

5 ft. 11 in. × 3 ft. 10 in.	5 ft. 5 in. × 3 ft. 4 i
5 ft. 11 in. × 3 ft. 7 in.	5 ft. 5 in. × 2 ft. 10 i
5 ft. 11 in. × 3 ft. 4 in.	5 ft. 2 in. × 3 ft. 1 i
5 ft. 8 in. × 3 ft. 7 in.	4 ft. 11 in. × 2 ft. 10 i
5 ft. 8 in. × 3 ft. 4 in.	

Sizes given are under head to under sill and between pulleystiles.
Fitted with Deal Sills and Iron Axle Pulleys.

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THE LARGEST MANUFACTURERS OF WOOD CHIMNEYPIECES IN THE KINGDOM

Established over 20 Years.

PONTYPOOL.

or pulling-down portions of the existing workhouse buildings and erecting new steam laundry, boiler-house, kitchen, dining-hall, board-room, offices, labour sheds, stables, &c. Messrs. LANSDOWNE & GRIGGS, architects, Metropolitan Bank Chambers, Newport, Mon.

Stephens & Bastow	£19,994 0 0
J. Morgan	18,228 6 8
D. Jones	17,980 0 0
D. J. Davis	17,955 0 0
C. Lock	17,617 0 0
J. Linton	17,284 0 0
C. H. Reed	17,255 0 0
Bailey Bros.	16,779 0 0
D. W. RICHARDS, Newport (*accepted*)	15,980 0 0

PORTSLADE.

r construction, erection and maintenance of two pumping engines, boilers, deep-well pumps, economisers and other machinery at the Mile Oak pumping station.

E. Chester & Co., Limited	£20,000 0 0
. Watt & Co.	17,608 0 0
. & H. MacLaren	17,185 0 0
. & H. MacLaren, alternative offer for different engines	16,685 0 0
. Milburn	16,416 0 0
. Whitley & Co.	16,412 0 0
ates & Thom	15,810 0 0
LEMING & FERGUSON, LIMITED, Phœnix Works, Paisley (*accepted*)	13,750 0 0
ullerton, Hodgart & Barclay, Limited	13,500 0 0
. Williams, Limited	9,560 0 0

RAINHAM.

additions to premises, Station Road.

V. Brittenden	£750 0 0
. Bowes	710 0 0
H. Harris	690 0 0
EMP BROS., Rainham (*accepted*)	678 0 0

SALISBURY.

whitewashing, colouring, painting and cleaning the wards and other parts of the hospital. Messrs. JOHN HARDING & SON, architects, High Street, Salisbury.

ort & Way	£91 10 0
arce & Son	81 10 0
RAWLINGS, Salisbury (*accepted*)	65 10 9

SALISBURY.—*continued.*

For repairs, building new lavatory and other work at Wesleyan chapel, St. Edmund's Church Street. Messrs. JOHN HARDING & SON, surveyors, 58 High Street, Salisbury.

F. Dibben	£194 10 0
J. M. Jenkins	178 0 0
E. Pearce & Son	176 0 0
A. Curtis	169 0 0
J. Rawlings	165 0 0
WORT & WAY, Salisbury (*accepted*)	155 0 0

For external and internal painting and decorating to the Wesleyan chapel, St. Edmund's Church Street. Messrs. JOHN HARDING & SON, architects, 58 High Street, Salisbury.

T. Silverthorne	£140 0 0
R. F. Bevis	139 10 0
Wort & Way	130 10 0
J. M. Jenkins	125 0 0
E. Pearce & Son	122 0 0
J. Rawlings	112 0 0
J. SAUNDERS, Salisbury (*accepted*)	107 0 0

For building a house and shop in Winchester Street. Messrs. JOHN HARDING & SON, architects, 58 High Street, Salisbury.

E. Hale	£602 10 0
S. G. Grant	582 0 0
W. Roles	580 10 0
F. Dibden	570 0 0
E. Pragnell	556 10 0
Wort & Way	555 5 0
E. Day, Salisbury (*recommended for acceptance*)	529 0 0

TAMWORTH.

For erection of an engine-house, engine beds, &c., at Alders Mill. Mr. J. W. GODDERIDGE, architect, Tamworth.

E. WILLIAMS (*accepted*)	£1,350 0 0
C. Clarson & Son	1,332 0 0

WELLINGTON.

For additions to Sunnycroft and building new entrance lodge and stables. Mr. C. R. DALGLEISH, architect. Quantities by architect.

Roper, Wellington, additions to house, £1,800, new stables £1,139, entrance lodge £660.

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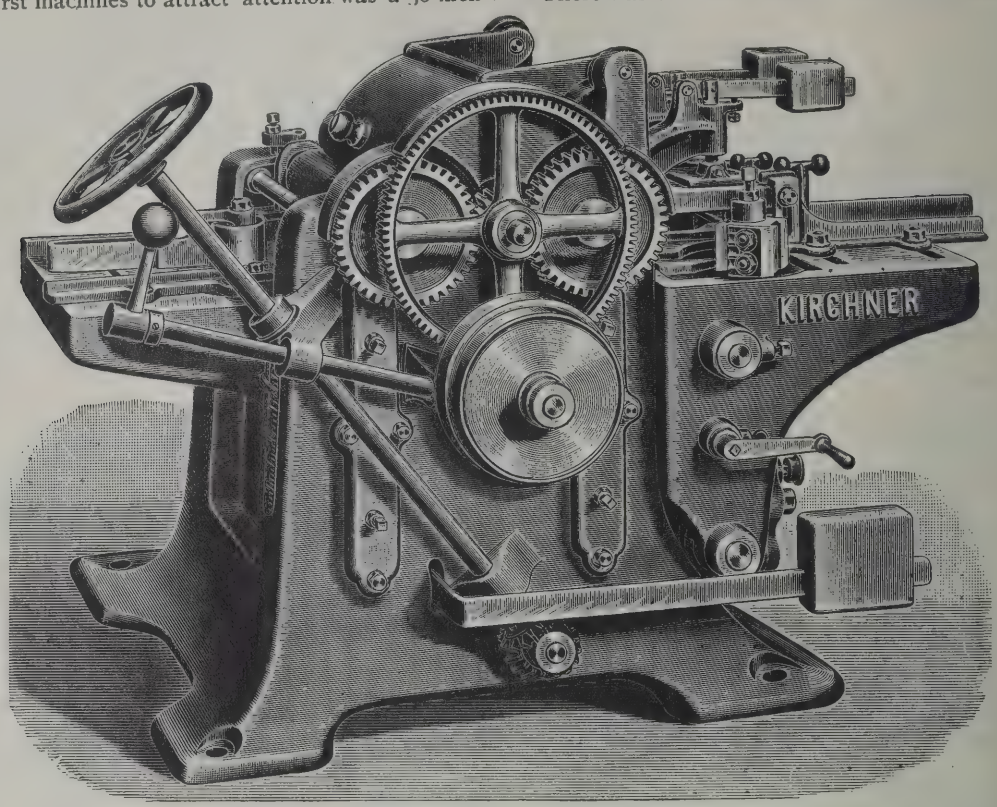
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MESSRS. KIRCHNER & CO.

OWING to the exigencies of space we were not able, in dealing with the various exhibits at the recent Builders' Exhibition, to do much more than mention that the above firm showed a good collection of wood-working machinery. Yet the machines were of such a nature that a somewhat more detailed account seems to be due to such a very interesting and useful display.

One of the first machines to attract attention was a 36-inch band saw. This is the makers' latest design, and is fitted with all modern improvements, having special safety guards which have won the approbation of H.M. Inspectors of Factories. In this machine the saw pullies and spindles are in one piece and revolve in long adjustable bearings—an arrangement which is better than having the saw pullies revolving on fixed spindles. The machine has also the makers' improved arrangement for instantly adjusting the top wheel at any angle.

There was also the makers' new 12-inch hand-planer with



Strode & Co.

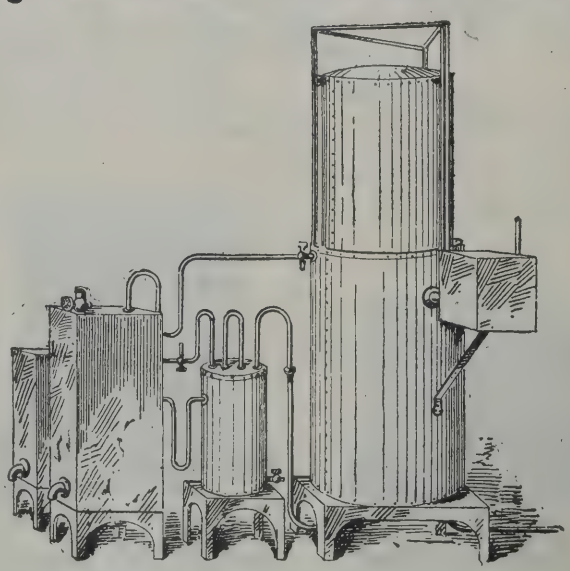
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Artistic Fittings specially designed and constructed f Acetylene Gas.

The whole of the Regulator and Fittings used at the Acetylene Gas Exhibition, IMPERIAL INSTITUTE, were supplied by STRODE & CO.

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Show Rooms: 188 Piccadilly, W.; 67 St. Paul's Churchyard, E.C

bles 8 feet long, each table being supported with double des. This machine has an adjustable fence for canting, and fitted with the makers' telescopic safety-guard, which has on a good deal of favour among users. It should also be entioned that this planer works with several patent attachents, originally invented by Messrs. Kirchner, for square or iral turning, raising panels, mouldings and other work, and can be combined with a mortising and slot-boring arrangeent.

Messrs. Kirchner had also a useful panel-planer 24 inches de, which will work heavy planks or thin veneers with ual facility. This machine has a well-devised and improved eding-gear in place of the usual tooth-clutches. Similar in inciple is the 15-inch three-cutter planing and moulding achine, which is also made as a four-cutter with a bottom tter-block.

Then there was the makers' tenoner with improved antiction sliding carriage, all the spindles being extremely heavy id of full strength for 6-inch tenons. The combined spindleoulder and recessing machine also deserves mention. The ottom spindle is arranged with loose top spindle ends with tra long cones, and the machine works with several attachents for different purposes. It can be easily adapted as a cessing machine and combined with a useful attachment for air work.

Another very useful machine was shown in the shape of irchner's patent under-driven mortiser, a machine which the akers claim to be the only one in the market which requires foundation, as it works steadily and quietly even on wooden ors in the upper storeys of a shop. Also useful would be the nall band saw for hand or foot-power, and which is so conructed as to withstand the strain of steam-power, to which it n be very readily adapted.

Messrs. Kirchner also showed some good grinding machines, nong them an automatic grinder for planing knives, a nife-grinding machine for hand motion, and another for oulding knives.

Finally, it should be said that the foregoing mechanical evices form but a small proportion of the numerous machines id attachments which are manufactured by Messrs. Kirchner, id of which more than 600 of different kinds are always in ock.

FOUNDATION-STONES have been laid of new schools at Vellington Road South, Stockport.

ILLUSTRATIONS.

COMPLETION OF VICTORIA AND ALBERT MUSEUM—SKETCH OF FRONT TOWARDS CROMWELL ROAD.

ROYAL COLLEGE OF SCIENCE, SOUTH KENSINGTON.

NEW WAR OFFICE, WHITEHALL.

NEW GOVERNMENT OFFICES, WHITEHALL.

TRADE NOTES.

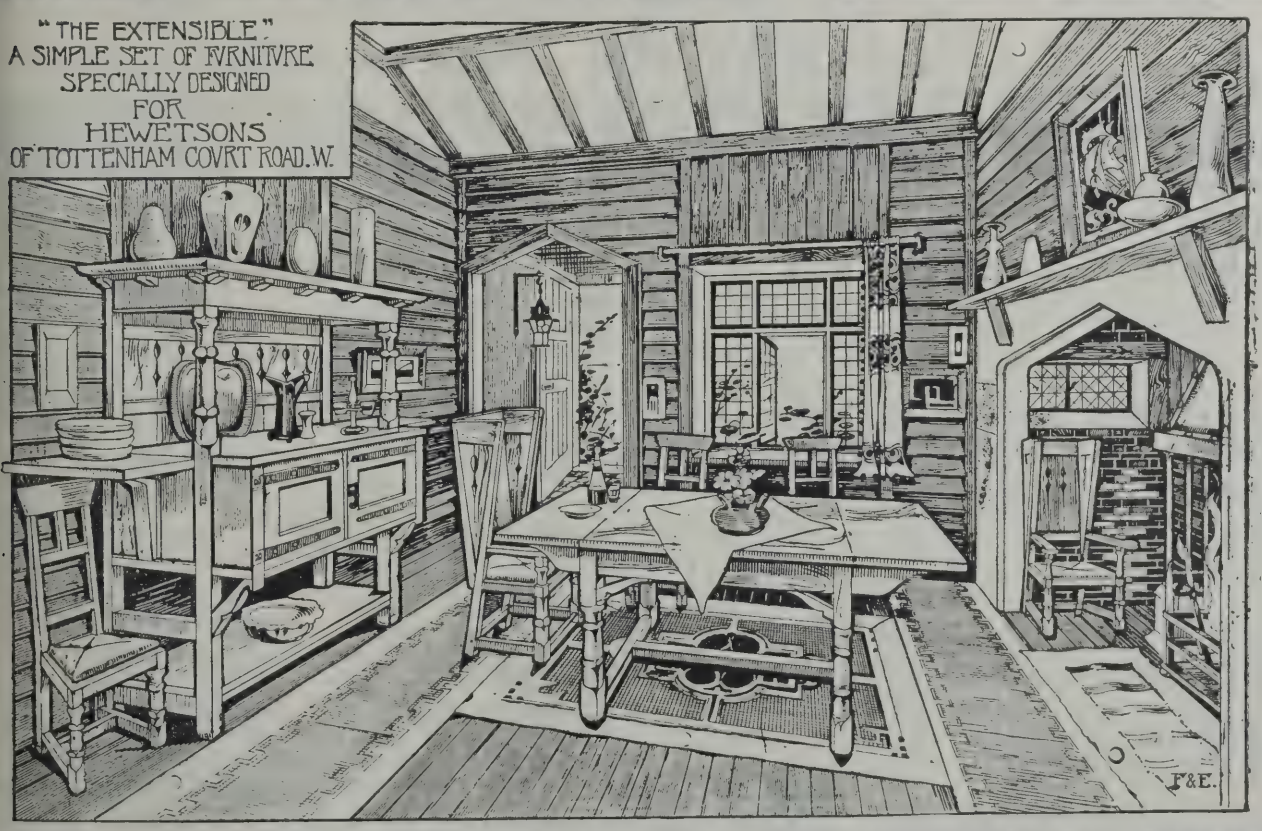
THE new infirmary, Basingstoke, is being warmed and ventilated by means of Shorland's patent Manchester grates, by Messrs. E. H. Shorland & Brother, of Manchester.

MESSRS. EDGAR KEELING, TEALE & CO., LIMITED, of 102 Mount Street, Berkeley Square, W., have been entrusted with the execution of the wrought-iron gates, grilles and heavy covered ways to the principal entrance at the Carlton Hotel, Haymarket.

SINCE the disastrous fire at Hyde Park Court, Messrs. Merryweather have been devoting their attention to a system of sprinklers for automatically extinguishing fires in lift shafts. This appliance will be fully appreciated by the public, especially those who frequent hotels and other buildings fitted with lifts.

AT the Palace Theatre Mr. Morton adheres to his well-known policy of "the best of everything" and constant change. The charmingly piquante Ada Reeve is back again with some telling songs, as is Ludwig Amann with his remarkably clever impersonations of celebrities, and the ever-amusing Harry Paulton. Mdlle. Chester and her wonderfully trained dog pose very effectively in a series of living pictures. The programme also includes such popular favourites as Edith Courtney, Julie Mackie, the Sisters Elinore, Clan Johnstones, Grell and Grey, Delmarre and others, to say nothing of the perennial and always increasing attractions of the American Biograph, to which new pictures are being constantly added.

EWETSONS ILLUSTRATED CATALOGUE FOR 1899 GRATUITOUS.



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IEWETSONS, TOTTENHAM COURT ROAD, LONDON, W.

VARIETIES.

Messrs. Hobson, Richards & Co. announce that they have sold the Dudding Hill Estate, Willesden, offered by them at the Mart last month.

The King of the Belgians has conferred the Order of Leopold on Mr. Drew-Bear, in recognition of his long and valuable services to the iron and steel industries of Belgium, in which he has for so many years been largely interested.

A paper will be read before the members of the London and Middlesex Archæological Society on Monday evening, at the London Institution, by Mr. Charles Welch and Mr. F. C. Eeles, on "Recent Discoveries in the Church of St. Michael Bassishaw."

While about a thousand people were assembled in the church at Burgo de Osma, Spain, to celebrate the Feast of the Virgin, last week, the choir fell in with a tremendous crash. The terrified congregation made a rush for the doors, and in the panic and confusion which followed thirteen persons were more or less seriously injured.

In the course of the excavations for foundations at Skibo, in Sutherland, two ancient cists have been unearthed. They were underneath the walls of the old castle, which has been demolished. The contents were human skulls and other bones, most of which crumbled on exposure to the air.

Mr. Alfred H. Botwright, who has been connected for many years with *Furniture and Decoration* and the *Furniture Gazette*, has purchased the copyright and goodwill of these papers, and will continue to publish same under the name of the *Furniture Record*, at 68 Finsbury Pavement.

The Croydon County Council have unanimously elected Mr. G. F. Carter, principal assistant to the Leeds city engineer, as deputy borough engineer of Croydon. The applications numbered 106. Of six finally selected, Mr. Carter was recommended as the best. The salary is 400*l.*, with a prospect of becoming borough engineer of the healthiest town in the United Kingdom. Mr. Carter entered the Leeds city engineer's office in 1883. For some years he was engaged in the drawing office. On the adoption by the Corporation of the scheme for the clearing of the York Street insanitary area, Mr. Carter was appointed at an advanced salary to assist the committee who have this important project in hand. In this capacity he proved a most valuable servant, and gained experience that is sure to prove of great utility in later years. On the resignation of Mr. Nichols as assistant engineer about twelve months ago, Mr. Carter was unanimously selected by the Council to fill the vacancy. For a considerable time past Mr. Carter has been a prominent member of the Yorkshire College Engineering Society, of which he at present holds the position of hon. secretary. He commences his duties at Croydon a month hence.

The General Steam Navigation Company announce the following coastwise and continental excursions for the coming Whitsuntide holidays. There will be a departure from Irongate and St. Katharine's Wharf, Tower Bridge, for Ostend, on Saturday, the 20th inst., at 7 P.M., returning from Ostend on Tuesday, the 23rd inst., at 11 A.M. Passengers will be booked to Brussels and back by this route. For Bordeaux, also from Irongate and St. Katharine's Wharf on Saturday, 20th inst., at 9 A.M. The departures for Hamburg, viâ Harwich, from Liverpool Street station at 8 40 P.M., will be as usual on Wednesday, the 17th inst., and Saturday, the 20th inst., returning from Hamburg (to meet the convenience of excursionists) on Sunday, the 21st inst., instead of the 22nd, and on Wednesday, the 24th inst. On Saturday, May 20, Whit Sunday and Whit Monday, excursions will be run, weather permitting, each day by the company's new saloon steamer *Eagle*, or other steamer, to Southend, Margate and Ramsgate, and back, leaving London Bridge Wharf at 9.10 A.M., Greenwich Pier 9.30 A.M., Woolwich (South) Pier 9.50 A.M., and Tilbury after the arrival of the special train leaving Fenchurch Street station at 10.15 A.M.; returning from Ramsgate at 3.15 P.M., Margate at 4 P.M., and Southend at 5.30 P.M. each day. The *Laverock*, or other steamer, will leave London Bridge Wharf for Yarmouth on Saturday, May 20, at 9 A.M., Greenwich Pier at 9.20, Woolwich (South) Pier at 9.40, and Tilbury Pier after the arrival of the special train leaving Fenchurch Street station at 9.45 A.M; returning from Yarmouth on Monday, May 22, at 8 A.M. Circular tickets down by boat to Margate and Ramsgate, and up by South-Eastern Railway or London, Chatham and Dover Railway, and down by boat to Yarmouth and up by Great Eastern or Great Northern Railway, will be issued as usual.

The accommodation in the girls and infants' departments of St. John's School, Carrington, Notts, having become inadequate to the number of children attending, the managers have decided to enlarge them. The estimated cost of the alteration is over 300*l.*

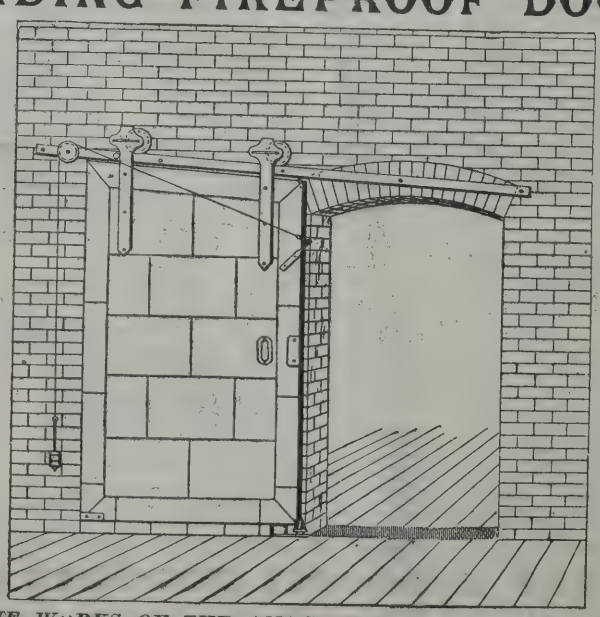
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BUILDING AND BUILDERS.

THE Local Government Board have given their sanction to the Birmingham City Council borrowing 10,100*l.* for the erection of artisans' dwellings in Milk Street, and having also approved of the plans of the buildings, the improvement committee at their meeting were in a position to decide to advertise for tenders for the erection of the houses forthwith. The proposal is to build sixty-one tenements, in four blocks, on the dual system.

A NEW company has been registered the (Isle of Walney Estates Company, Limited), with a capital of 100,000*l.*, all of which has been subscribed, to develop Walney Island, Barrow-in-Furness, into a seaside resort. Already practically the whole of the land in the north of the island has been purchased with this object. A part of the land has already been disposed of, on which Messrs. Vickers, Sons & Maxim are about to build at once from 600 to 1,000 houses for the workmen employed at their naval construction works. There is a great scarcity of houses at present in the town. The rest of the land purchased will be laid out on a big scale as a watering-place, with an extensive frontage and fine promenade on the west shore, washed by the Irish Sea. Here are located fine bathing sands, and many advantages likely to make Walney-on-the Sea a very popular seaside resort. The work has already been commenced, and the scheme is not only an extensive and important one, but will be pushed to a successful issue.

NEW CATALOGUES.

MESSRS. WADSWORTH & SONS are sending out a new catalogue descriptive of their self-landing and delivery hoists, cage hoists, friction hoists, hand hoists, safety doors, shafting, pulleys, pedestals, &c. Perhaps the most important of these is the first named, which has been designed with a view to dispensing with the dangerous and laborious work of swinging the goods into the room. The hoist is controlled by a lever placed near the doorway, so that the operator can see both inside the room and the lurry standing outside. The movement of this lever corresponds with the movement required on the hoist; thus, to hoist requires the lever to be raised; to travel out an outward movement of lever is required, &c. The jib of the hoist can be made to draw inside the room if required by the Corporation authorities. It is claimed for the self-landing hoist that it is the only one in the market which requires one strap or rope to drive. Messrs. Wadsworth & Sons have invented a patent safety carriage, which makes it impossible to travel too far, and this has been successfully applied in cases where the carriage has run over the end of the jib, greatly endangering the lives of persons loading or unloading underneath.

MESSRS. RICHARD MELHUISH, SONS & CO., of Fetter Lane, have just completed a very well arranged and well illustrated catalogue of tools for all classes of metal workers and plumbers. It contains upwards of 300 folio pages, and includes illustrated descriptions of the numberless tools and appliances for the high quality of which this old-established firm has acquired such a wide reputation. The book is well arranged, admirably printed, and handsomely and substantially bound, and as all prices are given it will be found a very useful book of reference for all interested in these branches of trade.

MESSRS. MARK FAWCETT & CO., whose system of fire-resisting floors, ceilings and roofs is too well known to require a detailed description, have just got out a handsome album of views of the numerous buildings erected for H.M. Government in which it has been employed. The views, all of which are from photographs capitally reproduced, give an admirable idea of the method of employing the system and the magnitude of the works in which it has been employed.

WE have received the new price list which the Wortley Fireclay Company have just issued. It contains descriptions of the various plain and fancy bricks which they make, coloured representations of the tints in which they manufacture their well-known glazed bricks, and draws special attention to their new patent keyed-back tiles, which are for use in dadoes and as wall and ceiling linings to new or existing buildings. For these it is claimed that it is absolutely impossible for them to fall out or move in any direction after fixing. They are especially useful where it is desirable, but impossible or very costly, to pull down a wall and rebuild it with glazed bricks, as they can be very easily fixed, and make a neat and safe job. They can also be fixed to the under sides of ceiling joists without cement. They can be made in any size or shape as required.

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ONE of the most serious drawbacks to the application of this system of ventilation is its liability to down-draughts, largely induced from the peculiarities and position of the buildings ventilated, and not infrequently aggravated by the character and construction of the appliances used.

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It is a well-known fact that all buildings which are overtopped by higher erections are specially liable, when fitted with the ordinary turret or louvre ventilators, to a downpour of cold air through their connecting pipes, causing great discomfort and serious injury to the health of the occupants. It is therefore essentially necessary that, if perfect extraction is desired without any downward tendency, every care should be taken to ascertain that the ventilators used are so carefully arranged in all details of construction that the air currents will be directed in the upward course desired.

Hitherto but little attention has been given to this point. The ventilating engineer or manufacturer, having proved his ventilator sufficient in ordinary circumstances, contented himself by fixing an automatic valve arrangement underneath the ventilator or in the connecting pipe or hopper, such arrangements proving invaluable in ventilators which are not fixed on ridge of roof. But all such remedial measures prove abortive in the turret ventilator, as they so hinder the extraction of the vitiated air as to reduce it to a minimum.

The Climax Ventilating and Heating Company, Limited, of Glasgow, have lately provided a ventilator in which the louvre arrangements and protecting shields are so constructed that perfect security against down-draught under all circumstances is guaranteed without valve arrangements. These "Improved Climax" patent natural exhaust ventilators have lately been put upon the market and supplied for many important buildings, being quite a departure from the usual louvre arrangements and a marked progressive improvement in the science of ventilation.

FLANGED PLATE SAFES.

EVERY day announcements can be read of immense English dictionaries, and it is difficult to decide which contains the largest number of words. Apparently we are richer in verbal wealth than the rest of the inhabitants of the world. It is therefore hard with so much at our disposal to accept the Carlylean doctrine of silence being golden. But in spite of our amazing verbosity, it must be confessed that in respect to what many will consider as the most important variety of speech we are poverty stricken. We refer to technical terms. Inventors are a silent race—they leave their works to speak for them. As a consequence it is almost impossible to describe any important invention or improvement in manufactures without employing words and phrases which may readily be interpreted as applying to something else in the same division of practical science. Much of the costly litigation which arises in connection with patents is due to the equivocal use of words, although the main cause is the poverty of the English language and the dread which most men have of inventing new terms. The long controversy which was necessary before such words as an ohm, an ampère, a coulomb, a rheostat and others could be introduced in the nomenclature of electricity, suggests English conservatism in linguistics. The Germans, by their method of compounding words regardless of the length of the results, have an advantage over us, and the passion of the French for annexing words and phrases from other languages preserves them from the difficulties we must encounter.

The risks which arise from the scantiness of the English technical vocabulary are most onerous for journalists, and few can escape from them. We have been informed that recently we did not prevent ourselves from being numbered among the victims. In writing the preliminary notice of the Building Exhibition it is said we described some safes in terms which are no less applicable to safes which were manufactured during the last nine years by Chatwood's Patent Safe and Lock Company, Limited, of Bolton. Amidst the confusion which is inevitable when an exhibition is in course of arrangement there is no opportunity for comparison of inventions. The most that can be done is to describe with accuracy and impartiality, and this we claim to have done. Questions of origin will not be investigated by the authorities of the Patent Office, and the judges of the High Court are not always gladdened whenever such questions come before them. Priority of invention is so intricate a subject, it would be unfair for any individual writer to be dogmatic in deciding about contending claims unless he has made a special investigation, or, in other words, has discharged judicial functions. We have described the advantages which arise from flanged plates when used in safes, and about the security they furnish there can be no doubt. It is a question of practical science, but the legal aspects are necessarily out of our purview.

That safes with flanged plates have been manufactured at the Lancashire Safe and Lock Works since 1890 cannot be doubted. There are numerous bankers and others who would willingly testify to the fact and acknowledge the sense of security which such strongholds impart to them. What is more, a specification of the invention giving all particulars and illustrated with several plates can be obtained. It is numbered 4,100, and was accepted on March 7, 1891. The invention is

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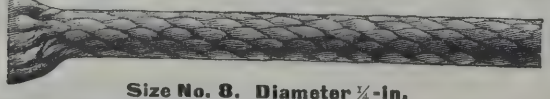
NOTICE OF REMOVAL.
During the Rebuilding of the Strand Premises, which have been occupied by "THE ARCHITECT" for the last 30 years, the Editorial, Publishing, and Advertisement Departments have been removed to the
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d to have for its object "improvements in safes and strong ›ms, and in apparatus for manufacturing same, parts of ich are also applicable to other purposes." The inventors, muel Chatwood, Samuel Rawsthrone Chatwood and Arthur unel Chatwood, say:—"We make the sides of a safe of a ctile plate, and along the front and back edges of the plate, either of them, we form flanges to project inwardly from the e of the plate." How the flanging of the plates may be complished, either heated or cold, by placing the edges juired to be flanged between a pair of blocks of suitable form described in detail. The specification goes on:—"We then (if e safe is intended to be rectangular) bend the plate transrsely to form the four corners, and to facilitate the bending cut pieces from the flanges where the bend is to be formed." ie whole process of manufacture and fitting of the parts is scribed as precisely as possible, and from descriptions and awings there would be no difficulty in manufacturing the proved safes and strong rooms. Everything is straightward, and the specification might be said to err in the fulness information which is imparted. It therefore stands recorded industrial annals and the records of the Patent Office that nged safes came into existence nine years ago, and that they ve demonstrated the utility claimed for them originally by e inventors, Messrs. Chatwood, is proved by the numbers ued from the Bolton works, as well as by the trials which any of them have victoriously sustained.

INSTITUTION OF ELECTRICAL ENGINEERS.

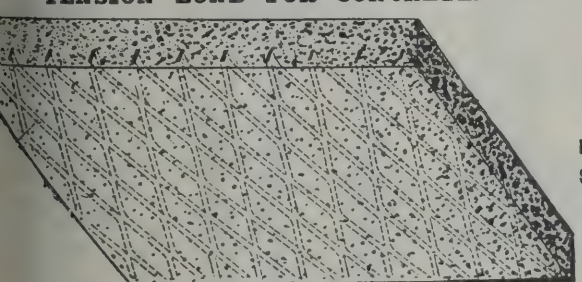
RRANGEMENTS are being made for a visit of the Institution Switzerland in September next. As at present arranged, embers will visit the Rheinfelden works on Saturday, Sepmber 2, will proceed on the same day to Zürich, and will main there until September 6. During this time visits will paid to the works of the Oerlikon Company, of Messrs. rown, Boveri & Co., and of Messrs. Escher, Wyss & Co., and certain power stations and tramway and lighting installations the district, including, as it is hoped, a visit to the Schaffiusen works. They will then proceed to Lucerne, and, after specting the street railways of that town and, if time ermit, the Rathhausen works and the Stansstad-Engelberg ailway, will travel *via* the Brünig Pass to Interlaken. ere opportunity will be given for visiting both the Jungfrau ailway (*via* the Wengern Alp route) and the Burgdorf-Thun Railway, as well as other places of electrical interest in the neighbourhood, and the visit will end on Saturday, September 9. The annual conversazione of the Institution will be held at the Natural History Museum, South Kensington, on the evening of Thursday, July 15.

THE LATE G. F. LYSTER, C.E.

FOR more than thirty years the name of George Fosbery Lyster has been associated with the great improvements in the Mersey Docks, on which the prosperity of Liverpool mainly depends. It might be said that his death was caused by his devotion to duty, for it was during attendance at the trial in Liverpool arising out of an accident to a steamer in the Birkenhead Docks he caught the chill which proved fatal to him.

The career of Mr. Lyster, says the *Liverpool Courier*, was a most distinguished one. He was born on September 7, 1821, at Mount Talbot, co. Roscommon, Ireland, and was the third son of the late Colonel Anthony Lyster, of Lysterfield and Bushey Park, Roscommon, his mother being Jane Fosbery, second daughter of Mr. George Fosbery, of Coleraine, co. Limerick. The Lysters were originally a Yorkshire family, and the deceased gentleman was related to many well-known families both in that county and in Ireland. He was educated primarily at King William's College, Isle of Man, and finished his education at a private school. Having chosen civil engineering as his profession, he became a pupil of the late Mr. James Meadows Rendel, F.R.S., one of the most distinguished engineers of his day. Mr. Lyster in after life joined the Institution of Civil Engineers, was on its Council, was a Fellow of the Royal Society of Edinburgh and other scientific bodies, and was also a lieutenant-colonel in the Engineer Volunteer Staff Corps. In the early part of his career Mr. Lyster was engaged professionally on engineering works of magnitude and importance. After he had finished his pupilage he was appointed by the Government as an assistant resident engineer on the works for the improvement of the river Shannon. Subsequently he assumed an important position in England under his late chief, Mr. Rendel. For years he was actively engaged in parliamentary, railway, harbour and dock engineering. When the Government decided upon the great refuge harbour at Holyhead Mr. Lyster was appointed the assistant resident engineer. At the termination of this work he was again selected by the

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PRICE LIST AND ESTIMATES ON APPLICATION.

Government to the post of resident engineer for the new harbour works at Guernsey.

Out of seventy competitors he was in 1861 appointed engineer-in-chief to the Mersey Docks and Harbour Board, succeeding the late Mr. John Bernard Hartley. He also became engineer to the Wallasey Embankment Commissioners. Among the works that he designed and carried out were the Birkenhead Docks, the Wallasey Dock, the Morpeth Branch Dock, the grain warehouses and River Craft Dock, the composite warehouses, the graving Docks, the cattle lairages, the tower buildings, with their powerful engines and machinery, vast quay sheds, coal hoists, the Woodside landing-stage and the floating roadway, also the Wallasey stage and other works on the Cheshire side connected with the Dock Board system. Under his direction a vast amount of work on the Liverpool side of the Mersey was done for the development of the Dock estate and the improvement of our magnificent line of docks, which, thanks to Mr. Lyster's initiative, now accommodate the largest vessels afloat. Among these stupendous undertakings may be mentioned the docks at the north end and in Bootle, where the great steamers connected with the Atlantic and other trades are berthed. It was a memorable incident in connection with Mr. Lyster's career as a dock engineer, the designing and construction of the Alexandra Dock, which was opened amid great ceremony in 1881 by their Royal Highnesses the Prince and Princess of Wales. There was also the Huskisson Branch Dock, the alteration and part reconstruction of the Canada and Huskisson Docks, with a third branch and half-tide dock on the site of the Sandon Basin and Wellington Half-tide Dock. By his engineering skill there were made large entrance and deep sills to make these docks suitable for the largest and heaviest draft ships. Then there was the Waterloo Dock, with its great grain warehouses and appliances for the unloading and manipulation of grain, and that engineering feat which is the marvel of visitors, professional and otherwise, the combined landing-stages, the floating roadway on the site of George's Basin, and the new roadway leading to the stages, which has developed and facilitated the great cross-river traffic both in passengers and goods. Under Mr. Lyster's auspices there was constructed on the stages accommodation for the Customs and other officials, and the numerous passengers arriving or departing from the Mersey.

A few years ago there was a great danger of a serious interruption of the traffic at the landing-stage owing to the difficulty of the cross-river and other steamers approaching the stage. This arose from the accumulation of sand and th encroachments of what was known as the "tail" of the Pluck ington Bank. The deceased gentleman designed, and unde his direction was constructed, a sluicing system at the back o the landing-stage for the purpose of removing the dangerou sand accumulations. This plan, however, was only attende with partial success, and now a number of dredgers have to b employed to prevent the navigation of that part of the rive being seriously interrupted.

Among his other undertakings Mr. Lyster is credited wit the original design of the overhead railway, since carried int effect by the present company, the construction of the Petro leum Casement Stores at the Herculaneum Dock, and th vast system of petroleum tanks at that part of the doc system. These and other works occupied Mr. Lyster's atten tion during his long and busy connection with Liverpool. H devised and carried out an extensive system of pumpin engines and machinery, both at Liverpool and Birkenhea docks, which insures a depth of water at the older docks equa to that of existing spring tides, thus insuring their use b vessels throughout the year. He also initiated the deepenin of the approaches to the river by means of dredging, and othe works now in progress in connection with the great port o Liverpool are due to his energy and professional skill. I 1889 Mr. Lyster was permitted by the Dock Board to b relieved of part of his duties by his son, the present engineer Mr. A. G. Lyster. The deceased was a model of gentlemanl bearing and courtesy. He was a familiar figure, and wa always popular in the best circles of Liverpool society, and wa an active member of some of the learned bodies of this city He was always considerate to the numerous staff under hi direction, and his death will be deplored by a very wide circl of professional and private friends.

WORKMEN'S COMPENSATION ACT.

THE fourth subsection of section 1 of the Workmen's Com pensation Act, 1897, is as follows:—"If within the time here inafter in this Act limited for taking proceedings, an action is brought to recover damages independently of this Act fo injury caused by any accident, and it is determined in such action that the injury is one for which the employer is not liable in such action, but that he would have been liable to pay compensation under the provisions of this Act, the action sha

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be dismissed, but the Court in which the action is tried shall, if the plaintiff so choose, proceed to assess such compensation, and shall be at liberty to deduct from such compensation all the costs which, in its judgment, have been caused by the plaintiff bringing the action instead of proceeding under this Act." The appeal case Edwards *v.* Godfrey, which was heard in the Court of Appeal on the 13th inst., exemplifies the consequences which follow from the above subsection.

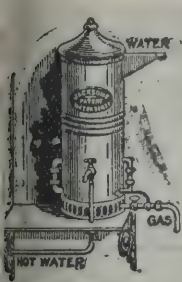
The respondent, Edwards, was in the employment of the appellant, Godfrey, and was employed on a building over 30 feet in height, upon the top storey of which a studio was being erected. A scaffolding was used in carrying out the work. The respondent was employed in glazing the studio, and on September 12, 1898, he was descending from the outside of the studio when he fell to the ground and was injured. The respondent brought an action against the appellant in the Wandsworth County Court under the Employers' Liability Act, 1880, and this action was tried on January 9, 1899, before a jury, when the jury found that the respondent was guilty of contributory negligence, and judgment was given for the appellant. No application was then made on behalf of the respondent to assess compensation under the Workmen's Compensation Act, 1897. On January 30, 1899, the respondent took proceedings to recover compensation under the Act of 1897, and on March 13 the County Court judge made an award in his favour and assessed the compensation at 11*s.* a week.

Mr. Frank Gover, for the appellant, contended that by section 1, subsection 2 (*b*) and subsection 4, of the Workmen's Compensation Act, 1897, the workman could claim compensation either under the Employers' Liability Act, 1880, or under the Act of 1897. He could not take two independent proceedings. By section 1, subsection 4, of the Act of 1897, if an action was brought to recover damages independently of that Act, and the action was dismissed, the Court might, if the plaintiff chose, proceed to assess compensation under the Act of 1897, and might deduct from such compensation the costs caused by the plaintiff having brought the action under the Employers' Liability Act, 1880. That was in favour of the workman, and if he did not apply for compensation to be then assessed under the Act of 1897, he could not subsequently take proceedings under that Act. If he could take subsequent proceedings, then the employer would be deprived of the advantage of having the costs to which he was put by reason of the plaintiff having wrongly sued him under the Act of 1880 deducted from the compensation.

Mr. Colam, for the respondent, contended that the dominant idea of section 1, subsection 2 (*b*), of the Act of 1897 was to prevent the ordinary right of the workman being taken away, and the latter part of the clause prevented the employer being liable twice over. But neither that subsection nor subsection 4 said that no proceedings should be taken under the Act of 1897 if the action at common law or under the Employers' Liability Act, 1880, failed. Section 1, subsection 2 (*b*), said that the employer should not be liable to pay compensation twice over, but it did not do away with the double remedy. That subsection only applied to cases where the injury was caused by the personal negligence or wilful default of the employer or of some person for whom the employer was responsible. The County Court judge was therefore right.

The Court allowed the appeal.

Lord Justice A. L. Smith said that the workman failed to recover judgment under the Employers' Liability Act, 1880, and in ordinary circumstances that would be an end of the case as between the employer and the workman, and the employer in any subsequent proceedings by the workman for the same cause of action could plead *res judicata*. That finished the action under the Act of 1880. Subsequently the workman took proceedings and obtained an award under the Workmen's Compensation Act, 1897. The question was whether the workman, after having exercised his option of suing under the Act of 1880, should revert back to the Act of 1897. In his opinion section 1, subsection 2 (*b*), of the Act of 1897 gave the workman, in the circumstances there mentioned, the option of claiming compensation independently of the Act or under the Act. The workman here exercised his option of claiming independently of the Act. If it had not been for section 1, subsection 4, of the Act the matter would then have been *res judicata*. But that subsection gave the workman the advantage, when he had wrongly exercised his option of proceeding independently of the Act and had failed, of having compensation then and there assessed under the Act of 1897 by the Court which had seisin of the case. There was that *locus penitentiæ* given to the workman. At the same time a benefit was given to the employer by allowing the judge to deduct from the compensation awarded the costs caused by the workman having wrongly brought the action. If this were not the true construction of the Act, a workman who had failed in an action under the Employers' Liability Act, 1880, would never apply under section 1, subsection 4, of the Act of 1897 for compensation under that Act, but would always take fresh proceedings under



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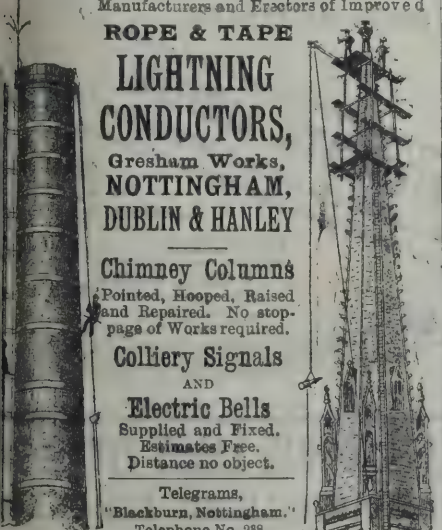
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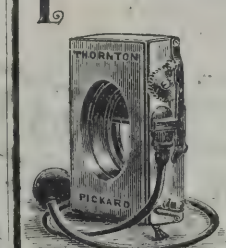
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the Act of 1897, in which case the judge could not deduct the costs of the former action from the compensation awarded.

Lord Justice Vaughan Williams and Lord Justice Romer concurred.

THE AUCTIONEERS' INSTITUTE.

THE ordinary general meeting of the members of the Auctioneers' Institute of the United Kingdom was held in the lecture-hall of the Institute in Chancery Lane on the 11th inst., Mr. Edward Dobson, the president, being in the chair. The report stated that 186 new members had joined during the past year, and the total number of members on the roll at the end of the year was 992. The income for the year was 1,985*l.* 18*s.* 3*d.*, and the expenditure 1,467*l.* 4*s.* 9*d.*, leaving a net balance of 518*l.* 13*s.* 6*d.*, which, added to the balance brought forward, showed a balance to the credit of revenue of 1,394*l.* 9*s.* 6*d.* The President, in moving the adoption of the report, said their object was to improve the status of the auctioneer, and they had achieved it to a considerable extent. Examinations were held and the number of entries for them was steadily increasing. Of thirty candidates who presented themselves in March, twenty-four satisfied the examiners. The Institute had various provincial branches. They were, he considered, rendering a service to the public by enabling them to have qualified and certificated men to carry on the business of auctioneers and valuers in this country. Mr. J. F. Field, past president, seconded the motion, which was agreed to. The members of the council retiring by rotation were re-elected and the following Fellows were elected members of the council:—Mr. B. J. Bridgewater, London; Mr. H. D. Buckland, Windsor; Mr. W. W. Cox, Torquay; and Mr. F. J. T. Horsey, London. The annual dinner of the Institute was held on Thursday night at the Cannon Street Hotel, Mr. E. Dobson presiding. Among others present were Mr. Rentoul, M.P., Mr. E. Flower, M.P., Mr. Balfour Browne, Q.C., Mr. G. M. Freeman, Q.C., Sir J. Fortescue Flannery, M.P., Mr. D'Arcy Wyvill, M.P., Mr. Wanklyn, M.P., Mr. T. W. Wheeler, Q.C., Mr. T. Milvain, Q.C., and Mr. C. B. Margetts (president of the Incorporated Law Society). Mr. Flower, M.P., proposed "The Auctioneers' Institute." The Chairman, in reply, said that the Institute aimed at the public rather than individual benefit, and the system of examination of young auctioneers and the granting of certificates was calculated to enhance the position of what he ventured to call their profession. Their membership extended throughout the three kingdoms. The uniting of the various distinct classes of auctioneers in one body was in the interests of the public. He expressed the gratitude of the Institute to the council, and especially the London members of it, for their untiring industry.

MUNICIPAL CONTRACTS.

A PAPER has been issued by the Employers' Parliamentary Council on the conditions of contracts with local authorities which are enforced in many parts of the country. The *Labour Gazette*, in its issue for April 1898, states that 163 local authorities in England and Wales, with an aggregate population of over eight and a half millions, include in their contracts conditions as to wages, and 219 local authorities, with a population of somewhat over nine and a quarter millions, specify various conditions as to employment (including conditions as to wages).

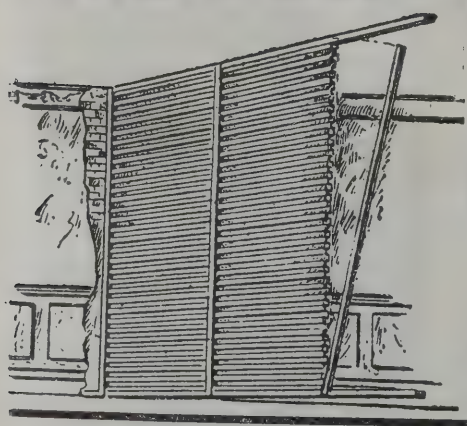
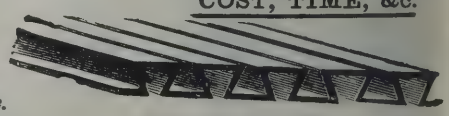
Eight hundred and sixty-seven local authorities, with a population of over seven and three-quarter millions, make no conditions as to employment in their contracts; but of these eleven indicate conditions which they desire to be observed, although not in the contract, and forty-one have never made any contracts. It is calculated that the whole of the urban districts of England and Wales (including London, about which the return gives no information) may be divided into two groups, the first of which, with a population of about thirteen millions, includes all districts where conditions of some kind as to wages are imposed; and the second, with a population of about eight millions, includes all districts where no such conditions exist.

According to an article on the Scotch Return in the *Labour Gazette* for April 1899, seventeen local authorities, with an aggregate population of a little over one and a half million, include in their contracts conditions as to wages, and twenty-four local authorities, with a population of nearly two millions, specify conditions as to employment (including conditions as to wages).

Two hundred and eleven local authorities, with a population of rather over two millions, make no conditions as to employment in their contracts.

The above particulars show the very large extent to which the local authorities of Great Britain have already adopted the

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system of dictating to contractors the way in which they are to carry out their contracts. A case has occurred recently at West Ham in which this system of interference has been carried to an unprecedented extent. A firm of engineers, Messrs. Ferranti, whose works are in the Oldham district, and who pay the rates of wages recognised by the trade unions in that district, tendered for some work required by the West Ham Town Council. This body, after accepting the tender, insisted that the wages paid should be those prevailing in the Manchester district, with which neither they nor the contractors have any concern whatever. As stated above, some authorities require their contractors to pay the wages in force within the authorities' own districts, and some the wages in force where the work is executed, but it never appears to have occurred to any council before to enforce rates in a district with which neither party is connected.

This system of interfering with contractors not only imposes most unfair and onerous conditions upon them, but is distinctly prejudicial to the ratepayers, as contractors will naturally insist upon getting a higher price to compensate them for the vexatious conditions to which they have to submit. Many of the councils, indeed, who have adopted this policy would not be at all sorry to drive away the contractors altogether, as they would then have an excuse for executing their work by direct labour. This, of course, is the worst system of all for the ratepayers, as has been fully proved by the extravagance and corruption in the Works Department of the London County Council. It is satisfactory to note that in some places the authorities are at last beginning to rebel against the assumption of their workmen that they are to receive more pay and do less work merely because they are employed by a public body. According to an article in a recent number of the *Journal of Gas Lighting*, it seems likely that the policy of direct employment will shortly be abandoned at Leicester. It is to be hoped that this case will not stand alone, and that other local authorities will realise that their only true policy is to give the work to those contractors who will do it on the most advantageous terms, and to leave them entirely free as to the arrangements which they and their workmen may find it mutually convenient to make.

A leading member of the Employers' Parliamentary Council, writing to the secretary on May 11, says :—"The present system is heading straight for socialism. I certainly think that employers as citizens should oppose the principle of municipal trading by all means in their power. They have, moreover, a more direct interest in the matter: if this thing goes on the trade unions will become masters of the municipalities, and then it will be the employers' turn to be dominated by the trade unions. The employers must not let this thing drift, or they will suffer for it. The trade unions, having found their match in their late contests with Lord Penrhyn, Colonel Dyer and Sir William Lewis, recognise the fact that success cannot be had on those lines, and they have, as you must know, and as I learn from their reports, &c., resolved to follow municipal lines—that is, to capture the municipalities. I hope, therefore, we (the Employers' Council) will do something effective before the committee. Mr. Joseph Cowen said the other day in reference to municipal trading that 'it begins in Tooley Street and ends in Tammany.'"

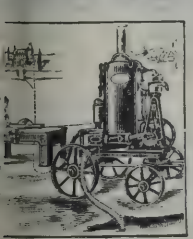
AN ITALIAN CARPENTER IN ABYSSINIA.

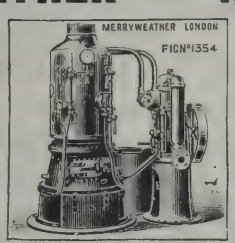
A TELEGRAM from Massowah has just announced, says the Rome correspondent of the *Pall Mall Gazette*, the death of Giacomo Naretti, a modest but interesting figure connected with the Italian occupation of Africa. He was the son of poor Piedmontese peasants. Fate took him first to Egypt and then to the interior of Africa, before the Government of Rome had as yet turned their eyes to the Black Continent, and when Italian adventurers (in the best sense of the word) such as Cardinal Massaia (then only Monsignor), Gessi, Matteucci, &c., were especially helped and protected by England.

Naretti was a very ordinary carpenter, but his trade proved his fortune in Abyssinia. He built first for Emperor John and then for Menelik many, to them, strange and delightful things. His real fame in Ethiopia began with the construction of the throne of Solomon, which had a particular significance, as the Ethiopian sovereigns pride themselves on being the direct descendants of King Solomon and the Queen of Sheba. Later he built the royal palace at Makallè, becoming after that a kind of minister of public works, and marrying a woman called Theresa, daughter of an Englishman and a native.

However, all was not plain sailing with him. His troubles began with the Italian enterprises in the Red Sea. The Negus began to suspect him and expelled him from his dominions. He took refuge in Massowah, where he found occupation as the photographer of the place, while his wife became the interpreter of the local Government, as she spoke, besides the native languages, Italian, English and German.

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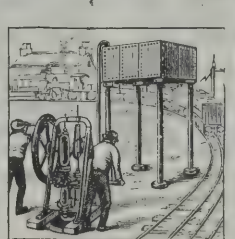

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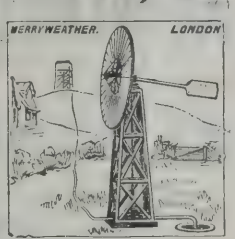


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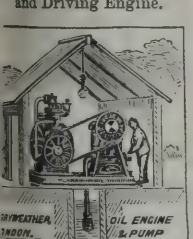

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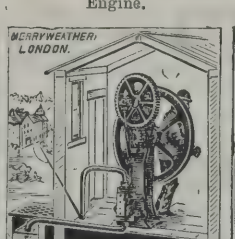
Oil Engine and Pump.



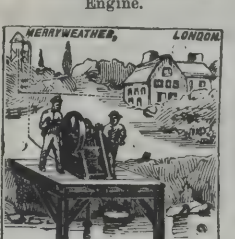
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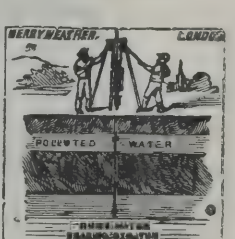
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THE ROYAL HOTEL, WEYMOUTH.

A NEW hotel of handsome and commodious design, beautifully situated and luxuriously appointed, was opened at this favourite resort on Tuesday. The Royal Hotel, which contains over a hundred rooms, has been erected from the designs of Mr. C. Orlando Law, of Arundel Street, W.C., by Messrs. Creaton & Co., and is a model of good arrangement, perfect sanitation and all that is most modern and approved of in details of equipment, electric light is installed throughout the hotel and telephones communicating with the office being placed in every room. The furnishing has been entrusted by the proprietor, Mr. T. H. Vinnicombe, to the well-known firm of Oetzmann & Co., of 62-79 Hampstead Road, London, W.

The entrance-hall lounge has a mosaic pavement and is very richly decorated in white and gold, the tasteful cornice and frieze being in bold relief. The carpet is a very handsome soft pile of rich colouring, and Oriental furniture of a luxurious description, consisting of lounges and easy-chairs covered in rich moquette, with elaborate draperies and curtains of figured velvets, help to make this a most comfortable and artistic feature of the hotel. Above is a conservatory, approached by a very handsome staircase in the "Dorothy" style, carpeted like the hall and prettily furnished with a number of very comfortable lounge wicker chairs, and a charming effect is obtained by a very fine collection of palms.

The grand banqueting-hall measures 66 by 33 feet and is capable of comfortably seating 300 guests for dining, or a considerably larger number when used for concerts, &c. It is a very lofty, well ventilated and carefully warmed room, richly decorated in fine soft colours.

The billiard-room, the reading-room, and table d'hôte room are handsome apartments, appropriately furnished.

There is, too, a very fine modern buffet and saloon bar, the mahogany tables having hammered copper tops, and a very fine registered design fitment with seats upholstered in moquette, producing altogether a beautiful effect. The two rooms over the arcade have been specially arranged for the reception of commercial travellers, and are luxuriously furnished as a dining and a reading-room. A large and suitably decorated room on the ground floor has been furnished as a smoking-room and here also comfort has been duly considered.

The drawing-room is tastefully decorated in pale shades of gold, and a soft and harmonious effect has been produced by keeping the furniture also in shades of the same colour. The floor is covered with a thick velvet pile carpet in a deep tone of gold, while the elaborate silk hangings and draperies match the lighter tones in the wall decorations. The furniture is the fashionable Sheraton style, beautifully inlaid; the sofas, chairs &c., are covered in yellow silk of pale and delicate shades. This room, when lit with electric light, is perfectly charming and amongst its appointments is an excellent semi-grand pianoforte by Pleyel. On the same floor there are several bedrooms and private sitting-rooms, some of them, in the Chippendale style, being particularly dainty and attractive.

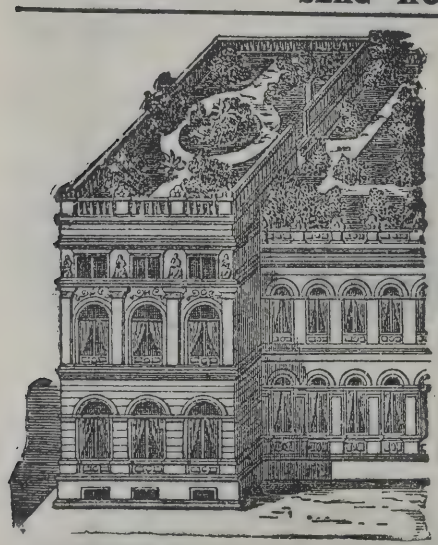
There are hydraulic elevators to all the floors; all the staircases and corridors are richly carpeted; every modern and improved appliance has been fitted to the kitchen, and a celebrated chef is in charge.

ST. LEONARD'S CHURCH, GLASGOW.

AT a special meeting of the Established Church Presbytery of St. Andrews, held on Friday last in the vestry of the Town Church, St. Andrews—Rev. Dr. Fraser, Newport, moderator—consideration of the St. Leonard's Church case, postponed from last meeting, was resumed.

Rev. Mr. Todd, Kingsbarns, convener of the committee to examine and report on the plans submitted by the heritors for the restoration of St. Leonard's, submitted the report. He gave, in the first place, an exhaustive historical sketch of the past and present of the church, stating that the site of St. Leonard's Church was probably as convenient as could be selected, and that the population of the parish had increased considerably in recent years. There were in it 712 examinable persons above twelve years of age, and two-thirds, or 480 persons, was the number for which accommodation was required. He then read the report of Mr. John Kinross, architect, Edinburgh, whom they had consulted. That gentleman estimated that the cost of reconstruction would amount to 1,400*l.*, according to the first plan of Mr. Henry, architect. The additional cost of lighting and heating would be 120*l.*, and the expense of a vestry 200*l.* The cost of erecting a new church on the same site, in accordance with the dimensions as proposed by Mr. Henry, would be (using the old materials) 1,770*l.*, with 120*l.* for heating and lighting—total, 1,890*l.* The ruin, Mr. Kinross stated, could be made safe by the repairing of what existed, and the repairing of the existing structure was perfectly feasible. The Rev. Mr. Todd said that the committee directed the atten-

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h of the Presbytery to the fact that the surrounding ground ght be built upon very close up to the walls of the church, d that there would be no retiring-rooms in what was pro- ed. The opinion of the committee was, he said, that the toration of St. Leonard's Church in the present circumstances uld be inadequate, and that the acceptance of it would be a ious injustice to the parish and the congregation of St. nard's.

Rev. Mr. Murray said that, strictly speaking, the report was irely in the hands of the committee. At the same time, as ties had been cited to the meeting, and had appeared, if y chose the Presbytery should hear them.

Mr. Welch thought the Presbytery should give all parties opportunity of reading, considering and discussing that ort at a future meeting.

Rev. Mr. Reid thought that it was quite reasonable that y should grant the request of Mr. Welch, and he moved cordingly.

Dr. Anderson seconded.

Rev. Mr. Murray remarked that he did not think they could otherwise.

Dr. Fraser: It should be understood that the committee's ort has not received the approval of the Presbytery.

The motion was agreed to, and the Presbytery resolved to journ till the second Wednesday in June.

Rev. Mr. Dunlop, Elie, moved that the University Court uld be asked to extend the period of the existing arrange- nts for the congregation worshipping in St. Leonard's until hurch is provided for the parish of St. Leonard's.

Rev. Mr. Todd seconded, and it was agreed to.

AN AUSTRALIAN ESTIMATE OF GLASGOW.

WRITER in the *Melbourne Age* says:—More wonderful even an Glasgow's wonderful expansion are the benefits which her izens reap from the wisdom of her management. Her nicipal system, widely as it has extended into socialistic vernment, is a model of prudence and economy. The vernment of Glasgow has been purely democratic, being that its people only. The first thought of the people seems to ve been to get a plentiful supply of water, as the primary eans of cleanliness and health. In this it is conspicuously ccessful amongst the cities of the world. It has tapped Loch Katrine, 35 miles away, and has an inexhaustible supply from the purest of mountain storages, over the blue bosom of which Scott's heroine propelled her boat. Every house has its service at a general rate of 6*d.* in the 1*l.*, and there is practically no check on the quantity used. The sewage and the street sweepings of Glasgow are utilised and converted into fertilisers for the reclamation of waste land. But keeping sanitation always in view, these are but a small part of what Glasgow has accomplished. Whole streets have been torn down with a view to the destruction of slums and rookeries, and the erection in their places of municipally-owned tenements and lodging-houses, public baths, washhouses, hospitals, night shelters, homes for the poor, public parks and a people's palace. There has been conspicuous courage allied to prudential administration. In 1866 the Corporation actually purchased about 100 acres in the centre of the city, and four miles of streets were made wider over the sites of demolished buildings, and public squares created. The total cost of this work, including the re-erection of a university, reached nearly to 3,000,000*l.* It was a large undertaking, and involved a sixpenny rate in itself. Many timid people prophesied municipal bankruptcy from it. It was intended that the land purchased should be resold, and the calculation was that the increased value of that land, fronting on open streets and squares, would more than repay the destruction of property. The city met, however, with a reverse. A depression set in. The land did not sell. Things looked ominous. But the strong men who guided the Glasgow Corporation never quailed. They borrowed more money and built tenements on their own streets. The new works drew back to the city its dispersing population, and brought about more favourable conditions. The city of Glasgow was thus launched into a great scheme of municipal socialism. It became the landlord of hundreds of model lodging-houses. Nothing could have turned out more successful. The increasing population gave to the public the unearned increment of this property, and the sixpenny rate, first struck to meet the interest on the loan, was gradually reduced, till now it is a halfpenny only, even if it have not been quite abolished. A large portion of this property is now amongst the free assets of the city amounting to some 600,000*l.* All these things show what a firm grasp the councillors of Glasgow have maintained on the public affairs of the city. Indeed, the surpluses of each year in the municipal balance sheet have been invested in real estate in the name of a fund called the "Common Good." This gives now a yearly income to the city

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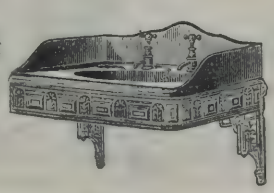
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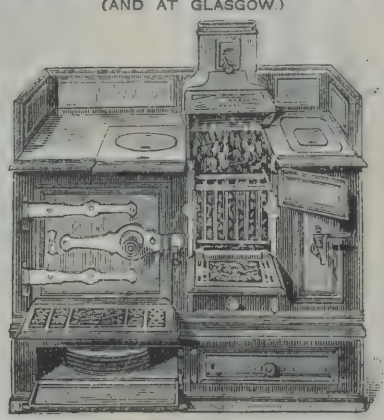
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FIRST-CLASS HOUSES.

IT seems that the first-class houses of New York no more deserve their name than some of the first-class hotels. The disastrous results of the fire in Sixty-seventh Street and of the fire two blocks away, which was probably set by sparks from it, remarks a writer in the *New York Times*, were less disgraceful to the system of building which we permit than the results of the fire at the Windsor Hotel only because the inmates of the houses were in bed and asleep, and the inmates of the hotel were awake and alert. But that a casual fire should gather headway so fast that a dozen people should be burnt to death before they could make their escape or be removed proves conclusively that the building which was consumed with such swiftness was very far from being "a first-class house." First-class houses both the dwellings which took fire undoubtedly rated on the books of the underwriters, as well as on those of the house-agents. They were without doubt, like all the houses in the quarter, enormously costly, finished in complete disregard of expense, and with everything in sight of the most solid and costly kind. Yet none of the lavish expenditure upon them was directed to solidity of construction. They were not only not fireproof, but they were evidently not slow-burning. N was there even a fireproof and smoke-tight stairway from t to bottom. When a fire broke out there were not so go means of escape as the law requires for the flimsiest tenemer houses. There was nothing for the wretched inmates to but to jump from the windows as an alternative to being burn or choked to death where they were. The worst of it is th we have no reason to believe that there is any class of priva houses in New York better protected than these were again fire. It is evidently a misnomer to call such traps "first-cla houses." It is evidently an impeachment of our civilisatic that such houses are the best we can, or the best we do bui in the way of "domestic architecture."

PATENTS

[*This List of Patents is compiled specially for this Journal b Mr. G. H. Rayner, of the firm of Rayner & Co., Con sulting Patent Agents, 37 Chancery Lane, London, W.C from whom all particulars and information relating t Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

9095. James Robinson Hatmaker, for "Improvements ir process for making Portland cement, whiting and simila products."

9135. Richard John Ross and Franklin Pratt Smith, fo "A new or improved window sash or the like."

9139. Percy John Neate, for "Improvements in means fo treating slurry in the manufacture of Portland cement and separating flints or the like therefrom."

9203. Henry Sechrist Vrooman, for "Improvements in fire-brick arches for furnaces and ovens."

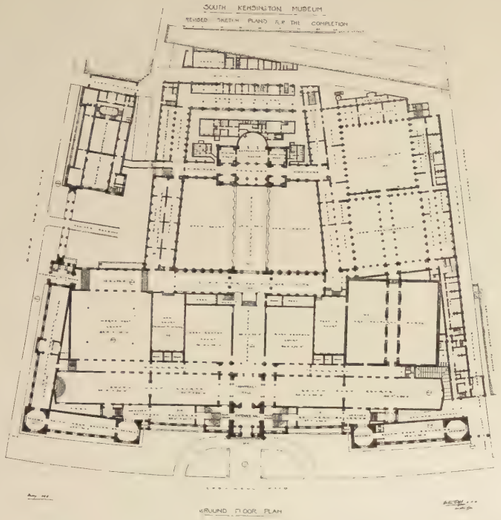
9441. Herbert Alexander, for "An improved drying chamber for the hardening of bricks, artificial stone and the like."

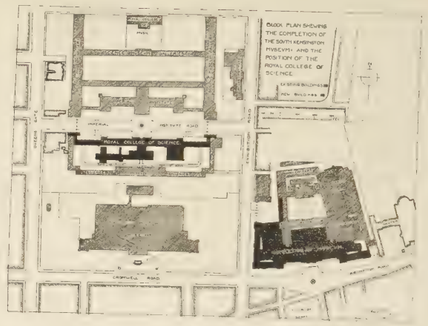
9595. Abraham Isaacs, for "Improvements in tiles."

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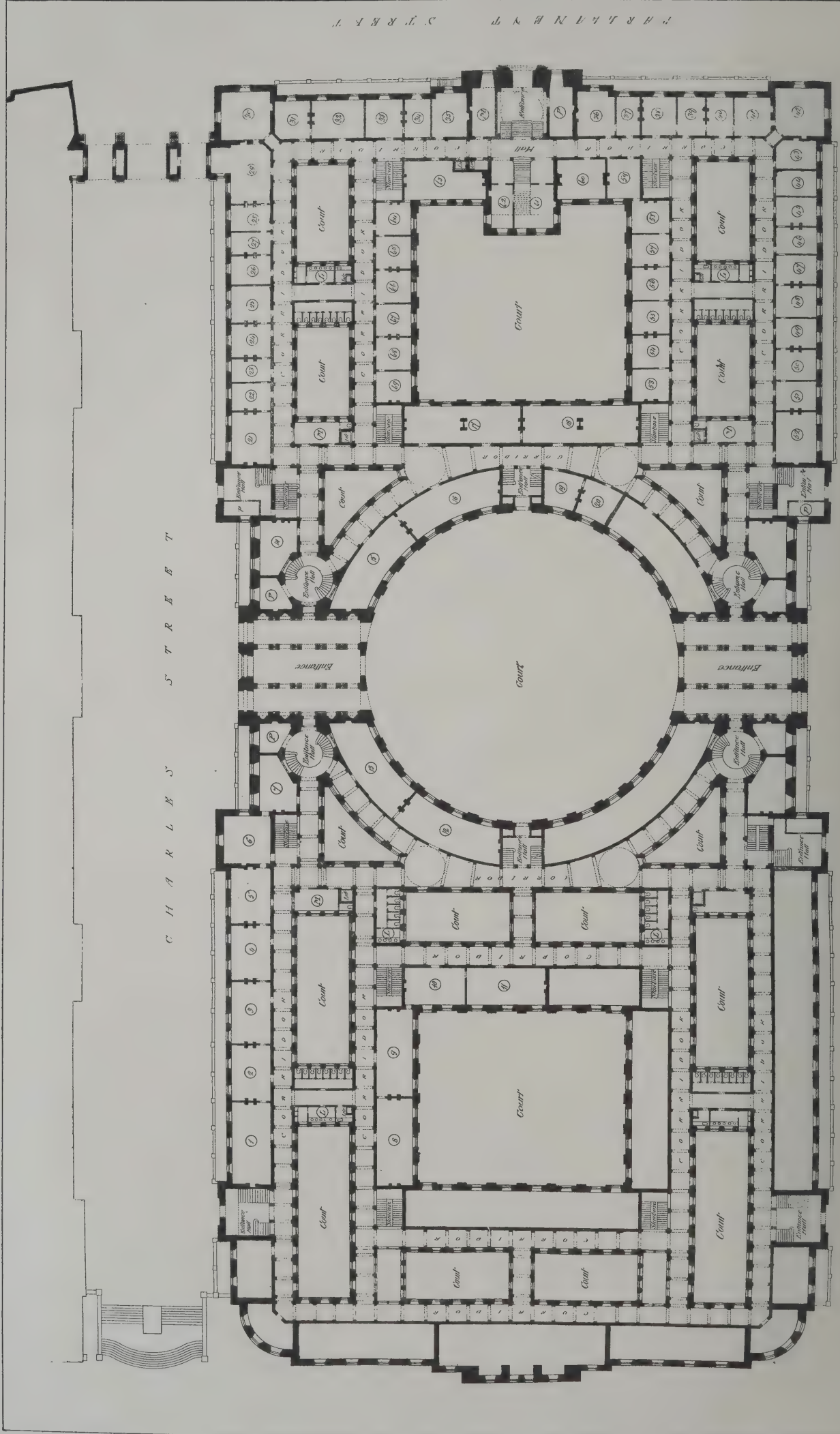


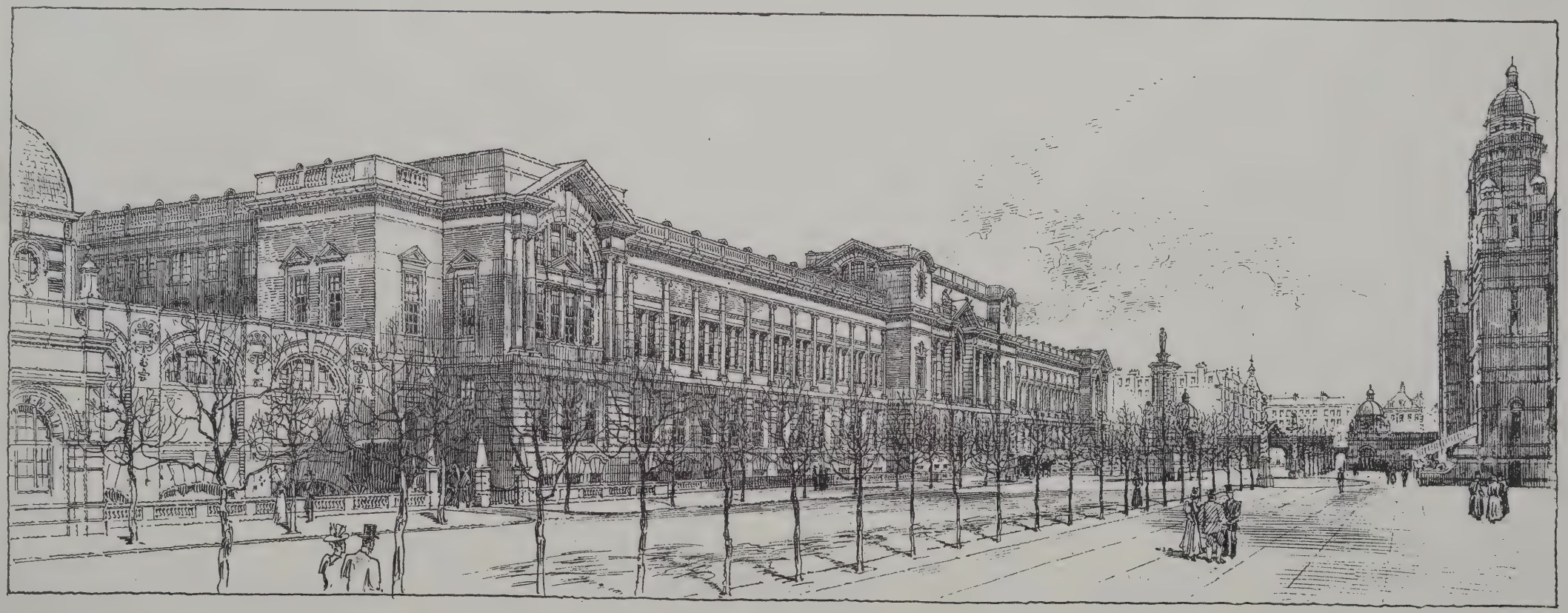
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Aston Webb, A.R.A. Architect

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COMPLETION OF THE VICTORIA AND ALBERT MUSEUM
SKETCH OF FRONT TOWARDS CROMWELL ROAD.
ASTON WEBB, A.R.A., Architect

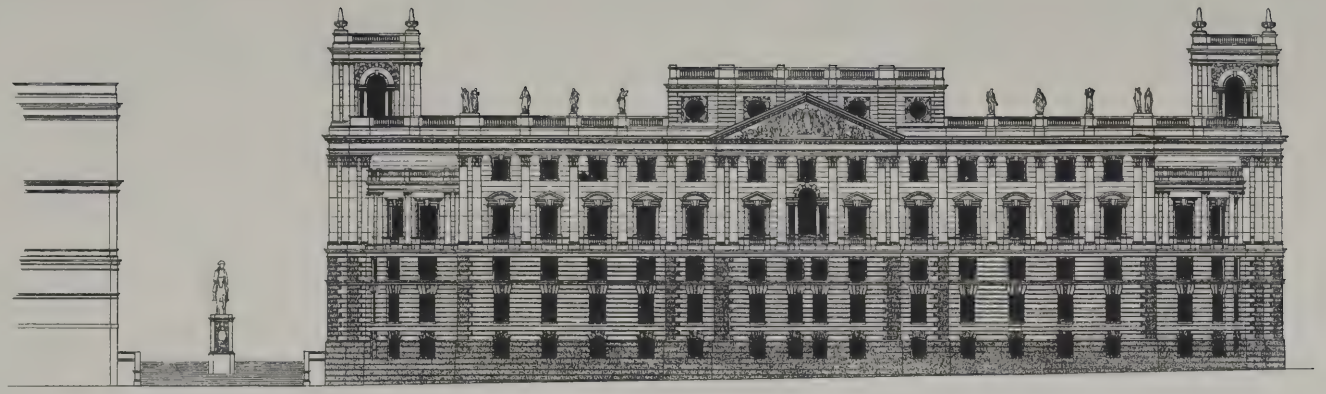

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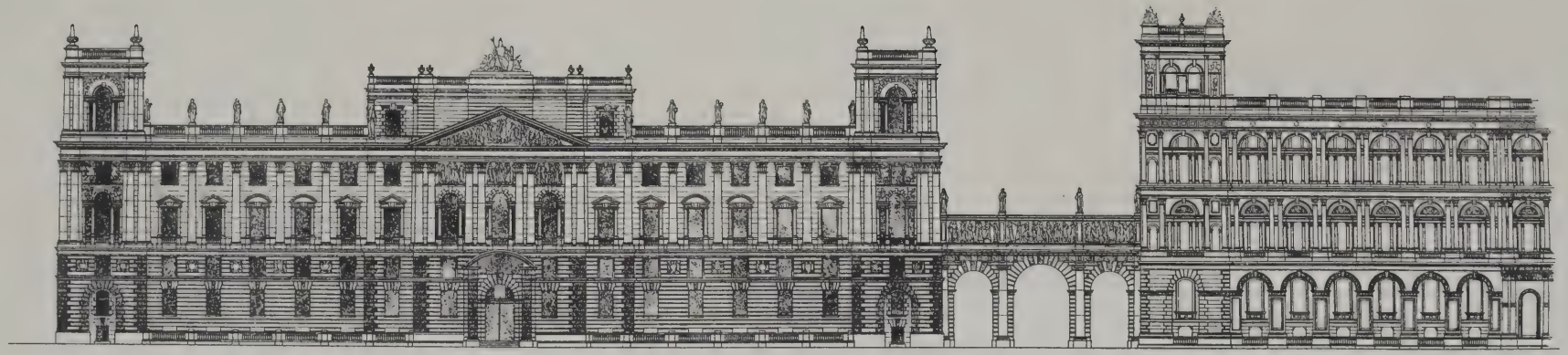





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Elevation to the Park



Elevation to Parliament Street



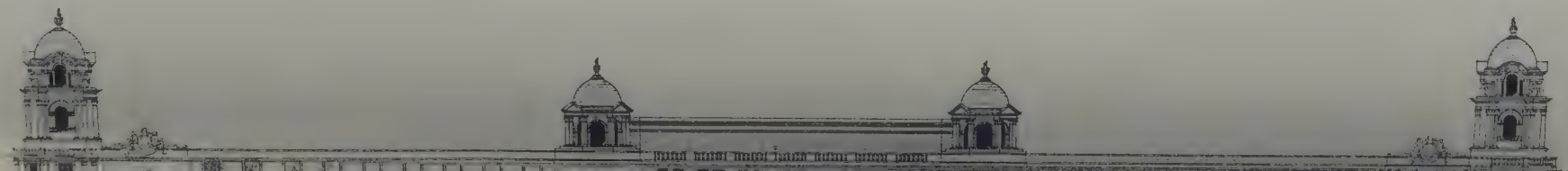
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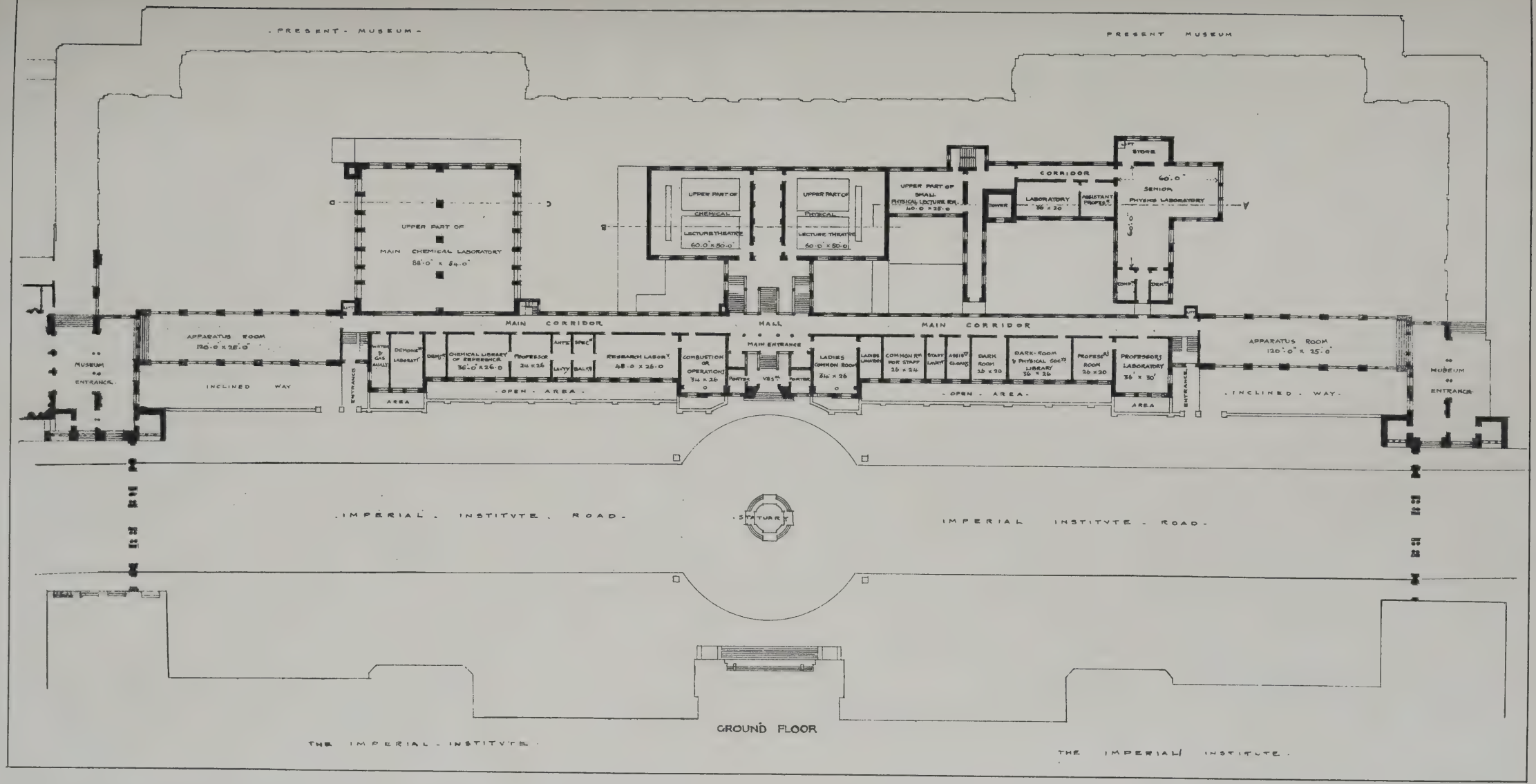
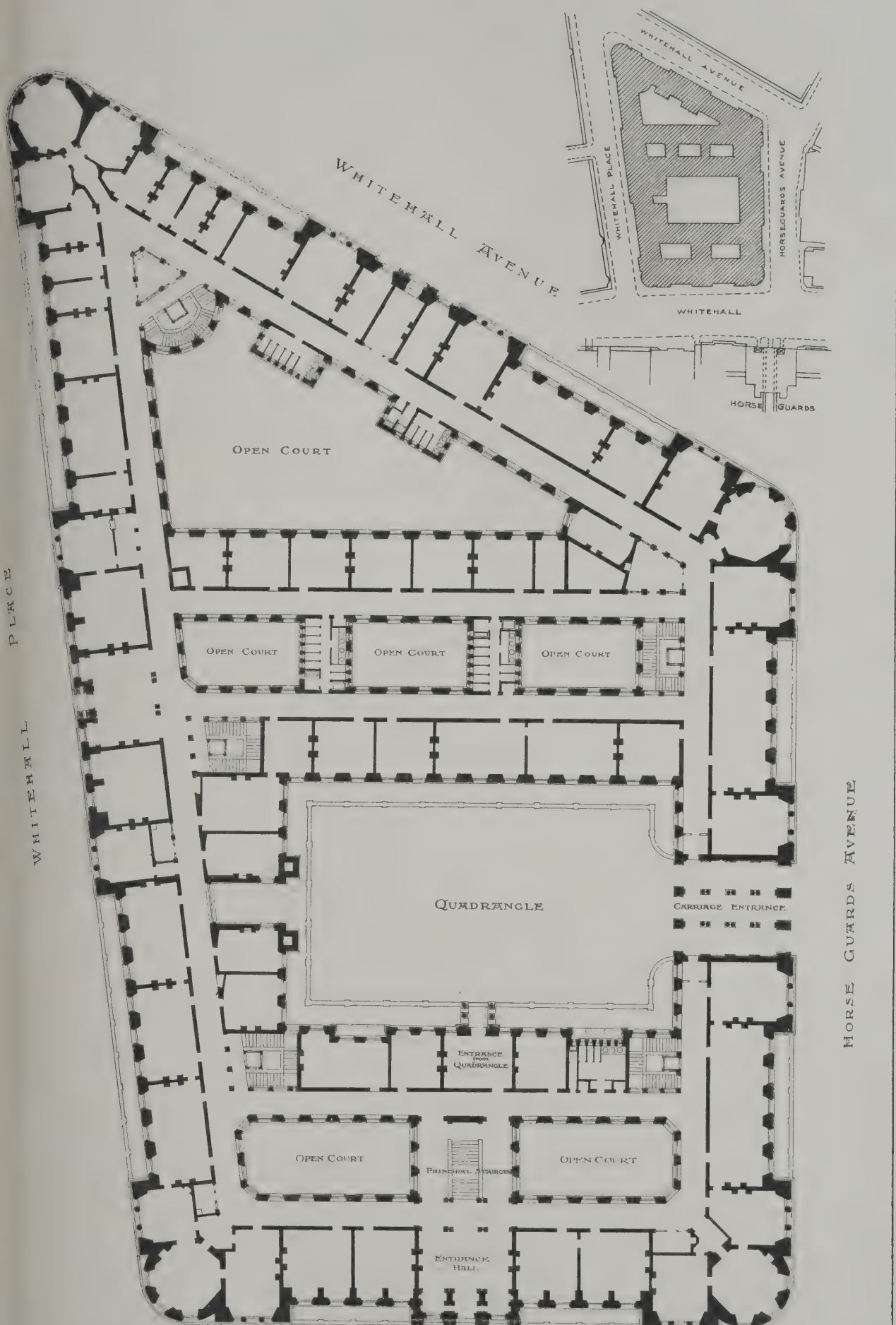


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(PHYSICAL AND CHEMICAL DEPARTMENTS).

ASTON WEBB, A.R.A., Architect.



WHITEHALL
GROUND FLOOR PLAN

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NEW WAR OFFICE, WHITEHALL.

W. YOUNG, Architect.

The Architect.

THE WEEK.

FOR a quarter of a century the Comte HENRI DELABORDE was recognised as one of the arbiters of taste in Paris. With democrats his title was enough to compel them to look on him as a mere amateur. But originally he was a painter, and a very productive one. He was a pupil of PAUL DELAROCHE, and was selected in 1855 with ROBERT FLEURY to repaint a large part of the "Hemicycle" in the theatre of the Ecole des Beaux-Arts, which was nearly destroyed by a fire. The Count painted some important works for the Versailles gallery, and many of the paintings in the chapels of the church of Sainte-Clotilde reveal his skill. It is difficult, however, to persuade the world that a Count can ever be more than a tyro in any of the arts. M. DELABORDE in the early days of the Empire was appointed conservator of prints in the Bibliothèque Nationale, and from the facilities at his command for obtaining evidence he soon became an authority on the lives of artists and on other subjects connected with art. A few years ago a long review of his memoir on EDELINCK appeared in this journal. On the death of M. BEULÉ in 1874 he was appointed secretary to the Académie des Beaux-Arts, and for that office he appeared to have peculiar aptitudes. For a quarter of a century he was the inspiring spirit of that section of the Institut, and his fitness as a functionary was shown by the dislike of the members to any change, although M. DELABORDE had long passed the usual age-limit of French officials. It is little more than a year since a new secretary was appointed. M. DELABORDE had attained his eighty-eighth year, but prior to his paralytic attack on last Christmas Day he could be considered as being a hale sexagenarian. He was the son of one of NAPOLEON'S generals.

THE late GUSTAVE MOREAU was an able painter who possessed some of the qualities of the English pre-Raphaelites, but on that account he never gained the favour of the French public. The fact that he left about 800 works in oils and 350 water-colours, besides some thousands of drawings, reveals his inability to meet the demands of the market. Some of his works are remarkable for their elaborate detail and their jewel-like colour, but his countrymen did not possess the patience needed for the study of works which could be scrutinised inch by inch. Like so many other men who were not sufficiently appreciated during their lives, MOREAU was confident that posterity would do him justice. In order that opportunities should not be wanted for the examination of his pictures he resolved to bequeath them and the atelier in which they were produced to the State, on condition that they were to be kept together for all time. A gift of a part of a building near St. Lazare entailing expenses for conservation, watching, lighting, &c., has, however, something of the proverbial white elephant about it. Ministers are bound to be sceptical, and where is the guarantee that future generations will prize works which were neglected by the artist's contemporaries? Posterity will have its own favourites, and may not be grateful to those who would insist on interference with its liberty. Then there is the awful reflection that the numerous artists who resembled MOREAU might also insist on the State becoming the guardian of their reputation. The existing French Government are burthened with an abundance of cares, and are to be excused if they are not anxious to add to them. Whatever is the reason, it is not yet decided whether MOREAU'S gift will be accepted, although people were confident that the exhibition of his works would before now be opened to the public. There are so many examples the rooms are not large enough to afford the needed wall space, and the painter adopted various ingenious arrangements to exhibit them, so much so that sceptics wonder he did not attach some of them to the ceilings. The work of half a century by a man of genius can be seen, but it requires patience and leisure to do the pictures justice. An artist in MOREAU'S position should be able to bequeath an endowment to reward those who by their visits will help to keep his memory green.

WE have already described the arrangements for celebrating the centenary of VELASQUEZ in Madrid from June 6 to June 11. The Spanish Ambassador wishes to have it made known that the Government, assisted by the Academy of Painters, will welcome all distinguished foreigners. Among the events will be the inauguration of the Velasquez Gallery at the National Museum and of a statue of the painter; an exhibition of all the paintings of GOYA that exist in Madrid; receptions organised by the Academy of the Fine Arts; the Museum of Modern Art and the recently-inaugurated Fine Art Exhibition. The Knights of the Order of Santiago, to which VELASQUEZ belonged, will celebrate on June 6 a solemn requiem service to his memory to the accompaniment of music of the great Spanish composers of the sixteenth century. At the theatres and academies performances and conferences worthy of the occasion will take place. At all the more important towns through which the line of rail passes to Madrid, viz. at Burgos, Avila, Salamanca and the Escurial, and also at Toledo, special arrangements have been made for visiting the famous churches, monasteries, museums and historical monuments, and the railway company has promised to co-operate in affording every facility to visitors who may desire to break their journey at the respective towns of interest.

THE British Ambassador and many French notabilities visited on last Friday the new premises of Messrs. WARING & GILLOW in Paris. The position was well chosen, for it is the corner of the Rue Gluck and the Boulevard Haussmann. Mr. CAULDWELL, an American painter, who has lived for several years in Paris, and is a constant exhibitor in the Salon, is responsible for the decoration, which is equal to what is found in the foremost establishments in the neighbourhood. The aim has been to exhibit English furniture of a superior quality; the premises are therefore laid out in such a way as to suggest an English house that is complete in its arrangements. The furniture is sumptuous, and recalls various styles, every article showing good taste. The growing demand for English furniture excited the interest of the late M. GALLAND, and was relied on by him to sustain his theory that in the arts the English were destined to be the dominant power. In the new premises Parisians can see furniture and decoration which will sustain the most severe criticism, and the English visitors who were present on Friday felt indebted to a firm that so well upheld the reputation of English work in varied forms.

FRENCH artists are now busy in considering the conditions of the competition for the design of the diploma which is to be issued in connection with the International Exhibition of 1900. The designs in the first competition are to be sent in before June 15, and those in the second before September 21. The jury will consist of twenty-one members, of whom eight will be selected by the competitors. It is anticipated that five of the competitors will take part in the second contest. The design selected will be rewarded with a prize of 10,000 francs, and the four artists who are not successful will each have 1,000 francs. The design for the last International Exhibition in Paris was the work of the late M. GALLAND, and M. PAUL BAUDRY designed its predecessor. Both were reproduced in *The Architect*.

THE tower and spire of St. George's Church, Liverpool, will be preserved. When it was decreed that the building must be removed, there was dissatisfaction expressed by some of the citizens, but the Corporation could not agree to the preservation of the church. Then it was proposed to preserve the tower and spire as a landmark, and to keep the rest of the site as an open space. After much discussion the Corporation agreed to a compromise by resolving to accept the site with or without the tower and spire. The final decision was left to the Bishop of LIVERPOOL. His lordship has considered it would be wise to preserve the tower and spire, and the Ecclesiastical Trustees will make arrangements accordingly. It is to be hoped the lower part of the memorial will be treated in a manner which will not compel people to regret that the bishop did not recommend the entire removal of the church.

THE COLUMN AND THE ARCH.*

SOME people who are endowed with curiosity and a faculty for counting amuse themselves by ascertaining the number of different words which authors employ. They have discovered that various writers contrive to fill many pages with the aid of a limited vocabulary. It is said there would be an end to the authorship of a great many individuals who claim to have a respectable standing in literature if they were prohibited from using one or two hundred ordinary words. In an architect's eyes the possession of a hundred elements as means to gain effect must seem a most happy state of affairs. He is compelled to devise structures out of far fewer elements, and yet the world expects that whatever he builds is to be marked not only by beauty but by novelty. Mr. LONGFELLOW, the American architect, has adopted a very simple title for his volume of essays, which suggests one of the peculiarities of architecture. What can be more commonplace than the two varieties of support? Yet they represent not only building construction, but the art of the architect. Let an architect be interdicted from introducing the column and the arch for ornamental purposes and what substitute could he find for them? The two were not always employed together. The Greeks were not disposed to admire the arch, and contrived to gain pleasing effects without its aid. Gothic pendentives and the attenuation of the visible means of support for vaults reveal a desire of Mediæval architects to impress people with a belief that arched forms did not need columns to keep them in position. In Moorish work we can see a similar desire. As a rule, however, arch and column were supposed to be of equal importance, and if not always conjoined, we know they are not far apart in a building. If it were illegal to use them architecture would become painfully monotonous, and as inexpressive as the writings of those luckless authors we have referred to after their familiar words were taken from them.

Modern investigations have falsified so many of the venerable traditions of architecture, it is hazardous to say that the column was derived from the wooden post used in a primitive hut, or the trunk of a tree which served instead. Nor is it possible to describe the evolutionary process to which the column was subjected with any certainty. Construction is, or should be, part of universal history, and that has a less firm basis than a fairy tale. All we know is that in Egypt we have the column in an advanced stage. But it is needless to say the more advanced is the more erroneous. Colossal as it was in height and girth and made of the toughest stone, by a strange perversity which has led to innumerable errors in the architecture of subsequent ages the Egyptian column was intended to express a relation to fragile plants. The difference between granite and a vegetable substance could not be realised by the builders. But we suppose we ought to be thankful to them for imitating things which grow near the Nile rather than the river itself. Another reason for respect is to be found in the treatment of the capitals, on which Mr. LONGFELLOW has the following observation:—

> It is the distinction of the Egyptian capitals among all others that they alone have no practical office, and this accords well with their floral origin. From the Greeks down, every capital has shown, besides the wish to mark the transition between the shaft and the beam or arch, which is the æsthetic office of every capital, a distinct structural effort to strengthen the junction of the shaft and its load. All other capitals expand where they take hold of the lintel or archivolt. They seem to show that the upper end of the shaft was liberally enlarged where it receives the charge, and then what material could be spared at the corners was cut away in ornamental forms to smooth the passage from the round shaft to the angular mass above. This is most manifest in those styles in which the shaft is slenderest in proportion to its load, as in the Saracenic and the Late Romanesque and thirteenth-century Gothic. But in the Egyptian, most ponderous of all, the precaution is absolutely neglected, or rather rejected, as if in commemoration of the dainty originals of their massive capitals. The architrave is ostentatiously lifted clear from the cap by a square block, which takes the place of the Classic abacus. Instead of expanding, the block is made as small as it can reasonably be; in the bell cap, or papyrus capital, and in the other spreading types, it is no wider than the top of the shaft; in the lobiform it is no larger than is necessary to receive the top of the bud, which may be even smaller than the shaft. So the stern Egyptian builder, who would not admit the arch among the elements of his severely straight-lined monuments, and hid away his vaults in the interior of his pyramids, would have no entangling alliance between decoration and construction, but uncompromisingly insisted on his great capitals as mere ornaments.

But was that evidence of good sense, to put a mere ornament in a position where an enormous weight came upon it? A lotus is a beautiful plant, but to denote that it could balance the upper part of a building on the tips of its leaves was an example of equilibration which none of the Egyptian conjurers would venture to rival.

Although the Greeks may have drawn inspiration from Egypt, their Doric column accords with rational æsthetics. It was capable to perform the office assigned to it by the builders. No doubt it was monotonous, but, on the other hand, it may have had associations in its favour of which we are ignorant. Greek legends were not all recorded, and for all we know to the contrary there were popular explanations of the fluting, necking and other characteristics of the order which were more impressive from their poetry than any theory of the architects. The stately rows of columns of uniform size and character must have appealed to the Greek mind as if they formed one of the institutions of the country. But Americans are not sentimentalists, and apply a prosy measure to antiquity. The Doric columns have a grandeur of their own, and European architects gladly testified to the skill of the masons who formed and laid the drums; but the Americans take a "practical" view, and will not allow themselves to be deceived by prepossessions derived from the Classics:—

> If we examine the Parthenon minutely (says Mr. Longfellow) we shall find that the delicately fitted joints in the columns are only wrought in a ring a few inches wide at the circumference, where the drums have been ground together like the neck of a bottle and its glass stopper, and that all the inner surface is cut away roughly so as to escape contact and leave the greater part of the joint open and hollow. So the great mass of the marble contributes less to the support of the heavy superstructure than the concrete filling of Roman walls or the rubbishy cores of the great columns of Rameses at Karnak. Worse than this, the magnificent spreading capitals of the Parthenon, that with their solid abacus and springing echinus assume to carry lightly the weight of the great entablature, gathering it in securely to the shaft, really do no work at all. Lest the finely wrought edges of the abacus should be damaged by any unequal pressure from the architrave, the weight of the entablature is taken by a shoulder or bench a fraction of an inch high, the scamillus of Vitruvius, which receives the architrave and carefully holds it up out of reach of the capital. This scamillus, a miniature of the die set visibly above the Egyptian capital, is so low that it could not be seen or inspected without a close examination made high up at the level of the abacus itself.

The Romans who claimed possession of a fine taste like the Greeks, could believe the column was all-sufficient as a constructive or decorative element. But the general feeling was in favour of the arch. Such a building as the temple at Nîmes (the Maison Carrée) was an exception, and it is infinitely less characteristic of the Roman treatment of buildings than the Colosseum, where the numerous arches were divided by engaged columns. The arch with the Romans supplied a necessity like the wrought-iron girder in this country, and gave an impetus to construction. As soon as it was found that railways could be carried over rivers, roads and valleys at any height or at any angle that was desired, new lines were projected everywhere in Great Britain, and in other countries there was also ardour to adopt the new system. The Romans had a weakness for the colossal, and the arch enabled them to extend buildings until they exceeded all precedents. Unit of arch and column was added to unit, and the projects which were announced in 1851, when it was discovered that Crystal Palaces could be constructed by attaching bay to bay and filling in the cast-iron framework with glass, may not have differed much from the experience of the Romans at the time of the building of the Colosseum. According to Mr. LONGFELLOW, "The modern degradation of the orders, by which two or three storeys are crowded under one of them, was not thought of till the Renaissance architects contrived it in their one-sided zeal to combine the spirit of Classi

* *The Column and the Arch.* Essays on architectural history. With illustrations. By William P. P. Longfellow. London: Sampson Low, Marston & Co., Ltd.

architecture with their necessities." If the Romans believed there would be more grandeur in a single order they would have adopted it. Their preference for the system of units made the arrangement of an order for each storey appear more becoming, and in such a building as the Colosseum the comparatively small columns are not without beauty. Afterwards the combination of arch and column was accepted as dictated in the nature of things, and by Roman influence was spread throughout the civilised world. The arrangement in Spalato which made the arch spring from the column enabled both to appear as one object and as inseparable.

The introduction of Christianity, although it altered so much in Rome and elsewhere, did not affect the architecture. The new religionists were not more eager to have beautiful places of worship than are the Salvationists of our time. When CONSTANTINE was gained over there was a change and churches became costly. In the eastern part of the empire experiments were made which prepared the way for the erection in Rome itself of buildings resembling the basilican churches which have survived. Mr. LONGFELLOW maintains that the cruciform church did not prevail in Rome until the Renaissance period. The Latin basilica was, he says, not a cross but a T, and "the relation of the two parts was very much like the head house and train house of a modern railway station." The arch was the "architectural mediator" between the two parts, and gave dignity to the part which was known as the chancel. But the colonnade was preferred to the arcade for the boundaries of the nave. The Church authorities were not able to keep up to the standard of style which CONSTANTINE inaugurated. In the declining days of the empire architectural needs were not of much moment. It was a victory to exist, and so long as the ecclesiastical organisation was not stifled under the weight of barbarian invaders the rulers were satisfied. They had also to consider the case of the infant churches in remote parts of the empire, and amidst the multiplicity of demands upon their attention they were to be pardoned if they were indifferent to purity of style. The responsibilities of Rome were so manifold, it is no wonder there was an evasion of an assumption of authority in many things. There never was a style of architecture which could claim to have an official character in the Roman Church. Liberty is allowed to revive or to cast down styles so long as the services in the varied buildings are not affected by the character of the building. But the pontiffs adhere to the combination of forms which was adopted in Rome when Christianity appeared in it, or to some variation of them. Renaissance extravagance consequently found favour in Rome, while the Gothic style, which elsewhere appeared to be as efficacious in promoting catholicity as an order of preachers was without any influence on the minds of the Popes. As a consequence Rome, although the capital of Christianity, does not represent the architectural developments which were one of the consequences of the religion. But if it is not a microcosm the mysterious old city is true to itself, a survival of antiquity which its new ædiles consider they are bound to Parisianise, in the hope that thereby they will prove themselves to be the successors of the antique Romans of the Republic. On the subject of Roman conservatism Mr. LONGFELLOW says :—

> Though in her helplessness she let the forms of the old architecture slip away from her, she took no further share in the new than to accept that one innovation of Constantine, the basilican arcade. As we look back over her history we see imaged in her architecture the same self-consistency, the same persistent individuality that marks her political endurance. All other cities whose architecture records their history show that they have been different cities at different times. In Rome alone that adherence to her old tradition which held her to a straight course in the time of Constantine is embodied in all her later aspects except for the vagaries of to-day. She is the one architecturally harmonious city in the world, as she is the oldest. She has claims to the forms of her architecture as she has to the traditions of her supremacy, and both are witnesses to the strange tenacity which has enabled her to assert her primacy through all ages, in spite of poverty, neglect, humiliation and all that would degrade another city. She is to us the symbol of stability, a symbol perhaps of indifference to that progressiveness which the world loves, often to the things that mean real advance in the condition of men, but also of a noble endurance of time and disaster, of a steadfast dignity which makes the nobility of later ages seem petty, and which has held the garment of her majesty about her—at least till our day.

In Rome and many parts of Italy it was to be expected that the ancient orderliness should prevail. Columns and arches were arranged in lines like soldiers on parade. A building like Speyer Cathedral would have shocked a Roman architect although he belonged to the period of decadence. To see the lines of an arcade laid out to correspond with the inclined lines of a gable, or with a semicircular plan ; to have three arches above two arches, and columns and arches introduced as if to gratify a whim, would appear to him to be destructive of that stateliness without which there could be no architecture. But the arch and column might have been considered as possessing mysterious powers, so constantly were they introduced in all possible positions. Look at the great arches of the mosque at Cordova, erected in the eighth century. They are not only used as arches in general, but some of them are intended to offer lateral resistance, and they are evidence of the extent to which the principle of the arch was understood at the time. At Pisa arcades were used like frescoes at a later time, as a beautiful veil for the walls. Mr. LONGFELLOW does not exaggerate when he says :—

> In the Romanesque the column was everywhere the builder's pet child. As soon as he acquired skill to make them easily for himself he abandoned the Classical stature and made them of various sizes, but chiefly small, reserving them mostly for decorative positions and leaving his hard work to be done by piers. It seemed that he never could accumulate enough to satisfy his desire. The belfry stage of the old tower of St. Front in Périgueux is a mere stockade of columns, with hardly room to pass one's arm between them. The façade of St. Maria della Pieve at Arezzo is covered by a throng of columns standing on shelves as if exposed for sale, and bearing small arcades, while the upper storey fairly disappears behind a fence of them, too thick-set to carry any arches at all. So fond of them the builder grew that he sought out and invented places to put them. He cut them in halves and set them up like buttresses against the walls of façades and apses, running them into cornices; he made nooks for them and set them fourfold, sixfold, tenfold, in the jambs of doors, where the early Christian builders had posted them as sentinels in pairs, like Jachin and Boaz in the porch of Solomon's temple; he thrust them into his windows for mullions; he cut out hollows to hold them in the angles of walls and buttresses.

The enthusiasm of the Mediævalists went further in their affection for the column and the arch. They believed the combination was universally applicable, and could be made appropriate in every position. Column and arch became the chief motif for decoration, and it is often charged against the artists that they were ignorant of any other method of filling a blank space than with a blind arcade. Mr. LONGFELLOW has, as he says, only lightly touched Gothic because it was *hors de ligne*, and was without a successor. But that would imply that the Roman arch and column was without influence, and that Gothic was an independent creation. To neither condition can we agree. As to Gothic having no successor, much of the work which is considered to be late Renaissance has as much claim to be considered as allied to Gothic. It may even be said there is similarity between the early and late examples of the Renaissance. BRUNELLESCHI, although he studied Roman remains with care, did not produce buildings which corresponded with his models. It is easy to see that he was not entirely emancipated from Mediæval and German influences. Mr. LONGFELLOW, who believes in a definite separation, has to admit that "the sense of the proportions on which Roman design was built was, to be sure, only partially awake in BRUNELLESCHI; his lean entablatures and starved orders, the baldness of his details, contrast notably with the freshness and nobility of his ideas and with their Classic intention." But intentions are not readily valued in architecture. ALBERTI was a book-man who aspired to be a legislator in art, rather than a great designer. He was able to express his ideas in words with more clearness than the majority of his contemporaries. He was accepted as an interpreter of VITRUVIUS, and therefore of ancient art. The people of the time were afraid of the risks of private judgment and were willing to trust ALBERTI. Mr. LONGFELLOW says he had a truly Classic reverence for the column and the entablature

"felt strongly the dignity and individuality of the order, and urged that while people of moderate station might be content with arcades, distinguished citizens should build their loggias with entablatures." As for BRAMANTE, "his earlier buildings, executed in the last quarter of the fifteenth century, show the traditions of the old style mingled with the new, or rather the details of the new engrafted on the forms of the old." ALBERTI gave a preference to a single order, and it was concluded that for so doing he was faithful to the Classic spirit of the best period. Attention was concentrated on that feature, and as a consequence a great order was supposed to be the essential principle of architecture, and so long as it was introduced deficiencies might be condoned. In the end the art became "a thing of arbitrary fashion instead of a natural product of the people —a thing whose form, progress and changes, instead of being a natural evolution, were now for the first time dictated from without by a company of self-elected rulers, of amateurs and dilettanti."

Mr. LONGFELLOW, in tracing the fortunes of the column and the arch, has given us a compendium of the history of architecture. His volume is further proof of the interest which the art has awakened in America. He does not write for technical students alone, but all who read the pages will derive advantage from the author's learning and experience.

TREASURE TROVE.

WHENEVER a clause relating to the surrendering of all antique objects found in excavations is introduced in conditions of contract it is accepted without the least demur. Contractors know that in the majority of cases remains of antiquity which have any value are not met with, and if any which are easily portable are turned up the labourers contrive to make away with them. That antiques will be forthcoming if amateurs are prepared to pay liberal prices for them may be assumed, for the relation between demand and supply is exemplified in archæology as in more common affairs. When the works of the Thames Embankment approached Blackfriars, there was a brisk trade in very rusty bronze figurines, but the navvies who so mysteriously and with so many precautions parted with them were aware they never came out of London earth. To some men they were familiar objects, for the same sort of traffic was engaged in while foreign railways were in course of construction.

There is, however, a stringent law on the subject of treasure trove, but the principal officers of the British Museum are not certain about its efficacy, and its aid is rarely invoked. It is admitted that the Crown has a superior title to any acquired by the Museum through purchase, that it would be possible for the Crown to assert such a title if so disposed, and that the trustees would on demand yield objects to the Crown, but the admissions are only theoretical and are never likely to be tested. The definition of Sir EDWARD COKE, although he was supposed to be almost infallible, will not sustain every test. According to him, "treasure trove is when any gold or silver in coin, plate or bullion hath been of ancient time hidden wheresoever it be found, whereof no person can prove any property." How, for instance, can evidence be forthcoming of the "hiding"? A few years ago a labourer in hoeing revealed a gold ring. It was claimed by the lady of the manor, and when she obtained it she gave it to the clergyman of the parish. A superintendent of police heard of it and demanded it as treasure trove. The clergyman, without disputing the right of the Crown, sent it to the Treasury. Counsels' opinion was sought, and Sir ROBERT FINLAY and Mr. G. H. BLAKESLEY stated, "We are of opinion that the ring could not, under the circumstances, be rightly called treasure trove, because it does not appear to have been placed where it was found by any person desirous of hiding it. According to the authorities there must be presumptive evidence of hiding in order to bring an object under the claim of the Crown as treasure trove." Many a navvy would say there was no need to apply to distinguished lawyers for that advice, inasmuch as he always acted on the principle and found it succeeded. Where is evidence to be found of intentional concealment of a little bronze figure, a sword or a brooch that would be urgent enough to satisfy an ordinary juryman? There are occasions when "coin, plate or bullion" will appear, and then there are fewer doubts about treasure trove. Every one who has been long connected with building has heard legends of labourers who suddenly develop into contractors or property owners, and the explanation offered is that they were fortunate in finding a "crock of gold" or other valuable deposit. The majority of such cases would come under COKE's definition. The counsel already mentioned informed the Government that "in most cases the circumstances of the finding must be the sole basis of any presumption of hiding; as, for instance, if a number of articles are found collected together in a vase or buried in a manner inconsistent with their having got into their position through an accident." To prove treasure trove is therefore not as easy a task as is commonly imagined, and it is no wonder there are so few cases brought to light.

In Ireland extraordinary precautions have been adopted to insure that all antique objects found below the soil shall not remain in the possession of individuals. The whole constabulary force throughout the country can be considered as archæological agents and guardians. In 1861 a notice was issued promising payment to finders of ancient coins, gold or silver ornaments or other relics of antiquity if delivered to any member of the force. The value of the articles is to be ascertained by some competent person, usually the Council of the Royal Irish Academy, and if the articles are not accepted they are to be returned free of expense to whoever sent them. Yet it is a notorious fact that a collection of valuable gold objects, consisting of a collar with repoussé ornament, a model of a boat, a bowl with rings, a torc, a necklace of three chains, a single chain necklace and half a torc, was three years ago found in the north-west of Ireland, was sold to a jeweller in Belfast, was purchased by an Irish archæologist, was exhibited at a meeting of the Society of Antiquaries in London, and until an abstract of the paper read on the occasion was published the whole army of guardians of antiquities in Ireland were ignorant of the discovery. The civilians believed that not even a fragment of a flint or a small pin could be found without the knowledge of the ubiquitous constabulary, and the latter professed to be incompetent to meddle with subjects unless they were set in motion by legal machinery. The lawyers declined to turn on motive power unless full particulars were furnished. Circumlocution required an age to act, and when it attempted to do something it was too late, for the British Museum had secured the treasure by promptly paying 600*l.* Then there was the usual lamentation about injustice to Ireland and the sharp practice of the British Museum. But if the Bloomsbury men had not exhibited their customary alertness the collection might have gone to America or to one of the Continental museums. In a country like Ireland it is not always advantageous that archæology should be associated with the system of police, for the people will naturally be afraid to have their dealings with that body misinterpreted. A bringer of antique objects could easily be transformed into a spy or an informer, and the risks which would follow are not to be despised. It will be said the constabulary are only intermediaries between the Royal Irish Academy and the people, but the only effect is to make the archæological body suspected. What, however, is more of an obstacle to the securing of antique objects is that legally the bullion value only need be paid for them in Ireland. The sum that is available for the purchase of treasure trove is only 100*l.* a year. As a consequence prices must be kept low. The bullion value of the objects for which the British Museum paid the 600*l.* was between 70*l.* and 80*l.* The Irish Academy under no circumstances would have given more than 250*l.* for them, and if the possessor were a poor man a semi-inquisitionary power would be invoked, his fear would be operated on, and he should be very grateful if he received 100*l.* As long, therefore, as the full market value of antiquities is not obtainable from officials, it cannot be expected that the Dublin Museum will be enriched. It is true that in the cases there are at present more valuable objects than are to be seen elsewhere. The prehistoric antiquities in gold weigh more than 570 ounces, while it is doubtful whether the British Museum possesses 100 ounces. But the majority of the gold objects were secured by the Irish

Academy prior to the time of transforming policemen into archæologists.

In Scotland the regulations about treasure trove are more unsatisfactory. All articles found, the owners of which are unknown, become Crown property, according to the old maxim, "Quod nullius est, fit domini Regis." To conceal an object obtained in that way is severely punishable. Not only things which arise in excavations, but all waifs and strays have to be accounted for, unless the proprietor of the land where they are found has a special grant which gives him a right to them. At present there is not always a rigorous enforcement of the law, but it is well to remember that only forty years have passed since the Crown exercised its claims, and that objects were seized without the payment of any compensation to the finders. It is needless to say that very few objects escaped melting, for the feudal principle in Scotland, although interesting in theory, is not expected to impose financial sacrifices. In 1859 it was announced that the actual or intrinsic value would henceforth be paid. But it is still a fact that in Scotland finders do not in general receive the recompense which they consider should be theirs, while landed proprietors and others contrive to obtain large sums of money by the sale of antiquarian objects to which they have no legal right, for the objects were often deposited with them for safety.

It is time that a more satisfactory system of dealing with treasure trove should be adopted in this country. Cunning traders and agents contrive to get bargains by making a finder believe that he has rendered himself liable to heavy penalties through neglecting to immediately inform the authorities of his discovery. Convictions are difficult to secure, for, as we have said, lawyers consider there must be presumptive evidence of hiding to make an object appear as treasure trove. But a judge may easily be satisfied on that point. The case of the QUEEN *v.* WILLETT, which was tried in 1863, shows that objects which were bought as brass for 5*s.* and sold to a jeweller for 500*l.* entailed a fine of 250*l.* each on two men and imprisonment until the money was paid for unlawfully concealing treasure trove. Since 1863 a different view may be adopted, but in law what has happened once may happen again, and a contractor or anybody who retained treasure trove might find himself in an uncomfortable position. At all events the risk is utilised by men who are anxious to secure antiques from the finders. What is needed is a nearer approach to the Danish system. In Denmark the right to treasure trove belongs to the Crown, but care is taken to have it known throughout the country that the State will not only pay a more liberal price for objects than can be obtained from individuals, but any trouble taken to collect and preserve those objects is remunerated. The liberality has in a comparatively short time made the National Museum in Copenhagen one of the most interesting in Europe. The funds for purchase of antiquities are obtained from an annual grant, which is supplemented by the property derived from those who have died intestate and have no known relations.

SLYFIELD AND STOKE D'ABERNON.

THE summer excursions of the members of the Upper Norwood Athenæum began with a visit to the manors of Slyfield and Stoke D'Abernon. By the kindness of Mr. L. W. North Hickley the members were permitted to visit Slyfield manor-house, to which on a previous occasion Mr. Quartermain had conducted them. Here the carved woodwork and the ornamental plaster ceilings were admired, and from the private grounds an uninterrupted view of the picturesque mansion was obtained. A brief walk and Stoke D'Abernon was reached, which for nearly two and a half centuries was continually changing owners, through the lack of a heir male. But when Thomas Vincent came into possession, Queen Elizabeth visited the manor-house and knighted the owner, to whom a son was born, and the name of Vincent was carried on. The beautiful church of St. Mary the Virgin, now encircled by the manor grounds, had been carefully examined by Mr. Wheeler, and in it every object of interest was pointed out. The wonderfully preserved brasses, the interesting oak-chest, the wrought-iron hour-glass stand, the monuments to the D'Abernons and other owners of the manor, the old heraldic windows, and the recent ones dedicated to the memory of Bishop Sumner and Bishop Wilberforce received notice in turn. The following paper was read by Mr. Charles Wheeler :—

Slyfield and Stoke D'Abernon.

Leaving Leatherhead station, we at once strike a footpath past an old water-mill, now modernised; this formerly was one of the many worked by the water of the Mole. In mentioning this, the Mole was so celebrated from our earliest times that in Domesday Book as many as twenty are mentioned as being in work there; in fact, it is an oft-disputed point whether the word Mole is not derived from the Latin mola, a mill, from there being so many in its course; but of that I will treat later. We here leave both mill and Mole and continue through the purest of country, never once touching a main road; here and again a country lane only, then through a well-kept farmyard, finally having to finish with a newly-ploughed field till we reach the historical Slyfield Manor. I may here mention that the whole of my ramble has been done by our Society before on more than one occasion, and refer you for any historical facts not found in my paper to those of previous leaders. I put only that which they leave out, and of that not much, I fear.

Slyfield House, that portion now remaining, dates from about the year 1620, and previous to that date there was doubtless a much larger building.

In the church of Great Bookham there are memorials of divers kinds to the occupants of Slyfield, thus giving a running history of the various owners from time to time. They seem to have held important positions in the county, and one inscription in particular I think is worth quoting :—

Of Slyfield Place, in Surrey solle, here Edmund Slyfield lies,
A Stout Esqvier, who allweys sett Godes feare before hys eyes;
A Justice of the Peace he was from the syxt Kynge Edward's daye,
And wortheley for vertves vse dyd wyn deserved praise.
He toke Elyzabethe to wyfe—a dame of famous rase—
She of the Pauletts dyd dissend, and Capells in lyke case;
Of Sydney's stocke she was a bravnche, and to thee Gaynsford's nye,
Dame natvre to the gentell Moyles and Finches dyd her tye;
To Arundels, Whites, and Lamberts each by byrths' descent she was—
And he with her and she with hym thaire dayes in love dyd pass.
In Wedlock she brought forth to hym 5 sones and daughters 2,
Which carefullye she dyd instruk to serve the God in heaven.
He in the xiiii. yere of Elizabeth our qvene,
Whose vertues through the world do spring as fresh as lawrell greene,
At seventy one with odd months too she seventy years has spent.
His tyme is past, her tyme draws on, &c., &c.

After having inspected the interior by the courtesy of Mr. L. W. North Hickley we cross the Mole by an iron bridge, 1805, and stroll along one of the most charming spots in Surrey, well cultivated land on the right gently rising in the direction of Randall's Park, and on the left the banks of the river, which, with your permission, I should like again to mention, for here at this most lovely spot it may well be spoken of as "silent," for never have I seen it throughout its whole course more silent and beautiful. On the right you have the venerable pile of that grand old church of Stoke D'Abernon, the Rectory house, so historically connected, nestling amongst the trees, the splendidly-kept lawns sloping down to its banks.

Spenser in his "Marriage of the Thames and Medway," writes :—

> And Mole, that like a mousling mole, doth make
> His way still underground till Thames he overtake.

Drayton speaks in harmony of its union with the Thames :—

> 'Gainst Hampton Court he meets the soft and gentle Mole;
> But Thames would hardly on, oft turning back to show
> From his much-loved Mole how loth he was to go.
> The mother of the Mole, old Holmesdale, likewise bears
> The affection of her child as ill as they do theirs.

The river itself has its source in Tilgate Forest, near Worth and Rusper in Sussex.

I mentioned just now the question of the origination of the name. Well, many think and most favour the opinion that it is so called on account of its burrowing propensities, for during a dry summer it frequently disappears and makes its way underground between Leatherhead and Boxhill, rising again to the surface further on. This is caused by the cavernous nature of the chalk and gravel of its bed. After passing Esher it divides into two branches—one near Thames Ditton and the other flows towards Molesey Hurst. Its union with the Thames at Hampton Court (which lies on the opposite bank) makes a grand finish to its career. And now back again to Stoke D'Abernon, where we enter the church. On the occasion of the last visit the Society was honoured by the company of Mr. Mill Stephenson, hon. secretary Surrey Archæological Society, who himself read the paper from which I cull the following facts in brief :—That the manor of Stoke, Stock or Stocke, signifying a place, came into the possession of the D'Abernons family in the reign of William the Conqueror may be inferred from an inscription in the church, in which it states that Sir William Dawbernon, whose daughter and heiress married Sir William Crosyer, was descended from that Dawburnon, the Norman, which came into England with William the Conqueror, and from whom this manor did descend to the same Sir William. To make a big skip, it was bought in 1776 by a London bookseller named Paul Valliant,

of the Strand. He died in 1802 at the age of eighty-seven, and in the following year, when sold, it was described as a neat house. Thirty acres of land and the great and small tithes of the parish were bought by a member of the great Smith family, and are now vested in the Rev. Hugh Smith, M.A., who resides in the village.

The church is mentioned in Domesday Book, and is dedicated to the Virgin Mary. The chantry chapel, running parallel with the chancel, was built by Sir T. Norbury (whose surcoat we were privileged to see) in the reign of Henry VII. The church contains the following among other monuments :—Recumbent figure Lady Vincent, on front of tomb five sons and two daughters, in relief (1608); kneeling effigy, in armour, of Sir John Norbury (1633); Sir Thomas Vincent, who was knighted by Elizabeth on her visit to Stoke (1613); and Jane, his wife (1619). In the east window in stained-glass are shields of the arms of the different families which have in succession been in possession of the manor since the Conquest.

Now brasses serve a very useful purpose as showing the progress of armoury for a man, as some of us have watched it in our ships, from the wooden walls of old England to the present modern battleship. It commenced first with the mail suit as seen to-day in that of Sir J. D'Abernon, date 1277, the earliest known brass in England; from unmixed mail we go to plate and mail, or mail and leather; then mail and plates, with coats-of-arms, as in the time of Richard III.; then to steel. Every plate added in process of time was with the hopes of strengthening the defensive equipment against the shock of the attack in battle or in jousts and tournaments, always keeping in mind to leave the sword arm free without lessening its security.

If one takes the brasses in the country in the various reigns they suggest exactly the armour worn by the knights of England, and is, as it were, unintentionally a history of the armoury of the various periods, and these can be verified or confirmed by comparison with the stained-glass we have and various effigies. Of course, in the figures in either case no attempt is made at portraiture; as you will have noticed they all bear a stray resemblance one to the other, save the difference of sex, age or youth, but the costumes of the women and the armour of the men are true to the age they were worn in, for these brasses were invariably produced immediately after the decease of the individual—indeed in some cases they were executed under the supervision of and during the lifetime of the individual, the spaces being left for dates. These, in some instances, have never been filled in. Another peculiar feature is that where the husband predeceased the wife the figures are engraved hand in hand, and in one case, where a man married a second time, he has hold of the second wife's hand with his left, but his right, the side on which the figure of the first wife lies, rests upon his sword hilt. The conclusion one forms is (1) not done during his lifetime; (2) predeceased his second wife.

The other day a prominent public man spoke somewhat strongly and disparagingly of the present-day woman, who copies the present male attire in its various forms, details of which I need not give; but this is no new thing, for there were new women in the good old days; a marked similarity between the costume of the two sexes is observable. The knightly coif of mail is imitated by the wimple of the dame; again both wore flowing mantles. The men had arms and mottoes graved on breastplate, ladies their dresses embroidered with heraldic adornments. One brass at Enfield to Lady Tiploft has a mantle with three great lions passant on one half, and on the other half another lion rampant, at least as large as the other three.

Speaking of Sir John D'Abernon, there is a curious story told of a suit instituted against him as Sheriff of Surrey, 1269. It appears that in 1265 William Hod, of Normandy, shipped to Portsmouth ten hogsheads of woad. These were seized by robbers at Portsmouth, and carried off to Guildford. William, surnamed Hod, overtook them, got his property, and sent it to the castle; then a Mr. Picard, of Normandy, claimed the property, and threatened if it were not given up he would destroy the town of Guildford by fire. The Under-Sheriff, who resided there, and who had property and also a wife and family, thought discretion the better part, &c., gave up the goods, which were again carried off, this time successfully. The action against Sir John as Sheriff was rather costly to him, for he was fined 80*l.* damages; this really meant, according to present value of money, about 900*l.*

When one hears of the honour of knighthood being conferred on some lesser city magnate of the present day for something he has or ought to have done, one naturally feels that the individual gladly welcomes the distinction. Not so when Sir J. D'Abernon was knighted, for we find that in 1277 Edward I. sent to all sheriffs, stating that those whom he had knighted were to pay their 20*l.* fee, failing which they were to distrain. Fortunately our Sir John was not a defaulter, and not only paid but accepted the extra duties entailed of coroner and juryman to the great assize, but many a poorer military knight evaded the honour.

Again on the march through winding lanes till we reach the deer park of Mr. Rucker, through which we avail ourselves of the right-of-way. The house is very modern and doubtless beautiful, but does not attract us as the one just seen. The most one can say is there is a great display of wealth; in fact, the deer do not seem at home penned in as they are, and it occurred to me it was more like keeping fowls than a deer park, after what we have seen at Eridge, Knole and Penshurst. Here we take the main road for a short distance and then enter Randall's or Henderson's Park, where we finish our delightful stroll into Leatherhead.

My difficulty has been not to recapitulate any of my predecessors, and at the same time make my paper somewhat interesting, a very difficult task. I undertook it for one purpose only, to attempt to show that it is possible to revisit old haunts with new life and new matter.

TESSERÆ.

The Square Abacus at Chichester.

IT is not a little remarkable that at a period when the First-Pointed style was, at least in Chichester, in other respects so advanced, this decidedly Romanesque feature should have been retained, and so retained as to be a ruling element in the composition of the entire cathedral. Nor is the feature confined to the exterior of the cathedral; only in the interior it enjoys, singularly enough, a divided empire with the circular abacus. In the same work of the self-same Bishop Seffrid II., who is believed to have completed and dedicated the restored cathedral in 1199, occur the round and the square abacus in the most friendly juxtaposition—as, *e.g.* in the triforium of the choir. This would seem to indicate that the interior was finished somewhat later than the exterior. The same balancing between the square or chamfered and the round occurs in the coeval conventual church of Boxgrove, near Chichester; the square or chamfered only, we believe (but evidently from the same hand), at Warblington, near Havant In the late Romanesque chancel arch of Bosham, also in Sussex, the abacus is very peculiar, being in a manner double, or consisting of two members—the upper square, the lower circular, with the usual "cushion" below. One could almost imagine the ambiguous character of this feature, in the neighbouring churches of the next succeeding style, to have flowed, as from a well-head, from this curious specimen, containing as it does the two characters in one.

The Temples of Agrigentum.

Most of the temples of Agrigentum present but a confused mass of mutilated blocks and fragments piled together; this is especially the case with the Temple of Hercules and that of Castor and Pollux; so confused a heap have they become that it is impossible to define their plan on a mere superficial inspection. Some of the blocks thus piled together are of colossal dimensions. Even at the small Temple of Proserpina is a block 8 feet 6 inches by 3 feet 10½ inches by 2 feet 10 inches, weighing therefore 5 or 6 tons. Indeed there are, when viewing these stupendous ruins, few things that excite more surprise in the mind of the architectural observer than the wonderful solidity of the mode of building practised by these Greeks. It is not flattering to contemplate the wide difference of practice in this respect between the builders of the sixth century before and the nineteenth century after the Christian era. It was a saying of Plato, as reported by Ælian, "that the people of Agrigentum built as if they were to live for ever, and feasted as if they were always about to die." Ælian goes on to say that "Timæus reports that they use oil-flasks and strigils of silver, and had entire couches of ivory." It should not, however, be overlooked that the contrast between the domestic architecture of the Greeks and that of our present generation would probably have gone far to redress the balance, if the Greeks had left behind them any adequate means of comparison. The temples of Juno and Concord are the least mutilated, and in their ruin present most beautiful and picturesque objects. The Temple of Jupiter is the most remarkable both for its magnificent size, with the flutes of its columns 14 inches wide, and for the singular example it offers of the use of caryatids in interior temple architecture. These caryatids were built up in courses like columns, and are about 25 feet high and 6 feet across the hips. There had been also found portions of nine other similar statues. An idea of the huge proportions of this temple may be gathered from the fact that the diameter of the columns of the peristyle is considerably more than half as great as that of the Monument in London.

Tomb of William de Valence.

Next to the Italian tombs in Westminster Abbey, one of the most interesting is that of William de Valence. We may fairly set it down as a French work, and probably executed by an artist from Limoges, though the custom of referring all

enamel works to that particular seat of the art is not borne out by facts. Indeed, it would appear from the old accounts that enamels for the shrine of the Confessor were executed here, whether by an artist from Limoges is unknown, though we know that one was employed in England shortly afterwards. The execution of these enamels is truly exquisite, so much so that it is only by the closest examination that any idea can be formed of the wonderful delicacy of the workmanship. The monument was thus described by Keepe in 1683 :—"A wainscot chest covered over with plates of brass richly enamelled, and thereon the image of De Valence, Earl of Pembroke, with a deep shield on his left arm, in a coat of mail with a surcoat, all of the same enamelled brass, gilt with gold, and beset with the arms of Valence, &c. . . . Round about the inner ledge of this tomb is most of the epitaph remaining in the ancient Saxon letters, and the rest of the chest covered with brass, wrought in the form of lozenges, each lozenge containing either the arms of England or of Valence, alternately placed one after the other, enamelled with their colours. Round this chest have been thirty little brazen images, some of them still remaining, twelve on each side and three at each end, divided by central arches that serve as niches to enclose them; and on the outward ledge, at the foot of each of these images, is placed a coat of arms in brass enamelled with the colours." Since this time the greater part of what is above described has disappeared, showing that the spoliation of the abbey is not generally chargeable against the rebels, but has gone on in modern times during the contemptuous dominion of Classic taste.

Piscinas.

The different purposes which have been assigned to the piscinas of altars by ecclesiologists are chiefly these :—(1) The washing of the priest's hands directly ; (2) the pouring away of the water in which the priest has washed, supposing him to have washed in a basin ; (3) the pouring away of the water with which the chalice was rinsed after communion ; (4) the pouring away of other substances—on occasions such as may occur to the reader without our specifying them—which reverence and decency did not suffer to be thrown into a common place. Now for all these several purposes have piscinas at one time or other and in one place or other been used, and probably at no time and no place have they been used for any one of these purposes exclusively. But no general assertion should be made respecting the uses of piscinas, without distinctions and qualifications. There are piscinas near altars and piscinas where altars have never been, not to mention the piscinas of sacristies, where there may have been altars or may not. Again a distinction must be made between the piscinas of the principal altar, or perhaps altars, of a large church and those of its minor altars, and between those again of the principal altars of large churches and of small. Distinctions of period may sometimes be necessary, and perhaps distinctions of country, if only we distinguish between the piscina or piscinas of the principal altar of a church and the piscinas of its minor altars. Of the piscina of a minor altar we might, we believe, say with safety that its principal and most usual purpose was the washing of the priest's hands ; of the piscina or piscinas of the principal altar we conceive it should be said rather that it or they were meant to serve for the ablution of the hands, either of the priest or some of the ministri, or of both priest and ministers, as well as for such incidental purposes as might from time to time arise ; for anciently in solemn celebration the ministers as well as the priests washed before handling the sacred vessels, &c., and not unfrequently a movable basin, bacile, pelvis or pelvicula was used for the washing of the priest's hands in celebrating *solemniter*.

Lucian on Polychromy.

Lucian, who died when ninety years of age, in the 180th of the Christian era, although he relinquished the employment of a statuary and followed that of literature, had certainly an excellent taste in art. His descriptions of statues and pictures prove his fondness and his knowledge. What he says of the famous Cnidian Venus of Praxiteles is very remarkable. After admiring the whiteness of the marble and its polish, he praises the ingenuity of the artificer in so contriving the statue as to bring least in sight a blemish in the marble (a very common thing, he adds). It would not have required this ingenuity in the designs if Praxiteles had intended his statue to be painted, for the paint would have covered the stain in the marble wherever placed. We may learn something more from Lucian. In his "Images," wishing to describe a perfect woman, he will first represent her by the finest statues in the world, selecting the beauties of each. It is in a dialogue with Lycinus and Polystratus. "Is there anything wanting ?" asks Polystratus, after mention of these perfect statues. Lycinus replies that the colouring is wanting. He therefore brings to his description the most beautiful works of the best painters. Enough is not done yet ; there is the mind to be added. He therefore calls in the poets. Here, then, we have statuary, painter and poet, each by their separate art to portray this perfect woman. He does not describe by painted statues but by pictures. Had painting statues been universal, as pretended, Lucian must have seen examples, and his reference to pictures would have been unnecessary. If it be argued that the paint had worn off, that argument will tell against the polychromatists, for it at least will show that, in an age when statues were esteemed, the barbarity of colouring was not renewed. In his "Description of a House," he says, "Over against the door, upon the wall, there is the Temple of Minerva in relief, where you may see the goddess in white marble, without her accoutrements of war." The painter, it may be fairly conjectured, painted inside on the wall of the house the common aspect, and the white marble statue. In his "Baths of Hippias" he mentions "two noble pieces of antiquity in marble of Health and Æsculapius." Nor does he omit noticing paint, and that vermilion—but where is it ? "Then you come to a hot passage of Numidian stone, that brings you to the last apartment, glittering with a bright vermilion, bordering on purple."

Ostade and Teniers

Ostade, in his compositions, displays such an ingenuity in their construction as to render his figures an endless source of gratification and study to the artist. In some of his works the artist is so completely hid that it is difficult to say whether his background or figures were first composed. We have not only objects intercepting each other in the most natural and picturesque manner, but the figures carried up against them, thus coming in contact with various forms, different in size, distance and colour. This, when done with judgment, gives a rich and inartificial effect. On the contrary, in the pictures of Teniers we often find a number of objects cast down in one corner, evidently for the mere purpose of being painted, which, however, from their situation, their picturesque arrangement and the mechanical skill of the execution, acquire a force, natural sharpness and beauty that amply compensate for the ostentatious display of such excellences. Teniers's backgrounds are also totally different from Ostade's principle, his figures being generally surrounded with blank spaces of shadow or half tint. When a story is to be told that requires the spectator to be directed to the heads and hands for expression and action, this breadth is more allowable ; but breadth, as Fuseli justly observes, "ought never to have the appearance of flatness or insipidity." It is observable that in an exhibition where there are a number of objects to distract the attention, those pictures please us most on which the eye is allowed to rest, from their possessing a vacant space ; but those very pictures uniformly look blank and unfurnished when hung up singly in a room.

The South Stack Lighthouse.

The tower is a substantial stone building with walls at the lower part 5 feet thick, but, solid as was this foundation, it was found on trial not to be sufficiently dense to keep out the pelting of the winter gales, when the waves bursting upwards dashed their spray with such inconceivable force that the water actually filtered through and kept the interior in a constant state of moisture, so much so as to excite an apprehension that it might seriously injure the masonry. A variety of remedies were suggested, and the most experienced opinions taken ; copper bolts were inserted, on which a casing was to be made fast. Persons were despatched from London with a mixture of pulverised iron, Parker's cement, ashes and sand. With this composition every crevice and interstice was carefully filled, and the whole smoothed down to an uniform surface, which set and became firm as stone itself ; but all to no purpose, for to the general astonishment water was still forced through, and the interior walls were as damp and trickling as ever. Captain Evans went to London and reported the case to the Trinity House Board ; small slates were then recommended as an additional casing, but the blast of the first hurricane ripped them away like shreds. In this dilemma, when, in the multitude of counsellors, no wisdom had been found, an old carpenter employed in repairing a window-frame and door-case, which he knew to have been set up above forty years, at a mansion house in the neighbourhood, remarked that every part of the casing below ground was in a state of decay, whereas the other parts, which had been coated with a mixture of painting oil, white lead and sand, remained as sound as ever. Happening at this juncture to meet Captain Evans he mentioned the fact, which thus accidentally suggested a similar application at the lighthouse. Accordingly a mixture was prepared, consisting of sand from Port Davaich, free from seawater, which, after being thoroughly dried in an oven, was well sifted. Two men were then employed to paint as far as they could reach with a mixture of white lead and oil ; and then over this glutinous surface the sand was dashed on and left to dry and harden for five or six days, after which the process was repeated ; when, to the surprise of all, two coats were found fully to answer the purpose, for since that time the water has been effectually excluded, not a drop of moisture ever penetrating within.

NOTES AND COMMENTS.

ANOTHER memorial signed by peers, members of Parliament, amateurs, critics and others has been sent to the Dean and Chapter of St. Paul's. The signatories say:—"In view of the dissatisfaction felt in many quarters at the decorations now being executed in St. Paul's Cathedral, we desire to appeal most earnestly to the Dean and Chapter, as trustees of this great national monument, that before proceeding further with the work they would take the opinion of a strong representative body of experts as to the desirability of the character of the decorations." Canon SCOTT-HOLLAND says that criticism has arrived in every possible shape and from every conceivable quarter. Memorials, protests, appeals, letters of advice and of abuse have been received by the decoration committee, and he thinks there may now be a cessation of the documents. "We are doing," he says, "our best to give all that has been said the consideration that it deserves. As soon as conclusions are reached we propose to make them publicly known. But, as Sir W. RICHMOND is still detained in Spain by severe illness, there must be a little delay. And it takes time to sift and weigh the worth of all that has been laid before us and to arrive at a clear judgment in so perilous and responsible a matter. For this we need some relief now from the storm of attack, some breathing space for reflection. It is hopeless to arrive at a sane result if we are to be still bombarded with memorials, which can only repeat what we have heard, and worried by the intemperate invective of excited young persons in the South Kensington Schools." But the decoration committee should not forget that for a long period gentle remonstrances were treated with indifference. If there is now an absence of measure in the criticism the reason is to be found in what was the apparent theory of the authorities, viz. that all who had not subscribed liberally towards the cost of depriving the cathedral of its architectural character had no right to express an opinion on the misdoings of the committee and their agents. The decoration committee have, however, resolved that the stencilling should be removed, and that it was desirable, before proceeding to do so, to see what would be the best mode of finishing the arches by completing the south-west dome without any decoration of the flat stone work. The execution of the panels in the fourth quarter dome will also be postponed.

AT first sight it may appear strange to have the memory of so practical a civil engineer as the late M. ALPHAND upheld by a series of fêtes. But the lieutenant of Baron HAUSSMANN and the trusted director of the municipal works would not have desired a different sort of commemoration. M. ALPHAND endeavoured to make Paris more beautiful than it was when he was entrusted with the care of its amenity, but he knew that his efforts could at most only supply the frame for the picture; the joyous figures could not be created by his formulas. The ALPHAND Committee have arranged the programme for the fêtes which are to be given in Paris from June 12 to June 17. The Tuileries, the garden of the Palais-Royal, the park of Vincennes, and the Bois de Boulogne are to be utilised for battles of flowers, kermesses, processions, competitions, &c. The most interesting feature will be the historic cortège which is to traverse Paris during two days. It will celebrate ETIENNE MARCEL, the Provost of Paris, and the guilds and corporations. M. EDOUARD DETAILLE has undertaken the arrangements, and will, of course, design the costumes. From his genius it can be assumed that Paris will on this occasion be able to compete with Brussels and Antwerp, where cortèges have acquired an archæological and artistic interest which would amaze the circus proprietors who manage such processions in this country.

THE report of the Liverpool Architectural Society states that during the session there were five members' meetings and seven ordinary meetings. On two out of the five members' evenings papers were read by strangers, and as regards the seven ordinary meetings held, on only one occasion was a paper contributed by a member of the Society. Excluding the President's addresses, nine evenings remain on which papers were read, only four of which were contributed by members. This, according to the report, can hardly be considered quite satisfactory. A society of the standing of the Liverpool Architectural Society ought not to be so dependent on assistance from outside. There must be many within its ranks well capable of reading papers, and the Council hope that these gentlemen will come forward more generously than they have done in the past and give other members of the Society the benefit of their knowledge and experience. An appeal is also made by the Council to the younger members of the Society to read papers on the members' evenings.

ILLUSTRATIONS.

CATHEDRAL SERIES.—ST. ALBANS: DOORWAY, SOUTH TRANSEPT. DOORWAY IN SOUTH AISLE. VIRGIN AND CHILD AT BACK OF REREDOS. THE WATCH GALLERY.

NEWPORT AND MONMOUTHSHIRE HOSPITAL, CARDIFF ROAD, NEWPORT.

THIS hospital, now in course of erection, provides for 84 beds in all, and is capable of enlargement to 120 beds. The administrative block is placed in the centre, and the wards are connected thereto by corridors 10 feet wide. An hydraulic lift is provided to carry patients to each floor. In connection with each ward is an isolation ward, day-room, kitchen, bathrooms, with stores. The out-patients' department is quite a distinct building, yet connected for the convenience of the medical staff with the hospital. The boiler-house, laundries, post-mortem room, mortuary, &c., are placed in the rear of the building. The site is a very fair one. The builders are Messrs. A. G. MORGAN & Co., and the architect Mr. RICHARD J. LOVELL, 46 Queen Victoria Street, E.C. The original drawing of the hospital is in this year's Academy.

JUBILEE MEMORIAL HALL, SINGAPORE.

WE give this week the front elevation of the selected design for a town hall and theatre to be erected at Singapore in commemoration of the Diamond Jubilee of our gracious Sovereign. In 1897 a public meeting was held at Singapore, and a committee was formed consisting of the Colonial Secretary and the Colonial Engineer as nominees of the Government, two members of the Municipal Committee, and two of the private residents, and it was agreed that one-third of the cost of the building should be raised by public subscription, the remaining two-thirds being promised in equal shares by the Government and Municipality.

In 1898 the committee invited architects from England, China, India and Australia to submit plans for competition, and the first prize was awarded to Messrs. SILLS & FRANCKEN, of Donington House, Norfolk Street, London.

In March 1899 the committee selected a site offered to them by the Government on Fort Canning Hill, and by the *Straits Times* of March 13 we see that the work of clearing and levelling the site will be begun at once.

The total length of the building, exclusive of carriage porches, is 345 feet, the width 133 feet, and the height to ridge of roof is 75 feet, and to top of clock tower 127 feet. The cost will be about 33,000*l*.

The building will face north-east. The town hall is to the left, the main entrance being under the clock tower.

The theatre is to the right and the entrance to the auditorium is at the end of the building. The town hall wing has on the ground-floor a supper-room, secretary's office, card, refreshment and smoke-rooms, and the necessary offices. On the first-floor is the ballroom, 113 feet by 50 feet, a card-room and retiring-rooms. On the second floor are terraces, store-rooms, a smoke-room and an electric accumulator room for working lifts, ventilating-fans and lights. The dynamos are placed in a separate building in the grounds. The theatre has a stage 50 feet by 35 feet, an auditorium with accommodation for 548 persons, refreshment-rooms, crush-rooms and dressing-rooms. All round the building on each floor are ample verandahs, the columns supporting which give the building a handsome appearance. The materials intended to be used are red brick and grey granite, terra-cotta, Indian patent stone, marble, mosaic and tiles. The interior columns, also girders, joists and roof-frames will be of steel, and the domes will be covered with copper. Woodwork has been avoided wherever possible owing to the prevalence of white ants.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

By the Author of "Ecclesiologia Germanica," &c.

(*Continued from page 323.*)

XX.

Souvigny.

AUGUST 1, 1894, is a day to be marked with a white stone among the many happy ones I have spent in ecclesiology. t six o'clock, when I leant from the casement of my room at ie Hôtel du Dauphin at Moulins (an excellent, well-managed stablishment, by the way, in the modern French style) a light ist was veiling the cathedral spires, heralding a day of intense eat, so that the project I had formed of walking to Souvigny -distant about five miles—had to be abandoned. Certainly was in every way better to spoil a franc than to spoil a mper, and to arrive on the scene of enjoyment fatigued and ut of humour; so, like Mr. and Mrs. Brown in the "Pop isit," I "rid," hazarding a variety of conjectures when the ain got clear of Moulins as to the scene of Sterne's "Maria."



Abbey Church of Souvigny—View across Nave from North Aisle.

"It was heat and mid-day," with a misty sun looming from sirocco-looking dusky-blue sky, when—the train having posited me at its station after twenty minutes' ride from oulins—I sought the abbey church of quiet little Souvigny, e burial-place of the ducal house of Bourbon, as St. Denis is of the royal house.

The glimpse caught of the long-roofed structure from the ilway was a very agreeable one, so towards what appeared to a combination of attractions I rapidly made my way up the incipal street of the little town to the point where it debouches to the market square, a locality presenting few beauties of ature, but one in which the French churches—cathedral, onastic and parochial—are almost invariably to be looked for.

Shorn of its endowments, serving as the parish church of a wn known now to few save the ecclesiologist and historian, and ing as it does off the beaten track, it may truly be said of this ice-powerful Cluniac establishment—Ichabod. Yet to a con-mplative mind the solitude of the place possesses a certain charm which trainloads of English and American curiosity-seekers would instantly dispel. For several hours I wandered about its once busy courts, my own footfall and the tolling of the twelve o'clock Angelus alone breaking the awful stillness that brooded over the pile on this hot August day.

Of the extensive buildings which formed this fine Benedictine abbey but few traces remain, and these have been secularised almost beyond recognition. The church, stripped of its Mediæval instrumenta, has however come down to us—thanks in some measure to its having been labelled as an historic monument—in a very good state of preservation. It is, moreover, of very great value to the architectural student, presenting as it does a mingling of the Burgundian, the Frankish and the Southern styles.

Upon the original Romanesque work, which, like all that met with in Central and Southern France, has a very Byzantine tendency, much of a late period has been engrafted and superimposed. These extensive alterations appear to have been effected towards the middle of the fifteenth century, curiously enough not in Flamboyant, the then reigning style, but in Middle Pointed of a more Geometrical character. This, as might be expected from its date, is in some details poorly worked, but it possesses a great, I may say unique, interest.

Viewed from the railway the long unbroken line of roof gives the church of Souvigny an air of almost barn-like simplicity; but this idea is dispelled on placing yourself at the north-west corner of the market-place, whence the eye ranges from the plain, low Romanesque towers along the six-bayed nave with its low Decorated clerestory, past the transepts, to the choir flanked by the ducal chapels and terminating in a buttressed chevet of impressive but not exaggerated dimensions. Calm repose—resulting from its length, the low stature of its western towers, and the manner in which the roof is carried on without any break at the crux, the transepts being roofed at a somewhat lower level—is, then, the characteristic feature of the abbey at Souvigny.

Before the Middle Pointed alterations and additions the western towers must have assumed an air of much greater dignity and importance than they do now. Built of brownish

stone, and capped with low pyramidal roofs of tiles, they presented, with a background of deep blue sky, quite an Italian appearance, particularly when viewed from a slight eminence to the north of the town.

The Romanesque nave, with its double aisles, was a truly welcome refuge from the mid-day glare and heat. Entering from the large square on the north by a door at its eastern extremity I found myself in the outer north aisle of the nave, long, regular, and resembling in its superb vaulting, and in the sumptuous sculpture of its elongated pier capitals—veritable types of Burgundian richness—another great Cluniac church whose acquaintance I was to make two days later—Vézelay.

Let us take our stand at this door for a few moments immediately upon entering. We have on our right the long, speluncar northern aisle, terminating westward in the reredos-like shrine of St. Menoux. In front of us, with the intervention of another very narrow Romanesque aisle, our eyes are drawn upward to the exhilarating light of the Middle Pointed clerestory and vault of the nave, while to our immediate left, as if with the set purpose of striking an architectural contrast to the semi-barbaric decoration of the nave and its aisles, we see across the transept the graceful soaring choir, where the slender pillars, clustering like stems in corn-sheaves, present in the delicate wreathings of their capitals an assemblage of foliaged ornament of the most delicate character, all the more remarkable when we remember the late period of its execution.

And now, having taken the church in at a coup d'œil, let us proceed down the north aisle and place ourselves at the extreme west end of the nave, under the tall, good-looking organ, which, with its trumpet-blowing cherubim and seraphim surmounting the triple towers to "Great" and "Choir," is no doubt capable of making a deal of noise upon occasions.

The absence of Mediæval instrumenta, especially of the rood,* precludes the interior of Souvigny Abbey, like too many French churches, from being truly pictorial. Although it is one of the largest ecclesiastical buildings in the province of Sens, covering as it does a considerable expanse of ground, it is by no means colossal. Indeed, I was somewhat disappointed with the chevet, having formed a somewhat extravagant notion of it from a not very faithful drawing in "L'Ancien Bourbonnais." Yet the architect of the Middle Pointed additions and alterations has managed by various expedients—such as the omission of the triforium, the stilting of the vaulting arches and the employment of the continuous ridge-rib—to invest his interior with an air of great size and elegance.

Throughout the church the carved ornament is distinctly Burgundian, but that delicate guipre band which gives such a character to the wall-space round the pier-arches at Autun, Langres and Vézelay is lacking at Souvigny, where the spandrels of the nave arcade present a somewhat bald and impoverished appearance. The columns supporting the arches are slender attached ones, like those we see in the two great abbeys at Caen; but their capitals retain much more of the Byzantine spirit, their elongated forms giving ample scope for the varied subjects carved upon them. Of these capitals the richest are to be found in each of the outer aisles. As far as the string-course which runs within a few inches of the top of the nave arcades, the original Romanesque vaulting shafts remain. At that point foliaged capitals have been engrafted upon them, and down to them the transverse ribs of the nave vault have been brought without any break in the shape of capital. By this means an exceedingly élancé air is imparted to the church. The clerestory windows, forming in their lower unglazed portion a species of triforium, unrelieved, however, by an arcading, are of two trefoil-headed lights, each with a quatrefoil in the head—tracery of a Geometrical character, very remarkable when we remember that its execution dates from the middle of the fifteenth century—a period which in many parts of France saw the earliest declension to the Renaissance.

As the transverse vaulting ribs give lightness and height to the interior of Souvigny, so the longitudinal ridge rib, carrie throughout nave, transeptal crossing and choir without breal imparts an idea of great length. This ridge rib, which a Souvigny is crocketed on both sides, presenting thereby a ver pretty feathered appearance, is a feature rarely used by th French architects in their thirteenth and fourteenth-centur buildings.* Its introduction, however, at a late epoch wa certainly an improvement, as marking the point of the vaul It could not, of course, be used with circular arches whe there was no central line for it to mark, and it probably wa from this cause that the French seldom adopted it, having bee accustomed to vaults not requiring the ridge rib, a featu which in the great English contemporary works is neve absent.

Having briefly noticed the main features of interest in th nave of Souvigny Abbey, I will now conduct my readers int the aisles, noticing *en passant* that the floor, composed of tile in large squares, is, as are the bases of several pillars, gree with the saturation of ground-damp. The aisle flanking th nave on either side is very narrow and much loftier than th outer one. Spanned at the interval of each bay by an arc springing on either hand from a tall Romanesque shaft, i simple domical, or, to speak more strictly, barrel-shaped vau has in many places a very rough appearance. Lower, b more than twice as broad, is each outer aisle. That on th north retains its Romanesque features unaltered, *i.e.* the simp quadripartite ribless vault, spanned at the interval of each ba by arches whose bright, metallic-coloured stones impart grateful sense of natural polychromy, the long line of wall wit its series of arcades on slender pillars, fascinatingly carved a to their capitals, and the simple round-headed window lightin every bay over them. Its neighbour on the extreme south ha however, undergone a complete metamorphosis from the han of the fifteenth-century architect, vaulting and fenestratic being alike Late Gothic. With this we do not feel inclined quarrel, since it presents a variety in the perspective view which force themselves upon the attention from every point i this delightful church. The shrine of St. Menoux—once a object of local veneration, shockingly mutilated—forms a ver imposing termination to the north aisle looking westward. consists of two tiers of Byzantine-Romanesque arcades of ver rich workmanship, surmounted by three figures. The cent one, that of Our Lord, has lost the head, but the crucifor nimbus remains; the standing figure on either side is likewis headless, and so is the seated one, vested in a chasuble whi surmounts another tier of arcades just to the left. Simil fragments exist to the right of the central group.

Occupying a like position at the west end of the out south aisle is a trefoiled arch, within which is seated anoth headless figure, chasubled. The folds of the vestments a marvellously natural, while the patterns on the orphreys a reproduced with a delicacy and fidelity that I have rarely se equalled. Below the figures is a row of six cusped arcades a a very mutilated recumbent effigy. This end of the south ais forms the baptistery; here in juxtaposition to a bulging oc gonal font standing upon the ground, without a pedestal a bearing the date 1626, is the elongated bowl of the Mediæv one.

The choir of the abbey church at Souvigny has, like t nave, five aisles. The choir itself, including the chevet, Middle Pointed of about 1440-46, but the side aisles from whi the ducal chapels open, while in the main of the same da still retain a good deal of their original Romanesque charact Each of the narrow inner aisles of the choir communica with the procession path or pourtour, where the Romanesq work of the radiating chapels is undoubtedly a jejune "resto tion." The other aisles, much disturbed by the engraftment the sepulchral chapels of the Bourbon dukes, are approach from the transepts by pointed arches on very richly sculptur responds. A genuine bit of Burgundian Romanesque wo exists in the respond of the arch opening from the no transept, where the fluted pilaster crowned with a Corinth capital occurs. Through this arch a delightful peep of e Chapelle Neuve is to be obtained from the western end of e north nave aisle; but, owing to a screen which fills up the a

* I may here remind my readers that the destruction of this beautiful—nay, indispensable—feature in a Gothic church took place almost entirely throughout France during the middle of the eighteenth century. It was due, not to Huguenot or Revolutionary fury, but to the bad taste of the clergy themselves. The high close screens that now remain in France may be counted on the fingers.

* It occurs in the cathedral of Bayonne.

ening into it from the south transept, a view of the Chapelle ielle is not obtainable from a similar point of the opposite sle. The said screen resembles in some of its details the lebrated one of Prior d'Estria in the choir of Canterbury athedral. Two wooden doors in it admit to the Chapelle ielle from the south transept. The original Romanesque wall tained in the south side of the chapel is relieved by blind cades—three of them are those peculiar triangular ones often et with in the neighbouring province of Auvergne, and three e of the customary round-headed form. Through the central ie of these latter, and forming part of another exquisite iddle Pointed screen, a doorway is cut, giving access to a naller chapel or chantry, which at the time of my visit ppeared to form a receptacle for sundry pots of "Marguerites" various stages of decomposition. In the centre of the apel—scratched and scribbled all over with names and dates ot a few belonging to the seventeenth century), thus proving at the detestable mania evinced by Tom, Dick and Harry r leaving their illustrious names on every object with- reach is not confined to our own day—are the o contiguous altar-tombs, with recumbent effigies in arble, of Louis II., Duc de Bourbon, and Anne of uvergne, his wife. A Flamboyantly-traceried window in this apel has some worthless modern stained-glass in the pretty picture" style. It was quite a relief to turn from this ckly specimen to the noble, but, alas! sadly fragmentary mains of fifteenth-century glass in the clerestory of the great evet, whose series of five arches on cylindrical piers are very utely pointed and rather triangular in their aspect. To the st and west sides of the pillars a slender shaft is attached, rving for the main ribs of the apse groin and those of the cumambient aisles respectively. Their caps are foliaged, ough not by any means so delicately as are those of the cades on either side the choir proper, where the reproduction the natural flora is marvellous when the late period of its ecution is taken into consideration. But to return to the se. There is no triforium—a feature conspicuous by its sence throughout the building—the tall, two-light windows the clerestory rising, with the intervention of a deep sill only, mediately above the string-course surmounting the pier ches.

In his excessive idea to do away with all solid wall, and to t the greatest possible surface for painted glass, the architect the chevet at Souvigny has made the two trefoiled lights of s windows as tall as possible, and has placed the smallest of atrefoiled circles in the head of their arches, besides piercing e spandrels of the vault with tracery, which, at a little distance, ing to the low point at which the main ribs begin to spring, ve quite the air of those flying buttresses on the exterior of enry VII.'s Chapel at Westminster.

That the apse vault at Souvigny is distorted in order to oduce this air of légèreté is a fact no one who has the greater riety of the early French vaulted apses in his mind will empt to controvert; yet it is impossible to deny the elegance this invention, which has, I believe, found few admirers, or least no imitators. Doubless, while the painted glass which ce filled these windows, and of which scanty but beautiful gments still remain to attest its former grandeur, remained act, the ideas of its architect were seen to far greater adntage than at present in this apse at Souvigny.

There is, however, enough glass left in these windows for us judge of the magnificent spectacle the eastern part of the urch must have presented before the destruction of its reous decoration; for the rich rubies and blues in the vestnts of the Apostles, which fill the two northern windows of five-sided chevet, still retain their jewel-like brilliancy of louring, contrasting vividly with the grisaille of the backounds and canopies. Except of a very small piece here and ere, the southern windows are entirely denuded of their ecious adornment, but this loss is, on a fine day, somewhat mpensated for by the very pretty picture presented by a sunded pinnacle and flying buttress which, with a background blue sky, peer through the unstained southern windows of e apse in the most enchanting manner.

The three bays on the south side of the choir are all of the me height, but above the central one the clerestory is itted. This feature is likewise wanting above the corresponding arch on the north side, which is thrown up far above the one on either side of it, in order to bring it to the same level as the arch opening from the first narrow north aisle of the choir into the elegant Gothic Chapelle Neuve, with its recumbent effigies of Duc Charles and his wife Agnes de Bourgogne. The style of this chapel, which is much loftier than the Chapelle Vielle, and terminates in a three-sided apse, is very good Flamboyant.* The windows occur only in the central compartment of the apse, and are tall ones of two trefoiled lights. Over them are hung blinds, in many places going to rags, and having upon them frightful "Gothic" patterns such as one sees on wall-papers in seaside lodging-houses. As this part of the abbey now forms the lady-chapel, it is furnished with an altar, and the hideousness of these blinds is in some measure mitigated by bannerets, each with a figure of the Blessed Virgin, bearing such inscriptions as "Mère du Créateur, priez pour nous," "Mère du Sauveur, priez pour nous." The ribs of the apse groin start from rich spiral canopies surmounting small figures in niches between the windows. Some tall net-like screens separate the chapel from the north choir aisle: a large Flamboyantly traceried window, which would look well if filled with stained-glass, lights the chapel on the north, and a finely-moulded door leads on the left to a chantry, which, like its neighbour on the south side of the Chapelle Vielle, forms apparently a receptacle for rubbish.

An extremely devotional adjunct to this chapel is a copy of that celebrated *Immaculate Conception* painted by Murillo for the Church of the Venerables at Seville, now in the Louvre, and for which the French Government in 1852 gave 24,612*l*. In a plain gold frame, and bearing the inscription, "Donné par le Roi en 1842," it is suspended on the unfenestrated portion of the apse wall just to the right of the lady-altar.

There are several other little details in the transepts and nave at Souvigny to which I should like to draw my readers' attention, but as I fear I have already trenched too long upon it I will just place them with me beneath the western organ gallery, gather once more the long perspective of this interesting abbey church into one view, and then pass from its damp, sombre, Romanesque aisles to the warmth and light of the adjacent market square. Here, in front of the west end, helping to compose a picture which Prout would have delighted in, are the many-hued umbrellas of the cheats and bargainers who every now and then, leaving their business to come into the sacred building and pray, admit for a moment a shrill babel of voices, and go out again into the brilliant sunshine to commence cheating and bargaining as before.

(To be continued.)

THE LAMP OF LOTHIAN.

"WHAT cathedral is this?" asked a sailor as he passed the gate of Haddington cemetery to pay the last offices of affection to a deceased parent. "Not a cathedral, but the parish church," was the answer quietly given. The seafaring man looked perplexed. "She's sair broken doon; she's been through storm; she's mair like a cathedral than a pairish kirk." It was not difficult to apprehend the seafaring man's point of view. In his limited experience, says the *Scotsman*—for he was only skipper of a trawler, and had enjoyed but an occasional glimpse of the grey towers of St. Andrews and Kirkwall—he took it for granted that an imposing ecclesiastical ruin must of necessity be a cathedral. The hoary aspect of a glory not yet vanished settled the name for him; and the aspect of Haddington parish church is so commanding, so replete with the feeling of ancient stateliness as compared with the pretty little Gothic imitations which serve as places of worship amid suburban villas, that the people with one consent call it the abbey, or rather the "aibbey," to be phonetically correct. To the local antiquarian this name "aibbey" is a perennial grievance. Thousands of times he has endeavoured by rebukes and pleadings and contemptuous smiles to stamp out the pestilent error. By speech and pen he appeals to the testimony of ancient parchments, proving that the "Church of St. Mary of Haidinton," or "Paroche kirk," or "Hie kirk," or "College kirk" is the true designation, but he might as well rail at the inflowing tide. "Aibbey" they love, and "aibbey" they will keep, although it should pain local antiquarians to the end of time.

* The accompanying illustration shows this Chapelle Vielle in the distance.

As to the term "Lamp of Lothian"—"Lucerna Laudoniae"—which heads this article, there has been considerable divergence of opinion. Some, who can hardly be called authorities, while they are quite willing to drop the designation "Abbey," are reluctant to part with the unique and euphonious distinction "Lamp of Lothian." And yet, unhappily, the little available evidence there is does not favour the assumption, but simply shatters it—if John of Fordun be correct. This fourteenth-century chronicler tells us that Edward III., to avenge a raid by the Scots in his territory, crossed the Tweed in 1355 at the head of an army, laying waste the land as far as Edinburgh, and burning "the town, the monastery and the sacred church of the Fratres Minores (Franciscans) of Haddington, a costly and splendid building of wonderful beauty, whose choir, from its elegance and clearness of light, was commonly called 'The Lamp of Lothian,' or 'Friars' Kirk.'" It may be said in passing that the Episcopal Church of Haddington stands on the old site. If the Friars' kirk had been the Paroche kirk there would have been no difficulty as to the application of the lustrous epithet which every loyal Haddingtonian loves. But they were entirely different buildings, as the following extract from the Town Council records showeth:—"November 7, 1572.—The Counsall ordains all the pavement of the Frier Kirk to be transported to ye Hie Kirk and laid thair." The process of transportation must in course of time have been carried to the point of obliteration, for not a rack is left to recall the once famous shrine of the disciples of Francis of Assisi. Nor were the civic fathers simply content to remove the "Friers" pavement to the parish church, but they, or some person more distinguished for astuteness than for what Carlyle calls "conscientious scrupulosity," likewise deemed it proper to transfer the glowing name to the only building remaining that seemed worthy of it, and which alone has in large measure withstood the ravages of the wild years. The old pavement has disappeared, no man knows whither; but the "Lamp of Lothian" still abides and bids fair to stay. It is just one of those felicitous names that the world will not willingly let die; and if it befits the place of its adoption as it does so well, why cavil? "On these terms you may have it," says the local antiquarian, and thus the "casus belli" is amicably withdrawn.

Beautiful for situation is this ancient church. Around the venerable walls we look upon the hallowed resting-place of many generations, its margin not lacking in the soothing grace of plane-tree and willow, every spot carefully tended, and only a few yards from the eastern window the waters of Tyne, their onward flow here subdued, as if in unison with each whispering memory and sacred association.

> Beautiful in their sorrowing sympathy
> As if they, with a weeping sister, wept.

As to the history of the church, we learn that Haddington, like several other Scottish towns, owed its early ecclesiastical distinction to the zeal of David I., third son of St. Margaret, Malcolm Canmore's gentle queen. He inherited his mother's love of Holy Church, a love blind to the burdens of a poor and heavily-taxed people, and deaf to their complainings, a love which depleted the treasury while it endowed the clergy, and adorned many an ancient burgh with a marvel of architectural beauty. In the words of Andrew Wyntoun (1420)—

> He illumynyd in his dayis
> His lands wyth kyrkys and wyth abbayis.

But while frankly admitting the glory, we feel there was also distressful truth for an impoverished country in the witty remark of James I. of Scotland as he stood by David's tomb in Dunfermline—

> He was ane sair sanct for the croon.

In a royal charter dated 1134 we learn that David granted to the Priory of St. Andrews in perpetual alms "The Church of St. Mary of Hadintune," endowing it, as was his wont, with ample lands. For almost the next three centuries the history of St. Mary's is a blank. In 1426 it is mentioned in the "Buke of Auld Register" as receiving manifold gifts for its fifteen altars. For the following and other illustrative excerpts from old documents I am indebted to Mr. James Robb, the venerable author of a history of the Royal Burgh of Haddington, whose careful researches in all matters pertaining to the "Paroche kirk" have been a labour of love. "28th May 1426.—John of Furde gave a silver chalice weighing 12 ozs. 5 dwts. to Saint Peter's altar. Jonetta Menis gave one mirk of annual to the altar of St. Mychael in the Paroche kirk of Haidinton, for dirge and placebo, to be said on the death of her father and mother." If each of the fifteen altars required a ministering priest, we can easily understand the appropriateness of that other appellation, "The College Kirk."

Whether the building, as we see it now, is partly David's, or quite another erected on the same ground, has been a matter of controversy. Frequently did the old town experience fire and sword and desolation. The probability is, therefore, tha David's church suffered grievously in the conflagration that wa part of Edward's revenge aforementioned; and when quiete times ensued the work of restoration on a grander scale woul be begun, and in all likelihood ended in the early part of th following century, when we read of the church, as we have seen, receiving the gifts of the faithful. Fourteenth-centur Gothic is the usual verdict of experts as they mark the archi tectural features of the building. Previous to the Reformatio its up-keep seems to have been largely in the hands of th burgh. In the Town Council records there are frequent refer ences to repairs being ordered by the municipal authorities an paid for by the town's treasurer. The old sailor's remark "She's come through storm," is confirmed not only by roofles choir and transept, but also by the appearance of the soutl wall, which, judging by the numerous shot-marks in evidence must have experienced storm of battle. In 1548 during th minority of the unfortunate Mary, an English force held th town, the object being to prevent a proposed union of th French and Scottish crowns, and in the conflict which ensue the old church, whose strong walls sheltered part of the Englis garrison, had to bear the brunt of the French artillery, whic partly may account for the ruined condition of transept an choir. "In the churchyard," says Mr. Robb, "numerou cannon balls, small as well as large, even up to 40-pounder have been turned up."

Just two years before this siege of Haddington the Paroch kirk one afternoon in 1546 witnessed a very different scene— not the fierce commotion of battle, but the fervid presentatio of the reformed doctrine by George Wishart, who was arreste on the following night at Ormiston and shortly after suffere martyrdom at St. Andrews. John Knox was present, and h tells us the "auditure" was small—not a "hundreth personis —and that the soul of the preacher was much vexed thereby It is sometimes alleged that East Lothian folks are "cauld an dour," and very different from the warm, responsive people o the West Country. Whatever truth there may be in th allegation, it is certainly an incontrovertible fact that th Haddingtonians did not manifest any very pronounce emotionalism on either side of the religious conflict. O course, there would be the few exceptions that proved the rule isolated cases of fierce partisanship, similar to that of Hepbur of Morham and Birnie of Edinburgh, who resolved to settle th number of sacraments by single combat, and only succeeded i slaying or settling themselves. Presbyterian Protestantism quietly but firmly took possession. The people acquiesced The fifteen altars in the parish kirk disappeared, bu there was no violent demolition of the sacred build ing, and in course of time, under the reformed régime ugliness and dirt became fairly well established. As bearin out this policy of peaceable acquiescence we may note th pathetic petition of one Sir William Wilson. The title "Sir need not mislead. It was given in those days to very humbl ecclesiastical functionaries, such as the vender, exhorter an doorkeeper of the church. Sir William petitioned the Tow Council (March 26, 1567), and assured them that although th change was only "an imitation of religion," he was willing an eager still to serve "in yis Perroch Kirk" subject to the ne regulations, "sen I had the said office of your progenitours and of sum of yoursels now present, and am ane born bairn o yis burgh, to quhom nature suld incline you, to my support an rationable petition, sen ye know my need at yis present, an your wisdomes answer heiron Humbly I beseik." Th "bawbees" appear to have settled the religious leanings of Si William; and "The Provost, Baillies and Counsall consent to ye petition forsaid."

One or two details as to structure may now be give Built in the usual form of a cross, it equals St Giles, Edir burgh, in length, measuring from the east window of the cho to the west door of the nave about 200 feet. From the centr of the transept a massive tower rises to a height of 90 feet- "one of the most graceful lanterns to be seen in stone"—b that it had, as some think, a corona similar to St. Giles unsupported by any available evidence. The western doorwa arrests attention as a work of striking merit. It is divided int two entrances by a moulded shaft, and has an enclosing arc of much elegance above. At the top of the central colum we have the symbol of the Passion, consisting of a crown thorns, with hands, feet, heart, and nails inwrought in the ol red sandstone, and still marvellously distinct notwithstandin an exposure to the elements of at least four centuries. Th window in the south arm of the transept has been rebuilt b Lord Wemyss; and in 1875 the large eastern window of th choir was similarly restored as a memorial of Dr. Cook, former minister of the parish, who still lives in the affections the people, and who was known throughout the Church as th distinguished Clerk of the General Assembly.

But the greatest transformation has taken place in th interior of the nave. The present writer never saw what th part of the building was like about nine years ago, except photograph. The picture could hardly be called prepossessir

h its "lafts" clinging to whitewashed pillars, where "lafts" d whitewash were never meant to be. And yet it was very ar to some because of the tender memories of a lifetime. ie sensible-looking person, with perhaps an excess of idour, said it was a dungeon of unpleasant smell. It is now oroduct of the Renaissance of ecclesiastical taste all over the id. Thanks to the collegiate ministers of Haddington at the ie, the Rev. D. R. Nimmo Smith and the Rev. J. F. W. ant, now of St. Stephen's, Edinburgh, also to liberal heritors d generous friends far and near, of whom one may specially ention the late Miss Aitchison, of Alderston, and her sister, dy Denman, we now have the plain unplastered walls owing the grand masonry of long ago, elegant pillar and aceful arch relieved of their superfluous coats of whiteing, mfortable oaken pews instead of straight-backed boxes, all ich need not hinder, so far as fallible mortal is able to judge, worship of any devout soul. Of course, tastes differ; it was a respected old lady who exclaimed, "Eh! s wad be a braw kirk if it was a' papered and nted." And then there is the much misunderstood d, therefore, much maligned lectern. The baptismal it is allowed to pass, but the lectern, the brass eagle whereon its the Book, is to some as iniquitous as Aaron's golden lf. A good man told me the eagle was the symbol of Satan, he had found it so described in his dictionary of the Bible. vain you tell him that your dictionary says the eagle is the tural enemy of the serpent, and also the emblem of St. John, io, like the eagle, looked on "the sun of glory." He knows tter. It is the thin end of the wedge that will by-and-by lit the Kirk, and admit the flood of Romanism. A point of w, no doubt, and yet fatuous to a degree.

And what of the organ, "that hallowed source of glorious und?" To some it is a trial, a sort of diabolic discord in t to those who have a lingering affection for the few familiar nes of the old precentor. One may sympathise with the ling, but too many untuneful reminiscences gather to permit e to think that the former days were better than these, and is certain that the surest way of alienating the young and iptying a town kirk, whatever may be said of the country, uld be to restore the old baldness of worship.

We are sometimes told that human nature is complex. iis commonplace truth was on one occasion somewhat unpectedly accentuated. "I can staund yer harmonium, but r organ is simply insufferable, and I want my lines." To all ch complexities of the genus Presbyterian, "lines," no doubt, ll be readily granted. Pity that plausible pretext should thus given to the satirist who said:—

A sect whose chief devotion lies
In odd perverse antipathies.

ommend us rather to the broad-minded old beadle who said the church that now bears the title of Lamp of Lothian:— There's naebody that can be disappintit here, sir. For if the mon's no up to the mark, there is aye the organ; and if the gan's oot o' tune, there's aye the choir; and if the choir's no pfeecient, there's aye the scenery"—part of the "scenery" ing six fine memorial windows, one of them executed by Mr. illiam Morris to a design by Sir Edward Burne-Jones.

PICTURE FRAMES.*

WE cannot to-night occupy much time in considering the origin or antiquity of picture frames, but may refer to me of the oldest known to us. The frescoes of Pompeii, still parts perfect and beautiful, offer numerous examples of ming designed by the artists for the isolation of their subcts and the enhancement of their effect, these being the mary objects of all such framings.

At the British Museum Dr. Murray kindly pointed out eir oldest frame, of about the second or third century of our . It is of a hard wood like beech, of what we know as the Oxford" pattern, with a marginal 1-inch flat; a groove to ceive glass and cord to suspend it by the corners; the panel d a portrait of encaustic, now nearly obliterated. We also w an engraving of a Pompeian studio, in which a lady artist sitting, with a similar frame and portrait in it near her. We en went to the finely-preserved mummy from Hamara in the ayoum of a young woman once of much beauty, whose portrait a 12 by 9 panel is at the head, with a framing of many folds the cerecloth, which is ingeniously swathed so as to form a ometrical pattern all over the body. I am told that poor gyptians who could not afford to have such portraits painted pressly for their lost ones used to buy from stocks of readyade portraits such as most nearly resembled the deceased, d when the swathing cloth decayed such portraits were hung as pictures. It was a custom of the Romans to have upon round or shield-shaped wood, portraits called "imagines" of their celebrated dead, modelled in coloured wax, to carry these in the funeral processions, and afterwards suspend them in the houses.

We know that the ancients painted in every style of art, excelling in all, and though Pliny says that "the greatest glory was obtained by easel pictures," he gives, as another reason for preferring them, the one that paintings upon the actual walls cannot be saved in case of fire. We read that Cicero sent large sums of money to his friend Atticus, to buy pictures in Greece, for decorating his villa at Tusculum, and the artists of distinction, like Polygnotus, must have been well aware of the importance and effect of suitable frames for their masterly works.

That no examples of beautiful ancient frames can now be found is not surprising, for we are told that the anti-pagan zeal of the early Christians led them to destroy everything they could which was pagan, however artistic; they used to put ropes round the marble necks of the almost divinely-beautiful Apollos and Venuses, drag them into the open, try them in public like criminals, find them (of course) guilty, and then pound to dust statues by men whose very names we reverence to-day. Thirteen hundred years later a religious zeal, not according to knowledge, led Cromwell's troopers to stable horses in Worcester Cathedral, whilst moneys were actually paid for the destruction of stained-glass which we should now consider priceless. We do, however, owe to the "Protector" the purchase of Raphael's cartoons for the nation.

There is not time to include in this paper frames made for predellas or altar pictures, those for the exquisite Venetian and other mirrors, or those designed for the sculptural works of such artists as Della Robbia, Donatello and Sansovino, numerous and beautiful as they are; of these fine examples exist at South Kensington and in private collections such as the Wallace one. Of the vast number of designs made to surround portraits engraved in the sixteenth, seventeenth and eighteenth centuries, some prints, kindly lent by Mr. George Clulow, are hung here. And we are indebted to Mr. Hugh Stannus, always active in the interests of art, for the photographs which show framings in panels, walls and ceilings of the most celebrated Italian buildings.

Persons who will take the trouble to examine the frames used by the older English masters in oil and water-colours will notice the poverty of design and the want of taste of most of them. This was felt so much by the leading artists in the sixties that they were led to make great improvements, and apropos of the commonplace expression, "What a beautiful frame," uttered sometimes by those incapable of judging the merits of a picture, two articles appeared with illustrations in *The Architect* exactly thirty years ago. These were written by Mr. Phené Spiers, master of the architectural schools of the Royal Academy, himself an accomplished artist. He said:— "In a frame lies a not inconsiderable portion of the completeness of a picture, and there are fortunately a few painters, Mr. Leighton notably among them, who have long recognised the fact that their powers of imagination and composition ought not to terminate with their canvas." Mr. Spiers ably criticises the frames in the exhibition of the Academy in 1869, and we shall have details of those frames on our screen, with his remarks for our information.

110. Mr. Poynter. — The close juxtaposition of the pateræ suggests a running border; they should not have been emphasised at the corners.

117. French.—None in the exhibition giving more effect to the picture.

154. Mr. Alma-Tadema.—A Belgian frame, somewhat similar, with burnish brought into the ornament, and not, as in the English, confined to the lines.

421. Mr. Alma-Tadema.—Shows careful attention to style, the large cavetto member making it rather less happy than 154.

81. Mr. Richmond.—Good, but not his design, too free use of the figures of devils, omitted on screen as ladies are present.

174. Mr. Portal.—French, showing influence of Greek art more than any other frames, except those of Mr. Leighton.

452. Mr. Yeames.—Vigorous and bold, appropriate to the period of picture; improved by a deeper set-back and broader margin of plain.

99. Mr. Sandys.—One of the most original; the simple Gothic moulding and contour accord with style of picture, splayed surface at bottom giving solemnity to the subject.

272. Mr. Armitage. — Egyptian ornament, contour very good, accessories in keeping with subject.

705. Mr. Leighton.—Refined, showing knowledge of the best and most subtle forms of Greek art, the effect of painted ornament on the gilded surface of the frame very good, and might with advantage be more extensively employed.

864. Mr. Leighton.—Well-studied, but less good, rather heavy and tending to convexity in contour of moulding.

483. Albert Moore.—Simple and effective.

699. Albert Moore.—Sparkling and delightful.

485. Frank Walker.—Original, but section too straight.

730. Mr. Prinsep.—Based on Leighton's, but not Greek.

736. Mr. Graves.—Very good in design, and well modelled.

* A paper read before the Applied Art Section of the Society of ts by Mr. I. Hunter Donaldson, on Tuesday, May 16.

Fourteen years ago, Mr. W. R. Lethaby, in an able paper, drew attention to the poverty of design in frames then exhibited, with some remarks to which I shall refer later. Before this time much attention had been given by foreign artists to their frames, which were not unfrequently designed under the influence of the best Italian period, some examples of which will be shown. We are justified in expecting that since the year 1869 an advance should be seen in the designs of frames, especially by our principal artists, and some of the more recent ones will be displayed. We may soon hope that when the expression, "What a beautiful frame," is heard, it may be found to proceed from a person whose cultivated taste and sense of beauty apply equally to the work of a true artist in his picture and in the frame he has designed for it.

I do not think it can be claimed for the frames in this year's Academy that they show any advance in design upon those of thirty years ago; some of the largest are defective in architectural detail, and some have large, busy, obtrusive mouldings close to the pictures; there is a noticeable display of old frames, for which there is now great demand, and for the first time we see a number of gilt frames toned almost to the colour of wood; some of the most grandiose lack the refinement of those of 1869, and although there is undoubtedly more variety than formerly, there appears to be less purity of taste. The true relation of a frame to a picture has probably never yet been the subject of one lecture to students, and the very alphabet of this phase of art is unknown to thousands of them.

Not a little of the effect of picture frames depends on their being hung in a suitable light; a side light in a too projecting frame may cast an injurious shadow. Not long ago I saw an exquisitely carved frame and an equally beautiful panel in low relief, placed between the two windows of a room; the work cost 1,200*l.*, and was practically lost for want of the side light which all such works should have. Apropos of this, we may recall the story of Douglas Jerrold and Albert Smith going to a picture gallery. On the stairs was a mirror, standing before which Albert Smith said, as he looked into the glass, "Ah, my boy, there's a picture!" "Yes," said Jerrold, "it wants hanging." So when we have a good picture in its proper frame we must not forget that, as Jerrold said, it 'wants hanging," and that carefully, in justice to the artist.

We must all have observed the great value of black in frames, especially in works of the Dutch and Spanish masters, sometimes with bands of tortoise-shell or fine lines of gold, with the varied and very characteristic hand mouldings which had their origin in Spain and were adopted in Italy and Holland, the Dutch artists especially recognising the suitability of such framings for their paintings. Mr. Watts was among the first to observe this, but, curiously enough, the least happy use of black is perhaps in the large works of Mr. Watts at the Tate Gallery, where, at a little distance from them, broad bands of gold separate, instead of combining, the frames and pictures. This rarely occurs in the foreign examples. There are some good black and gold frames in our national galleries, and, as we know, in the mezzotints of Bartolozzi, Ward and others, black behind the glass, with gold lines and delicately-moulded gilt frames, gives great charm to the works of their time. The neglect of proper framing by early and very able masters in water-colour is surprising in view of the seventeenth and eighteenth-century framing known by them, some of their finest works being injured by mean and meaningless surroundings. Men of acknowledged eminence, even in our own day, have not troubled themselves to consider the art of framing. It will, I think, be a matter of surprise that our noblest writer and critic, Mr. Ruskin, has not yet treated this subject in any of his beautiful works, and in many of those of authority upon painting which I have consulted, no reference to frames is made. The most noticeable of English designers of them is Grinling Gibbons, born in London in the latter half of the seventeenth century. He was recommended by Evelyn to Charles II., who commissioned him to execute the ornamental carving for the chapel at Windsor; he also did the foliage and festoons of the choir of St. Paul's, the baptismal font in St. James's, Piccadilly, and works at Petworth, Burleigh and Chatsworth, and Hampton Court, &c. His talent was wasted in carving pens and feathers that were mistaken for real ones, flowers which used to move on their stems by the air, &c. We shall all agree, probably, in thinking such work, however full of loving labour, unsuitable for picture frames, to which it has been applied. The modern English housemaid would soon reduce much of it to matches; but on my last visit o Florence I found a fine example of Gibbons's carving in a pub ic museum, and a very ambitious work in South Kensington Museum is his "Stoning of St. Stephen," probably copied from a painting. With some defects of perspective, it is not "the highest form of decorative design," in which Mr. Ruskin said, twenty years ago, "the English will never excel," but the rare sense of beauty in natural objects, manipulative skill and tireless industry of Grinling Gibbons will always secure a place for him in the annals of art as our most original frame maker.

As miniatures have always to be examined near to the e the effect of any mode of framing has not seriously to considered; the oval form is obviously the best and mo generally used, but the marked advance of this form of art h led to the adoption of square or oblong frames, generally ormolu; these are not, however, quite within the scope of o paper. Now, whatever our objection may be on patrio grounds to things "Made in Germany," it is only just to adn that we owe to that country the introduction of highly-finish frame mouldings in colour and gold, well suited for drawing engravings and the many and beautiful developments photography; we have "bettered their instruction" with o framings in light and dark oak, walnut and the shades stained-green ash and oak which, with delicate gold lines, gi such charm to these latter day works.

The Americans, too, have entered this field, and now Mess Graves & Co., of Pall Mall, have frames of their make dec rated in the "Adam" and "Empire" and other styles, wi ornaments laid in gesso on stained walnut, oak, in tinted ivo on neutral green, in bronze, on black, &c., of great variety, a with harmonious effect. The style employed has perfe examples all around us, well-known to art lovers, but it h remained for our cousins to glean the field which was sov here and abroad a century ago, and the mezzotints, now much sought, are charming in these surroundings. T "Autotype" Company have courteously sent some specime of their less elaborate but highly artistic frames, and I cann imagine any more suitable than these for the charming phot graphs with which they have made us so familiar. T Florentine modern frames of carved wood, as you will se have delicacy and beauty of detail; more elaborate, and nece sarily more expensive, they are of great technical merit, ar are superior to any machine-made ones. Messrs. Gou & Co., of Regent Street, have also lent gilt frames of mark character and high finish, with some others specially suitab for works in oil. Messrs. Gillow & Co., of Oxford Street, ha kindly lent a variety of interesting and artistic frames Italian and English make.

Now, a serious impediment to the art of frame making the rule of our Royal Academy not to admit any other th gilt frames. I do not know in whose prejudice or interest su a regulation originated; but I am confident of the support able artists in saying that it should be rescinded, and that doing so an impulse would be given to the production of tru artistic frames in gesso and in carved and decorated woo such as we see abroad, and enormous additional effect b secured for paintings at every yearly exhibition. I earnest hope that the enlightened President will soon distinguish h reign by effecting this much-needed reform. The beautif and allied arts of modelling in gesso, carving, inlaying, decor ing and enamelling would be stimulated, and public encourag ment be quickly given to such a progressive measure.

The material objection, I believe, is want of space, but Disraeli said, "a difficulty is a thing to be overcome," and excluding works of a secondary character the experiment mig be made of giving one room to some of the measureless varie of artistic frames other than gilt ones. I am fortified in th hope by the fact that for the first time we see in the Acaden this year some frames with the gold toned down to almost t colour of wood in pictures on the line. Oh for another Alfr Stevens who would, with proper encouragement and with h unequalled genius, have created a school of artist framers fine as any known to the world. We are, as Mr. Leth wrote in 1885, still waiting for an inspired artist worker, w must be free and with pride in what he creates; he will be, Stevens was, familiar with the glorious old Italian metho and will, I trust, be able to overcome the narrow-souled econor of even a Cabinet Minister of Public Works; then, indeed, may be possible to read of an Academy picture some su notice as this:—

"The Florentine, Simoni Ceni, wrought the carving, a Gabriello Saracini gilded it; Spinello of Arezzo did the painti in 1385."

In lending the kakemonos and frames, Mr. Phené Spi says:—

"It has struck me that a few words on the framing mounting of drawings in Japan might not be without so interest, seeing that, until within the last few years, th methods have been carried on for centuries uninfluenced by t customs or practice of other nations.

"The Japanese have two methods: the kakemono hanging picture, suspended temporarily only in the house temple, and otherwise kept rolled up and preserved in t godown—the fireproof store-room; and the framed drawi hung up in the temple or carried about in procession In the latter case the frame consists of a simple con moulding, the width of which varies from half an inch to 6 7 inches, according to the size of the picture, and this mould is painted over with body colour with natural flowers (as in c of the examples shown), or with geometrical patterns, leav the grain of the wood as a ground, or again with sprigs, leav

ıd flowers modelled in gesso (as in a recent example). Sometimes the frame is coated over with black or green lacquer, ı which geometrical patterns or sprigs of plants are cut ırough to show the white wood. The more elaborate frames re richly decorated with avanturine lacquer, with geometrical ıtterns in gold lacquer, and the angles and sometimes the ınger sides are strengthened and decorated with brass plaques ıcised with ornament. The drawing in these cases comes ose up to the frame, with a border of black or red lines to olate it from the frame.

"The kakemono, or hanging picture, is mounted and ecorated in a conventional manner, which is apparently lways rigidly adhered to, and which seems to have existed for enturies. The drawing is mounted on linen or paper, with a ıargin of from 2 to 4 inches on each side, and from 2 to 4 feet)p and bottom, the lower border being about half the depth of ıe upper border. At the top and bottom of the drawing is a arrow strip of damask, the upper twice the width of the lower; n each side of the drawing the 3-inch margin is covered with amask or silk of a different colour, the depth of the border bove (6 to 8 inches) being about twice that of the lower order. Beyond this, above and below, covering the remainder f the mount is a flowered silk or gold damask ground, ·ith again double the depth at the top. A wood roll at ıe bottom, with ivory or polished ends, serving for rolling p the drawing; at the top is a semicircular roll with ings to suspend the kakemono. From this upper roll hang wo strings or tapes of the same material and colour as that of ıe upper mount, the original object of which is not clear; robably it is a revival of a custom of tying up the kakemono, ut they are never missing. The damask or silks which form ıe borders are, as a rule, of much greater age than the drawıg, and it is probable that the professional mounter, or erhaps the owner of the drawing, supplies these materials, ·hich are the remnants of ancient dresses either belonging to ıe family or acquired from actors. The latter, as may be een from the Japanese colour prints, wear the most gorgeous resses, and when done with these would seem to be cut up nd utilised, either for the purpose above stated or as bags for recious pieces of lacquer, ancient tea-jars or masks. In the wo examples exhibited one is a Buddhist kakemono, which was robably hung in a temple; the other has mounts of blue silk nd ancient damask which are really of much greater value ıan the drawing they frame, and of great beauty of colour."

A reference must now be made to "mounts," which are so xtensively used, and of modern artists Sir Edward Burne-ones is the one who has given most attention to them. Some f his designs are marvels of elaboration, and those recently een at the Burlington Fine Arts Club were striking evidences f his fertility and refined taste. Ruskin says, "All noble rnament is the expression of man's delight in God's work," nd "genius" has been defined as "an infinite capacity for ıking trouble." These Burne-Jones undoubtedly had. A ıort list of his frames, mounts and grounds may be of use for ıture reference, and twelve examples will be given in the Journal" of this Society.

In conclusion we may notice some changes in the last wenty years or so; a much more general employment of glass)r oil-paintings under suitable conditions of light, and for their rotection in our climate; this has to be sometimes done, as ı the Tate Gallery, by an added moulding, not improving to ıe frame. Another is the more general practice of framing ater-colour works as if they were in oil, which may properly e done when the colouring is of sufficient strength, and in all orks there seems a tendency to employ broad bevels in place f the large gilt flats and to allow the glass to cover them.

We submit for consideration some propositions arising from hat has been said:—

1. That whilst the frame should be designed with reference the picture, and may in some cases have details emblematic f the subject, it should not attract undue attention or be ccentric; rustic subjects should not be put in highly-enriched ames.

2. That the enriched mouldings of frames should diminish importance as they approach the picture.

3. That works, not of much strength in water-colour, should ave broader flats than those in oil, and not heavy gilt frames ith much burnish.

4. That some pictures (like Lord Leighton's) are best with·ıt any burnish in the frames.

5. That landscape pictures, in most cases, are better in ecessed than in projecting frames.

6. That the colour of a mount should not appear to blend ith any part of the picture it surrounds.

7. That the gold in all frames should be toned to suit the ictures.

8. That some works have their best effect in carved wood, rown or black frames, with or without fine lines of gold added.

9. That strongly-marked carved lines in frames, with corners nd centres in high relief, are often injurious to the composition f line in the pictures.

1. Inch plain oak frame, natural colour, mount deep cream, for sketch on lighter cream ground.

2. Same frame, mount warm stone, for drawing on soft red ground.

3. Same frame, flat reeded, mount 4-inch stone, coloured with ¼-inch gold band near the deep bevel, ¾-inch band of deeper stone colour next to gold, with black fine lines ruled on the gold and to outline the band.

4. Frame 1-inch reeded walnut, mount 4-inch grey-green, ¼-inch band of gold, 1-inch deeper grey-green, then another ¼-inch band of gold, lines of black on gold bands, for drawing in pencil on light cream colour.

5. A 2-inch reeded teak, coloured oak frame, ¾-inch gilt flat, for drawing on brown paper.

6. Same frame, flat of 2½-inch light unvarnished oak, deep bevel, near which is a fine gold line, and another ¼-inch wide, outlined black, for a richly-coloured sketch of King Cophetua.

7. One and a half-inch flat black-polished frame, with a groove in centre, for chalk drawing on brown paper, very narrow gold flat.

8. Inch reeded light oak frame, mount light brown, very thick, and bevel cut so as to show various layers of the paper, for drawing on cream colour.

9. One and a half-inch walnut frame, flat fluted, mount 4-inch warm stone colour, with deep plain line indented near bevel, for drawing on brick-red paper.

10. Frame 1¼-inch flat, with three grooves, green-gold, mount cream colour, band of ¼-inch green-gold near bevel, for etching in silver and gold on deep grey ground.

11. One and a half-inch frame, black, slightly elliptic, with fine gold hollows on the edges, gilt narrow flat in some cases, and in others 4-inch gold mounts, where the print or drawing is strong in colour.

12. One and a half-inch reeded walnut frame, ¾-inch mat flat, an oval inside of plain light oak, with fine gold hollow, forming sight, for portrait in black chalk on cream of light tone.

RECENT DISCOVERIES IN EGYPT.

ON the 18th inst. at University College, Professor Flinders Petrie gave the first of a series of six lectures on recent discoveries in Egypt. The subject was the discoveries made last winter in the excavations for the Egypt Exploration Fund on the edge of the desert between Dendereh and Hou. In that district Professor Petrie, assisted by Mr. Mace and Mr. MacIver, explored many ancient cemeteries, and formed a complete record of the contents of over a thousand graves. Three or four of these cemeteries were of the prehistoric age, with contracted burials like those first discovered by the lecturer at Naqada a few years ago. The same pottery and finely-wrought flints appeared as before, but many new kinds of objects were found, such as toys and models of clay, engraved slates, stone maces with handles of ivory and of horn, models of ostrich eggs, &c. From the detailed record made of many hundreds of these graves it was hoped that a classification of the various periods of the prehistoric age in Egypt would now be practicable. There was no country in which such a complete registration had been made of the earliest civilisation. Coming to the historical times the professor said that two or three cemeteries of the Vith eleventh dynasties have been also fully examined. The buttons and seals found of that age were of foreign origin and had no connection with ordinary Egyptian design. A great variety of vases in stone and pottery had been obtained, which would enable the derivation of the forms to be traced from the prehistoric times down to the twelfth or seventeenth dynasty. The entirely new discovery of the year was that of a foreign people who entered Egypt about the twelfth dynasty. Their graves frequently contained a mixture of Egyptian things of that age, but their pottery and beads were entirely foreign. The pottery was hand-made, and of red and black colours, like the prehistoric pottery, but the forms of it were peculiar to this age. It was all decorated in imitation of basket-work, and often contained funeral offerings of scented fat, like some prehistoric jars. The beads were of shell and of glazed pottery. The graves were shallow circular pan-shaped hollows, called by the discoverers "pan-graves" for distinction. A unique feature of the burials was the depositing of vases in the loose dust outside the grave-hollow, and with them often great numbers of skulls of goats and cattle. These skulls were all cut away at the back so as to hang on a wall, and ornamented with spots and lines of red and black paint. Such a use of skulls for decoration was seen on an ivory carving of about the second dynasty, where ox skulls were shown over the doors of a building, and the Greek use of bucrania in architectural ornament showed the same usage. There would be little doubt that these barbaric invaders were a branch of the Libyans, the collateral descendants of the same stock as the prehistoric Egyptians. A magnificent bronze dagger, found in a cemetery of rather later age, bore the name of King Suazenra, of the fourteenth dynasty. This was the most valuable object found, and had, of course, been kept at the Cairo Museum. Of much later age was a series of marks placed on pottery by the Roman soldiers stationed in the fortress of Diospolis Parva. These were different from

anything yet known in Egypt, and seemed to belong to some legionaries from Asia Minor, as a long inscription on a Roman potsherd was in an alphabet like that of the Karians. Of the Roman age also was a modelled head in painted stucco, which was the finest example of that work yet known. A proof of the truth of the portraiture was shown by a photograph of the modelled head, and another of the skull of the same man, adjusted together. The difference was exactly that due to the amount of fleshy covering on the skull which would be natural. The effect of the modelled portrait over the skull was that of a Röntgen ray portrait of a living person, showing the bones through the flesh.

The course of weekly lectures will include references to other excavations of the past winter, and some unpublished studies in Egyptology. Any lectures at University College can be attended without connection with other subjects, or entering any regular curriculum.

KENSINGTON PALACE.

THE palace at Kensington is not a remarkable example of architecture, but as the chief object of interest in the "old Court suburb" few would care to see it demolished. It was allowed to fall into a condition which suggested the necessity of a new dilapidations Act, for since the time of George II. the various tenants have not considered that the common law about repairs applied to them. A sum of about 23,000*l.* having been expended on removing the risks which awaited visitors, the building can now be seen by all who care to make the journey. A descriptive handbook to the palace has been prepared by Mr. Ernest Law, which gives the following account of the system adopted by the Office of Works in restoring the building.

The most studied care has been taken never to renew any decoration where it was possible to preserve it—least of all ever to attempt to "improve" old work into new. On the contrary, repairing, patching, mending, piecing, cleaning, have been the main occupations of the decorators to an extent that would render some impatient slapdash builders and surveyors frantic. Yet it has been all this minute, though no doubt sometimes costly, attention to details, this laborious piecing together of old fragments, this reverential saving of original material and work, this almost sentimental imitation of the old style and taste where patching in by modern hands was inevitable, which has produced a result and effect likely, we think, to arouse the admiration of all who relish the inimitable charm of antique time-mellowed work.

Never before, we may safely say, has the restoration of any historic public building been carried out with quite the same amount of loving care as has been lavished on Kensington Palace. The spirit has been rather that of a private owner reverentially restoring his ancestral home than that of an ordinary public official, with an energy callous to all sentiment, sweeping away the old to replace it with a spick-and-span new building. This method of treatment has nowhere been applied more scrupulously, and, we venture to think, with greater success, than in the treatment of the old oak panelling and the beautiful carving, all of which had been covered over with numerous coats of paint so long ago—we have discovered from the old accounts in the Record Office—as 1724. In the cleaning off of these dirty incrustations various processes have been resorted to, as they suited the nature of the work, and so thoroughly has this been done that the closest inspection would give us no inkling that any part, either of the flat surface or of the most delicate carving, had ever been painted at all. Equal pains were taken in finishing the surface with oil and wax polish—no stain whatever being used on the panelling, doors, or cornices—so that the real true colour of the wood is seen, varying only with its natural variation, and exhibiting all its richness of tone and its fulness of grain. It makes one almost glad it should have suffered so many years of long neglect, that when at last it has been taken in hand it should have been done when the historical significance and the technical and artistic value of such things are more truly appreciated than formerly. There can be little doubt that if an early nineteenth-century upholsterer had got hold of this palace most of the beautiful old work would have been cleared out to make way for vulgar plaster-work of white and gold.

Substantially the same principles have been followed in the cleaning and restoration of the painted walls and ceilings, which work, entrusted to Mr. Haines, has been executed with the utmost sympathy for the old work, and the most careful efforts to preserve it. There has not been a touch of paint applied except to make good portions absolutely destroyed, so that these ceilings—whatever their merits or demerits—remain exactly as they were when first completed, save for the more subdued and modulated tone they have taken on from the softening hand of time.

SHROPSHIRE ARCHÆOLOGICAL ASSOCIATION.

THE annual meeting of this Association was held Shrewsbury recently, the president (Lord Barnard) the chair, and there was an unusually large and influenti attendance, more than usual interest being taken in the meeti in consequence of the proposed further exploration of t adjacent city of Uriconium. The audience included Sir Offl Wakeman, Mr. R. L. Kenyon, Rev. Prebendary Moss, Arc deacon Maud, the Hon. W. H. Herbert and Sir F. Smythe.

The Rev. T. Auden (hon. secretary) said the Associati was in a sound financial position, but looking at the work th had before them in the future, new members were neede The chief event connected with the Association's coming ye was the exhibition of Shropshire antiquities. The council f that the time had now come when a scheme should inaugurated and carried into effect for the further explorati of the Roman city of Uriconium, a few miles from the tow The work, Mr. Auden said, was beyond the powers of loc effort, and was indeed of a national character.

The report and financial statement having been adopte Lord Barnard, referring to the further exploration of Uriconiu said it was a subject of exceptional interest. It was n possible, perhaps, or desirable that the sole burden of the wo should fall upon Shropshire, for the work was of nation importance. He proposed, "That it is desirable in t interests of antiquarian knowledge that the systematic explor tion of the remains of Uriconium should be resumed witho delay."

Sir Offley Wakeman, who seconded the proposition, sa the explorations had been long talked of, and had come to head now that they had in Lord Barnard a president who w so much interested in archæological research, and whose co nection with the site was so close.

The motion was carried with applause.

Mr. W. H. St. J. Hope, assistant secretary of the Society Antiquaries, strongly urged the carrying out of the resolutio and suggested the formation of a local committee and executive committee composed of men who have had experien in that particular kind of investigation. A guarantee fu would be necessary before the work could be commenced, a he suggested as many subscriptions as possible should obtained for a period of five years, for if the work was to done properly the expenses would be heavy. Lord Barnar the owner of the soil, had already given his consent to t carrying on of the explorations, and a satisfactory arrangeme would shortly be arrived at with the tenant.

Mr. G. E. Fox, F.S.A., gave a sketch of the explorations Uriconium which had taken place in previous years. It w believed further exploration would throw further light upon t Roman occupation of England. It was decided that a loc and London committee should be appointed.

GENERAL.

A Portrait of Christopher Columbus, by Sebastian d Piombo, is to be sold with the collection of pictures belongi to the Duc de Valençay, in Paris. When exhibited in Chica the American Government offered to give an immense sum money for the portrait.

The Late Mr. John Birch, architect, of John Stre Adelphi, has left property of the value of 3,862*l.* 6*s.* 11*d.*

A Correspondent informs us that the architect w directed the operations for the removal of the fountain in t Place du Châtelet, Paris, was Gabriel Davioud, who in 18 was appointed architect-in-chief to the city of Paris. It w not the only fountain on which he was engaged.

M. Loriot is considered to be the exhibitor who has m chance of the coveted *medaille d'honneur* for architecture the Salon. His is represented by a design for a *Salle Fêtes* and other buildings in connection with the exhibition 1900.

The New Building of the Surveyors' Institution, 12 Gre George Street, will be available for members from to-d Rooms for arbitration can be secured after May 31.

The Tapestries designed by Boucher, which forme adorned the Château de Beaulieu (Loire), have been sold to English dealer, who has paid nearly 30,000*l.* for them.

The '91 Art Club will hold their annual exhibition members' work at the Maddox Street Gallery, Maddox Stre during the first four days of June.

The Result of the adjudication upon the competitive pl for the new elementary school at Coatdyke, to be erected the Airdrie School Board to meet the demands of the rapi growing population, is that the plan by Mr. James Sh architect, Coatbridge, has been chosen, that of Mr. Willi Shanks, Airdrie and Glasgow, being awarded the second pl and premium of 10*l.*

THE
Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

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For Advertisement Scale, see page x.

COMPETITIONS OPEN.

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HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* are offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed 20,000*l.* Mr. S. Stead, Municipal Offices, Harrogate.

PLUMSTEAD.—July 27.—Designs are invited for proposed new municipal buildings and public library, at a cost of about 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

SALFORD.—June 6.—Premiums of 30*l.*, 20*l.* and 10*l.* are offered for designs for laying-out the site of the Infantry Barracks, and for erection thereon of public hall, shops and model cottages. Borough Engineer, Town Hall, Salford.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ABERCRAVE.—May 31.—For erection of a schoolroom. Mr. R. J. Lewis, Llwyn-Neuadd, Abercrave.

ASHBY-DE-LA-ZOUCH.—June 10.—For erection of farm buildings and manager's house at the new sewage farm. Mr. J. B. Everard, engineer, 6 Millstone Lane, Leicester.

ALTON.—For rebuilding the White Hart inn, Holybourne, near Alton, Hants. Mr. Reginald A. Crowley, 22 High Street, Croydon.

BANBURY.—For erection of an infants' school at Hook Norton, near Banbury. Mr. Walter E. Mills, architect, 12 Horse Fair, Banbury.

BANGOR.—June 2.—For erection of two semi-detached villas at Crawfordsburn Road. Messrs. Young & Mackenzie, architects, 7 Donegall Square, Belfast.

BARKING.—June 5.—For erection of eighty-three cottages for the working classes in Creeksmouth Lane, Barking, in blocks, as follows:—(Block A) 13 cottages, (B) 12 cottages, (C) 15 cottages, (D) 16 cottages, (E) 15 cottages, (F) 12 cottages (tenders may be sent in for one or more blocks); for erection of an office, store, testing-room, workshop and caretaker's apartments, in one block, at the electricity supply works, East Street; for sewering and making-up the roadway in front of the public baths and on the eastern side of the public offices, and for the erection of entrance-gates, boundary-walls and fencing. Mr. C. J. Dawson, Public Offices, Barking.

BATTERSEA.—June 7.—For supply and erection and carrying out of work in connection with the electric lighting of the parish. Vestry Clerk, Municipal Buildings, Lavender Hill, S.W.

BIRTLEY.—May 29.—For erection of proposed literary institute. Messrs. Liddle & Browne, architects, Prudential Buildings, Newcastle.

BOSTON SPA.—May 30.—For erection of residence, &c. Messrs. W. H. & A. Sugden, architects, Keighley.

BRADFORD.—May 30.—For erection of branch stores, three lock-up shops, at Lidget Green, Great Horton. Messrs. John Drake & Son, architects, &c., Queensbury.

BRADFORD-ON-AVON. — May 31. — For alterations and additions to the King's Arms brewery. Mr. W. H. Stanley, architect, Market House Chambers, Trowbridge.

BRIERLEY HILL.—June 6.—For alterations and additions to hot-water apparatus at the Brierley Hill Board schools. Mr. Thomas Robinson, architect, Victoria Chambers, Stourbridge.

BRIGHTON.—July 27.—For alterations and additions to the public library, museum and art gallery on the Pavilion estate. Mr. Francis J. C. May, Town Hall, Brighton.

BRISTOL.—May 29.—For erection of a school at Luckwell Lane, Bedminster. Mr. H. C. M. Hirst, 30 Broad Street, Bristol.

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BRISTOL.—May 29.—For erection of a school at Wells Road, Knowle. Mr. H. Dare Bryan, 38 College Green, Bristol.

BROTHERTOFT.—June 12.—For enlargement of the Barley Sheaf school, at the Barley Sheaf, in the parish of Brothertoft. Mr. Jno. H. Tooley, 6 Bridge Street, Boston.

CARDIFF.—May 30.—For renovation of Bethel chapel, Docks, Cardiff. Mr. H. Morgan, secretary, 84 Paget Street, Grange, Cardiff.

CARDIFF.—June 6.—For erection of a carriage-shed at Canton and a covering over steps at Cardiff Station, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

CARLISLE.—For erection of a shop, dwellings, stabling, &c., Dalston. Mr. W. Pogson, architect, 24 Devonshire Street, Carlisle.

CARLISLE.—May 29.—For restoring the nave of St. Bride's Church, Kirkbride. Messrs. Oliver & Dodgshun, architects, Carlisle.

CHELTENHAM.—May 30.—For reconstruction of the Montpellier Baths. Mr. Joseph Hall, borough surveyor, Cheltenham.

CORNWALL.—May 29.—For erection of a residence, with stable, building and boundary walls, at Lelant. Mr. Sampson Hill, architect, Green Lane, Redruth.

CORNWALL.—May 29.—For erection of a terrace of four houses at Portreath. Mr. Sampson Hill, architect, Green Lane, Redruth.

CORNWALL.—May 31.—For erection of a post office and postmaster's residence at Camborne. Mr. Oliver Caldwell, architect, Penzance.

CUMBERLAND.—For renewal of the roof of a barn. Mr. John Sewell, St. Bees.

DARLINGTON.—May 30.—For erection of electric-lighting station. The Borough Surveyor, Town Hall, Darlington.

DEWSBURY.—June 1.—For erection of two semi-detached houses in Northfield Road. Messrs. John Kirk & Sons, architects, Dewsbury.

DUBLIN.—June 5.—For erection of a station building in timber at Laytown station, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

DUBLIN.—June 5.—For erection of four cottages (two double storey and two single storey) at Victoria Bridge station, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

DUFFIELD.—For erection of villa residence, King Street. Messrs. Sands & Walker, architects, Angel Row, Nottingham.

DURHAM.—For alterations to the Theatre Royal, Crook, co. Durham. Mr. J. W. Wardle, architect, 25 King Street, South Shields.

ELGIN.—June 1.—For additions and alterations to the Rising Sun inn, Bishop Mill. Messrs. Sutherland & Jamieson, architects, 51 High Street, Elgin.

ELGIN.—May 29.—For erection of enclosing walls, railings and gates at Burghead school. Messrs. A. & W. Reid & Wittet, architects, Elgin.

EVESHAM.—May 31.—For erection of shops and residences in Bridge Street. Mr. G. H. Hunt, architect, Evesham.

GATESHEAD.—June 1.—For erection of an isolation hospital, Sheriff Hill. Mr. J. C. Bower, borough engineer, Town Hall.

GRAVESEND.—May 31.—For erection of an engine-house and boiler-house at their works at Gravesend, for the Gravesend and Milton Waterworks Company. Mr. James Mansergh, engineer, 5 Victoria Street, Westminster.

GREAT YARMOUTH.—June 9.—For erection of destructor buildings and chimney shaft 200 feet high, shelter hall, refreshment-rooms, lavatories and other buildings at Gorleston. Mr. J. W. Cockrill, surveyor, Municipal Buildings, Great Yarmouth.

HALIFAX.—June 1.—For erection of Liberal club premises at the junction of Dyson Road and Battinson Road. Mr. Medley Hall, architect, 29 Northgate, Halifax.

HALIFAX.—June 5.—For erection of conveniences at Siddal school. Mr. W. H. Ostler, clerk, 22 Union Street.

HALIFAX.—June 5.—For erection of four through houses and house and shop at Lightcliffe. Mr. Raymond Berry, architect, Arcade Chambers, Commercial Street, Halifax.

HARROGATE.—For erection of two semi-detached houses and stable in South Drive. Messrs. Bland & Bown, architects, North Park Road, Horrogate.

HASTINGS.—June 2.—For construction of a kiosk in the Alexandra Park. Mr. P. H. Palmer, borough engineer, Town Hall, Hastings.

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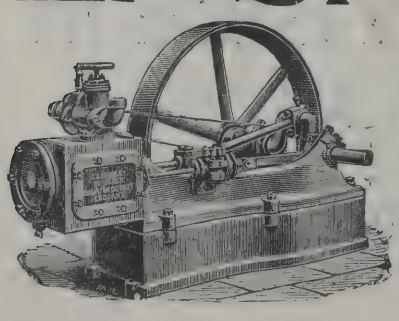
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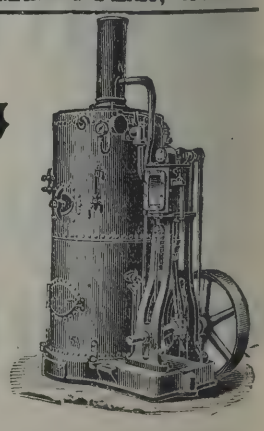
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HELLIFIELD.—June 3.—For erection of three houses at Hellifield. Mr. Thos. Throup, plumber, Longpreston.

HERNE COMMON.—June 12.—For additions and alterations at the union workhouse. Mr. J. E. Burch, clerk, 39 Castle Street, Canterbury.

HIGHGATE.—June 5.—For erection of workmen's dwellings (48 houses) at North Hill, Highgate. Mr. E. J. Lovegrove, surveyor, Southwood Lane, Highgate, N.

HIGHGATE.—June 8.—For repairs and renovations at the infirmary, Dartmouth Park Hill. Messrs. Browett & Taylor, surveyors, 9 Warwick Court, Holborn, W.C.

HIGH WYCOMBE.—For erection of business premises and residence. Messrs. McIlroy Bros., Reading.

HOLYHEAD.—May 29.—For erection of Catholic schools. Messrs. Brodrick, Lowther & Walker, architects, York Chambers, Hull.

ILFORD.—For alterations to w.c.'s, latrines, &c., at St. Nicholas's industrial school. Apply for specification to Archbishop's House, Westminster.

IRELAND.—May 29.—For erection of electric-station buildings at the eastern end of Inmans Quay, Queenstown. Messrs. Robert Walker & Son, architects, 17 South Mall, Cork.

IRELAND.—May 31.—For rebuilding tower of Killaloe Cathedral. Mr. J. F. Fuller, architect, Brunswick Chambers, Dublin.

IRELAND.—June 3.—For erection of twelve labourers' cottages (with offices), fencing of cottages, &c., Lisnaskea. Mr. J. O'R. Hoey, clerk, Lisnaskea.

IRELAND.—June 3.—For erection of a wall to enclose the proposed new graveyard of Trory. Mr. Job Wilson, Ballycassidy.

IRELAND.—June 6.—For alterations to the iron roof over the down platform at Portadown station, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

ISLE OF WIGHT.—June 5.—For erection of a tollhouse on the Yar bridge, Yarmouth, Isle of Wight. Messrs. Francis Newman & Cox, surveyors, 5 St. Thomas's Street, Ryde, Isle of Wight.

ISLINGTON.—June 2.—For repairs, painting and other work at the public gardens, for the Vestry. Mr. J. Patten Barber, chief surveyor, Vestry Hall, Upper Street, N.

KEIGHLEY.—May 30.—For construction of a bridge in Queen's Road. Mr. W. H. Hopkinson, borough engineer.

KESWICK.—June 10.—For pulling-down and re-building the Woolpack inn, Main Street. Mr. D. N. Pape, surveyor, Lake Road, Keswick.

KEIGHLEY.—June 5.—For erection of Board schools, manual training, cookery and laundry classrooms, &c. Messrs. W. & J. B. Bailey, architects, 9 Market Street, Bradford.

KIDDERMINSTER.—June 13.—For erection of a lodge near the infectious hospital. Mr. Arthur Coomber, borough surveyor, Town Hall, Kidderminster.

LANCHESTER.—May 31.—For erection of a stone bridge over the Smallhope Burn, at Donley Ford. Mr. W. Cumming, surveyor, Lanchester.

LEYTON.—June 6.—For construction of chimney shaft at the electric light station. Mr. William Dawson, Town Hall, Leyton, Essex.

LONDON.—June 6.—For erection of a station at Acton, Middlesex, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

MIDDLESBROUGH.—May 29.—For erecting a greenhouse, potting shed, &c., at Albert Park. Mr. Frank Baker, borough engineer, Municipal Buildings, Middlesbrough.

MORECAMBE.—For slating and plastering two houses on the Victoria Esplanade. Mr. Robert Haworth, next Grand Hotel, Morecambe.

MORLEY.—June 5.—For erection of mixed school and infants' school in Victoria Road. Messrs. Buttery & Birds, architects, Queen Street, Morley.

NAPLES.—July 10.—For construction of harbour and docks. Public Works Department, Rome.

NEWBURY.—June 12.—For rebuilding the Cock Inn, Shaw. Mr. J. H. Money, architect, Newbury.

NEWTON HEATH.—May 30.—For construction of a culvert for Moston Brook, near Lightbown Road, Newton Heath, for the Lancashire and Yorkshire Railway Company. Mr. C. W. Bayley, secretary, Hunt's Bank, Manchester.

SCOTLAND.—For reslating woodwork, &c., of dwelling-house in Lossiemouth. Miss Hossack, Clifton Road, Lossiemouth.

SCOTLAND.—June 3.—For erection of the roof and relative works in connection with the new central station at Leith,

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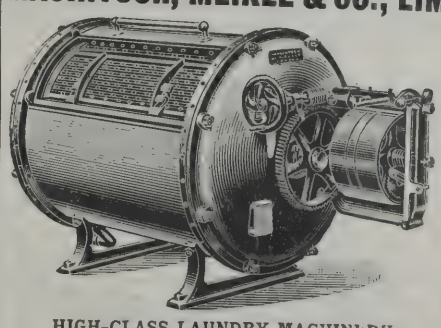
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SCOTLAND.—June 3.—For construction and erection of roof and other works in connection with the new central station at Leith, for the North British Railway Company. Messrs. Blyth & Westland, civil engineers, 135 George Street, Edinburgh.

SHRIVENHAM.—June 6.—For erection of a house at Shrivenham station, Berkshire, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

SILSDEN.—May 29.—For erection of a Conservative club. Mr. J. W. Broughton, architect, 19 High Street, Skipton.

SKIPTON.—June 3.—For erection of eleven cottages in Sawley Street. Mr. James Ellison, Cavendish Street, Skipton.

SOUTHAMPTON.—May 29.—For erection of cook's room at the workhouse, Westend, South Stoneham. Messrs. Mitchell, Son & Gutteridge, architects, 9 Portland Street, Southampton.

SUNDERLAND.—June 1.—For erection of an administrative block in connection with the new infirmary at the workhouse, Hylton Road. Messrs. W. & T. R. Milburn, architects, 20 Fawcett Street, Sunderland.

SUTTON.—May 31.—For erection of new Council office and fire station, for the Sutton Urban District Council. Mr. C. Chambers Smith, C.E., surveyor, Public Offices, Sutton, Surrey.

THORNABY-ON-TEES.—For erection of a church at Thornaby-on-Tees. Messrs. Hicks & Charlewood, architects, 67 Westgate Road, Newcastle-on-Tyne.

TOTTENHAM.—June 6.—For erecting a boundary wall fencing and a convenience at the Chestnuts Estate. Mr. P. E. Murphy, M.I.C.E., engineer, Coombes Croft House, 712 High Road, Tottenham.

ULVERSTON.—June 14.—For raising the stone wall on the north side and part of the west side of the High Carley Hospital, providing and fixing a corrugated iron fence on the east and south sides of the High Carley Hospital, and providing and fixing unclimbable railing at the hospital. Mr. C. W. Dean, clerk, 3 Benson Street, Ulverston.

USK.—June 3.—For repairs and extensions to the buildings of the Usk (Mon.) higher grade school. Mr. Fenton G. Harris, agent for the scholarship managers.

WAKEFIELD.—May 30.—For construction and erection of roofing, loading stage and office accommodation at Wakefield, for the Lancashire and Yorkshire and Great Northern Railways Joint Stations Committee. Mr. A. Boocock, secretary to the Joint Committee, Hunt's Bank, Manchester.

WALES.—For alterations, additions and repairs to the Jolly Colliers inn, the Miners' Arms, and cottages adjoining, at Llanelly Hill, near Clydach. Mr. B. J. Francis, architect, Abergavenny.

WALES.—May 29.—For erection of two cottages at Ystrad Mynach. Mr. Evans Davies, Fair Grove Cottage, Maesycwmmer.

WALES.—May 30.—For building asylum at Talgarth. Messrs. Giles, Gough & Trollope, 28 Craven Street, London.

WALES.—May 31.—For erection of a minister's house, Groeslon, R.S.O. Mr. J. Elias Jones, draper, Carmel.

WALES.—June 2.—For altering and renovating the High Street Baptist chapel, Merthyr Tydfil. Mr. W. Probert, 11 New Castle Street, Merthyr Tydfil.

WALES.—June 3.—For alterations and additions to the Pontypridd County school. Mr. A. O. Evans, architect, Post Office Chambers, Pontypridd.

WALES.—June 5.—For alterations and additions to Ebenezer English Baptist chapel, Cefn Mawr. Mr. J. W. Jones, architect, Brooklea, Acrefair, Ruabon.

WALES.—June 12.—For erection of buildings, &c., for refuse destructor and chimney stack thereto at Barry. Mr. J. C. Pardoe, surveyor, Holton Road, Barry.

WANDSWORTH.—June 6.—For erection of a wall to enclose superintendent's new premises at the cemetery and erection of a boundary wall (about 227 feet run), for the Burial Board. Mr. G. T. Clouting, clerk to Burial Board, Town Hall, Wandsworth, S.W.

WARRINGTON.—June 15.—For erection of police buildings and constabulary offices in Wilson, Patten and other streets. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-on-Tyne.

WHITBY.—June 2.—For whitewashing rooms and staircases at the workhouse and two rooms at the offices. Mr. W. Seaton Gray, clerk, Whitby.

WHITEHAVEN.—June 5.—For erection of an infants' school to Trinity schools and for enlarging St. James's infant school. Mr J. S. Moffat, architect, 53 Church Street, Whitehaven.

WINCHESTER.—June 7.—For erection of a police cottage at Morn Hill. Mr. W. J. Taylor, county surveyor, the Castle, Winchester.

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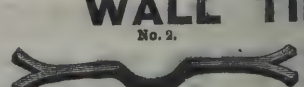
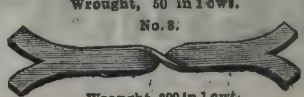
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WORCESTER.—June 2.—For external repairs and painting at the county hall buildings and judges' lodgings. The County Surveyor, Worcester Chambers, Pierpoint Street, Worcester.

WREXHAM.—May 29.—For alterations to kitchens and operating-room at the infirmary. Mr. H. Croom Johnson Egerton Street, Wrexham.

TENDERS.

BARNARD CASTLE.

For erection of additional premises for the Barnard Castle Co-operative Society.

Accepted tenders.

P. Robinson, Barnard Castle, joiner	£335	0	0
R. Wilson, Barnard Castle, builder	278	2	0
C. Raine, Barnard Castle, plumber	56	10	0
Sykes & Co., Darlington, heating	33	10	0
P. Robinson, painter	17	0	0

BISHOPSTONE.

For erection of a chimney shaft, engine and boiler-house, &c., at Poverty Bottom. Mr. H. CURTIS CARD, architect, Lewes.

Longley & Co.	£3,500	0	0
King & Son	3,350	0	0
A. E. Nunn	3,203	0	0
Whitehead & Co.	2,945	0	0
Miles & Warner	2,746	0	0
Merredew & Wort	2,639	0	0
BOSTEL, SON & PEATTIE, London (*accepted*)	2,500	0	0

BRADFORD.

For alterations to premises at the junction of Leeds Road and Bridge Street. Messrs. EMPSALL & CLARKSON, architects, 7 Exchange, Bradford.

Accepted tenders.

S. Wray & Co., mason and bricklayer.
W. M. Binns, Thorpe Street, carpenter and joiner.
Carr Bros., Limited, Mowden Street, cabinetmaker and shop fitter.
L. Cooper, Albion Street, Leeds, steelwork.
C. Howroyd, Clarence Street, plumber and glazier.
C. Howroyd & Sons, Sterling Street, plasterer and tiler.
Total, £4,500.

BRADFORD.

For erection of warehouse, shed, engine-house, chimney, &c., on the Balm Estate, Wyke. Mr. HARRY FAIRBURN, architect, Wyke.

Accepted tenders.

H. Birkby & Sons, mason	£5,024	0	0
Roberts & Co., Limited, Union Foundry, iron-founder	1,350	0	0
H. Birkby & Sons, joiner	890	0	0
J. T. Clark, Raglan Foundry, millwright	687	0	0
Marsden's Engines, Limited, engineering work	615	0	0
T. Nelson, slater	590	0	0
O. Kitchen, plumber and glazier	480	0	0
Houldsworth & Sons, boiler	401	10	0

BUTTERSHAW.

For making and sewering Cemetery Road, widening Royds Hall Lane, building cemetery boundary walls, and providing and fixing 610 lineal yards of wrought-iron palisading and entrance gates at Buttershaw, Yorks. Mr. PERCIVAL ROSS, engineer, Council Offices, Wibsey.

T. Egan & Son	£4,475	0	0
J. Thornton & Co.	3,950	0	0
Ross, Wilks & Crabtree	3,940	0	0
Humphris & Moulson	3,744	9	0
Watmough & Preston	3,679	5	9
Eastwood & Co.	3,536	8	6
T. Smith	3,506	13	10
J. Schofield & Son	3,500	0	0
J. Wells	3,350	17	8
J. Brooke	3,281	9	0
G. PEARSON, Scholes (*accepted*)	3,195	0	0

DALSTON.

For taking-down and rebuilding portion of the walls of women's waiting-room at the relief offices, Mayfield Road. Mr. W. A. FINCH, architect, 78 Finsbury Pavement, E.C.

J. Pavey	£129	0	0
W. Silk & Son	120	0	0
A. P. Maders	77	0	0
F. W. HARRIS, Albion Works, Barnsbury (*accepted*)	69	0	0

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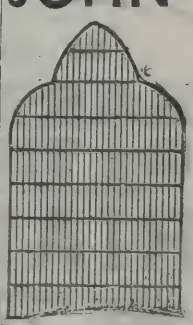


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EDMONTON.

For schools, Silver Street, for the School Board. Mr. HENRY W. DOBB, architect, 110 London Wall, E.C. Quantities by Messrs. YOUNG & BROWN, 7 Southampton Street, W.C.

Hill	£25,350 0 0
Chessum	24,300 0 0
Stimpson	24,170 0 0
Hockley	24,040 0 0
Lawrence	23,399 0 0
Monk*	21,910 0 0

* Accepted subject to the sanction of the Educational Department.

EDGWARE.

For addition to the infirmary and erection of a new mortuary at the workhouse at Edgware, for the Guardians of Hendon Union.

W. BAILEY, Bushey Heath (*accepted*)	£847 0 0

GLOUCESTER.

For new Board schools, Hatherley Road. Mr. ALFRED J. DUNN, architect, St. Michael's Square, Gloucester.

Complete List.

W. J. Smith	£14,993 0 0
Parnell & Sons	14,376 0 0
B. A. Forse & Son	14,332 0 0
Sapcote & Son	14,276 0 0
Broad & Co.	13,878 0 0
W. Jones	13,730 0 0
Stephens, Bastow & Co., Limited	13,478 0 0
Smith & Pitt	12,487 0 0
J. GURNEY & SONS, Gloucester (*accepted*)	11,548 10 0
T. Gurney Bros., Gloucester (*withdrawn*)	8,700 0 0

HAMMERSMITH.

For additions to the electric lighting station.

Minter	£11,958 0 0
Lifford	11,927 13 4
Hockley & Son	10,750 0 0
Spencer & Co.	10,740 0 0
Marney	10,670 0 0
Chessum & Sons	10,614 0 0
Nightingale	10,375 0 0
Martin, Wells & Co.	10,199 0 0
Heywood	9,351 0 0

Referred to the electricity committee.

HADDENHAM.

For erection of house and shop. Messrs. W. F. TAYLOR & SON, architects, Aylesbury.

W. G. Green & Co.	£1,287 0 0
Webster & Cannon	1,198 0 0
W. W. Howland	1,166 0 0
Rose & Son	1,080 0 0
J. Holland	1,060 15 0
W. FOLLEY, Bledlow (*accepted*)	1,050 0 0

HALESWORTH.

For erection of four cottages and sinking of a well, Wittet Road.

J. LIMMER, Halesworth (*accepted*)	£500 0 0

For taking-down and rebuilding front portion of residence and business premises.

G. E. Hawes	£1,205 0 0
Chandler & Rayner	997 0 0
Howard & Son, Halesworth*	885 0 0

* Accepted after being reduced by omission of portion of stonework and moulded brickwork.

HOVE.

For painting the external wood and ironwork of the town hall.

GATES & SONS, George Street (*accepted*)	£37 10 0

For executing paving works in Ellen Street, Goldstone Road, Selborne Road and York Road. Mr. H. H. SCOTT, borough surveyor.

PARSONS & SONS, 118 Church Road (*accepted*)	£2,789 0 0

HUDDERSFIELD.

For erection of two dwelling-houses in Milner Street, Lockwood. Messrs. J. B. ABBEY & SON, architects, 34A New Street, Huddersfield.

Accepted tenders.

W. Boothroyd & Co., mason.
J. Sunderland & Son, joiner.
D. Taylor & Sons, plumber.
T. Longbottom & Sons, plasterer.
A. Bower, Crosland Moor, slater.
G. Burgoine, Crosland Moor, painter.
J. Cooke, Rasheliffe, concreter.

For erection of a circular brick chimney, Brigg Mills, Meltham. Mr. W. CARTER, architect, Meltham. Quantities by architect.

MYLES & WARNER, Stalybridge (*accepted*)	£364 10 0

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HUNGERFORD.

For additions and alterations to the Capital and Counties Bank. Mr. JAMES H. MONEY, architect, Newbury.

H. HOSKINGS, Hungerford (*accepted*)	£398 10 0

HUNSLET.

For lime and colour washing the ceilings and walls of the five children's homes at Rothwell Haigh.

E. Knowles	£48 10 0
A. & G. Barker	28 0 0
C. Dawson	27 2 0
T. Beilby	11 15 0

KING'S CLIFFE.

For alterations and additions to residence, King's Cliffe, Northamptonshire. Mr. J. B. CORBY, architect, Stamford.

Siddons & Freeman	£1,910 10 0
R. Scholes	1,886 0 0
J. Woolston	1,860 0 0
Roberts Bros.	1,850 0 0
Nichols Bros.	1,785 0 0
DEAN & JOYCE, Uppingham (*accepted*)	1,769 15 5
Emerson & Co. (*withdrawn*)	1,705 6 6

LEWES.

For erection of a house on the Walland's Park Estate. Mr. H. CURTIS CARD, architect.

H. CRUSE, Lewes (*accepted*).

For erection of Baptist Sunday schools. Mr. H. CURTIS CARD, architect.

R. Piper	£1,125 0 0
Berry & Bussey	1,106 0 0
H. CONSTABLE, Lewes (*accepted*)	988 17 0

LIVERPOOL.

For flooring, &c., of sitting-room at the Kirkdale Home, Rumney Road.

J. W. WEEKS & SON, 276 Westminster Road (*accepted*).

For painting the external wood and iron-work of the Kirkdale Home, Rumney Road.

W. MERRICK, 16 and 18 Benson Street (*accepted*).

For renovation and extension of the telephonic and fire-alarm communications of the workhouse, Brownlow Hill.

PULFORD BROS, Dale Street (*accepted*).

LONDON.

For erection of a hall, &c., for the Finchley branch of the Y.W.C.A.

J. Pavey	£1,529 0 0
A. G. Quibell	1,372 0 0
Seath & Harris.	1,368 10 0
Willmot & Sons	1,336 0 0
A. E. Denman	1,255 19 0
J. Stewart	1,251 0 0

For painting and whitewashing and repairs to the Houseless Poor Wards, East Street, Baker Street, W., for the Guardians of Marylebone.

J. J. RICHARDS, 9 Shannon Grove (*accepted*)	£151 11 10

For alterations and additions to the Prince Albert public-house, Weedington Road, N.W. Messrs. CRICKMAY & ZIMMERMAAN, architects, Mincing Lane, E.C.

In mahogany.

Ransome	£2,065 0 0
Marchant & Hirst	1,868 0 0
Edwards & Medway	1,790 0 0
Spencer	1,757 0 0
BLOOMFIELD & EVANS (*accepted*)	1,595 0 0
Green	1,454 0 0

In walnut.

Ransome	2,090 0 0
Marchant & Hirst	1,918 0 0
Edwards & Medway	1,785 0 0
Spencer	1,757 0 0
Bloomfield & Evans	1,610 0 0
Green	1,504 0 0

LONDONDERRY.

For repairs to the mortuary chapel at the cemetery.

J. COLHOUN, The Strand (*accepted*)	£110 0 0

For erection of a new wing to Ebrington factory. Mr. DANIEL CONROY, architect, 2 Bishop Street, Londonderry.

D. M'Caffrey	£2,600 12 0
J. McKee & Sons	2,350 0 0
R. COLHOUN, Londonderry (*accepted*)	2,300 0 0

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LONDON SCHOOL BOARD.

For new school, Sunnyhill Road site, Streatham.

W. Smith	£22,695	0	0
S. Hart	22,243	0	0
W. Downs	21,983	0	0
Holloway Bros.	21,854	0	0
E. Parsons & Co.	21,464	0	0
J. Carmichael	21,397	0	0
C. Wall	21,289	0	0
B. E. Nightingale	21,285	0	0
F. & H. F. Higgs	21,146	0	0
J. & M. Patrick	21,090	0	0
W. Johnson & Co., Limited	20,927	0	0
E. Lawrance & Sons	20,707	0	0
Edwards & Medway*	20,652	0	0

For new school, Commercial Street site, Whitechapel.

C. Wall	£24,000	0	0
Leslie & Co., Limited	23,471	0	0
T. L. Green	23,462	0	0
C. Cox	23,400	0	0
J. Grover & Son	23,108	0	0
J. Longley & Co.	23,057	0	0
G. E. Wallis & Sons	23,041	0	0
W. Shurmur	22,940	0	0
W. Johnson & Co., Limited	22,796	0	0
B. E. Nightingale	22,682	0	0
Perry & Co.	22,682	0	0
W. Gregar & Son	22,623	0	0
E. Lawrance & Sons*	22,131	0	0

For new pupil teachers' school, Offord Road site, Barnsbury.

Dove Bros.	£23,849	0	0
G. S. S. Williams & Son	23,530	0	0
Spencer, Santo & Co., Limited	23,402	0	0
G. Munday & Sons	23,281	0	0
C. Cox	23,189	0	0
F. Gough & Co.	23,100	0	0
J. Grover & Son	23,100	0	0
L. H. & R. Roberts	23,047	0	0
W. Scrivener & Co.	22,953	0	0
T. L. Green	22,846	0	0
E. Lawrance & Sons	22,208	0	0
C. Miskin & Sons*	21,980	5	6

* Recommended for acceptance.

LONDON SCHOOL BOARD—*continued.*

For new school, Christian Street site, Commercial Road.

J. & M. Patrick	£25,606	0	0
C. Cox	24,775	0	0
E. Lawrance & Sons	24,287	0	0
J. Carmichael	24,115	0	0
F. & H. F. Higgs	24,042	0	0
G. E. Wallis & Sons	23,985	0	0
W. Johnson & Co., Limited	23,712	0	0
Edwards & Medway	23,543	0	0
Kirk & Randall	23,123	0	0
Leslie & Co., Limited*	22,785	0	0

For sanitary and drainage works, Summerford Street school, Bethnal Green.

Ashby Bros.	£3,314	0	0
F. Gough & Co.	2,889	0	0
J. Carmichael	2,681	0	0
G. S. S. Williams & Son	2,621	0	0
Johnson & Co.	2,600	0	0
E. Lawrance & Sons	2,599	0	0
L. H. & R. Roberts*	2,497	0	0

For heating apparatus, Tarcombe school, Bermondsey.

Matthews & Yates, Limited	£276	0	0
Stevens & Sons	266	0	0
J. Fraser & Son	246	0	0
E. Oldroyd & Co., Limited	229	0	0
J. & F. May	206	0	0
H. C. Price Lea & Co.	199	0	0
C. Kite & Co.	175	0	0
Dargue, Griffiths & Co., Limited	159	19	0
T. S. Knight & Sons	149	0	0
Wenham & Waters, Limited	136	10	0
C. Seward & Co.*	126	0	0

For new boiler, Highway school, St. George's-in-the-East.

J. C. & J. S. Ellis, Limited	£275	0	0
W. James Cooper	135	0	0
J. Grundy	135	0	0
C. Kite & Co.	135	0	0
J. Wontner-Smith, Gray & Co.	112	10	0
H. C. Price Lea & Co.	99	10	0
Lewis Hill	95	10	0
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* Recommended for acceptance.

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LONDON SCHOOL BOARD—*continued.*

For additional heating, Roman Road school, North Bow.

Stevens & Sons	£462 10 0
Matthews & Yates, Limited	436 0 0
Vaughan & Brown, Limited	404 0 0
Wippell Bros. & Row	387 10 0
J. Fraser & Son	371 0 0
W. Truswell & Son	356 16 7
A. Dougill & Co., Limited	350 0 0
W. G. Cannon	345 0 0
C. Seward & Co.	288 0 0
W. J. Cooper *	225 0 0

* Recommended for acceptance.

For heating apparatus, White Lion Street school, Pentonville.

Vaughan & Brown, Limited	£679 0 0
J. Fraser & Son	673 0 0
J. Grundy	650 0 0
Matthews & Yates, Limited	636 0 0
B. Harlow & Son	627 0 0
W. G. Cannon	599 0 0
A. Dougill & Co., Limited	570 0 0
H. C. Price Lea & Co.	548 0 0
J. & F. May	535 0 0
Wippell Bros. & Row	525 0 0
T. S. Knight & Sons	520 0 0
J. C. & J. S. Ellis, Limited	480 0 0
Russell & Co.	457 10 0
A. J. KALLAWAY (*accepted*)	379 7 0

For heating apparatus, Olga Street school, Bethnal Green.

Stevens & Sons	£710 10 0
E. Oldroyd & Co., Limited	597 0 0
H. C. Price Lea & Co.	555 0 0
Wippell Bros. & Row	540 0 0
J. & F. May	523 0 0
J. Esson	515 0 0
G. Davis	468 0 0
Duffield & Co.	438 0 0
C. KITE & Co. (*accepted*)	395 0 0

For repairing stoves, Star Lane.

Comyn Ching & Co.	£88 10 0
J. Wontner-Smith, Gray & Co.	76 0 0
W. G. Cannon & Sons	70 0 0
Hendry & Pattison, Limited	54 10 0
E. COULES & SON (*accepted*)	44 10 0

LONDON SCHOOL BOARD—*continued.*

For heating apparatus, Grove Street school, Deptford.

J. Esson	£225 0 0
J. & F. May	215 0 0
Wippell Bros. & Row	200 0 0
W. G. Cannon	191 0 0
Wenham & Waters, Limited	188 0 0
H. C. Price Lea & Co.	185 0 0
J. Grundy	172 0 0
Duffield & Co.	160 0 0
C. Seward & Co.	147 0 0
LEWIS HILL (*accepted*)	97 10 0

LONGTON.

For erection of new range of workshops, oven, &c., at Baltimore Works. Mr. WILLIAM WOOD, architect, Crown Buildings, Stafford Street, Longton.

H. P. EMBREY, Fenton (*accepted*)	£728 10 0

LINDFIELD.

For making new road, for Mr. G. Masters.

Holman, Brighton	£698 0 0
Lawrence, London	628 0 0
C. MAYO, Haywards Heath (*accepted*)	620 0 0

MANCHESTER.

For extension of branch post office.

A. R. BULLIVANT & SONS, Bletchley (*accepted*)	£1,320 0 0

MORETON-IN-MARSH.

For erection of four cottages at Moreton-in-Marsh.

J. Gill	£735 0 0
R. Turner	600 0 0
J. NEWMAN, Moreton-in-Marsh (*accepted*)	480 0 0

NOTTINGHAM.

For erection of a detached residence in Winchester Road, Sherwood. Messrs. W. F. TAYLOR & SON, architects, Aylesbury.

W. MARSH, Nottingham (*accepted*)	£527 0 0

PLYMOUTH.

For redecoration of the interior of the Guildhall.

FOURACRE & Co., Plymouth (*accepted*)	£247 0 0

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RICHMOND, S.W.

For painting the exterior wood and ironwork of the town hall, and for certain internal decoration and repairs.

R. Johnson & Son	£162 0 0
Seal & Co.	122 0 0
Speechley & Smith	120 0 0
Soole & Son, Richmond (*accepted*)	113 10 0

SOUTHAMPTON.

For electric lighting, wiring and fittings for the Municipal Lodging-house. Mr. W. B. G. Bennett, borough engineer.

E. T. Fiford & Sons	£339 0 0
R. Dawson	331 10 0
McAulay, Clark & McLaren	340 7 6
McAulay, Clark & McLaren	310 0 0
W. J. Fryer & Co., Limited	287 15 0
F. Shalders *	286 0 0

* Recommended for acceptance.

For reconstruction of about 1¾ miles of tramway.

Dick, Kerr & Co.	£14,568 5 8
J. Fell	11,369 5 0
H. W. Bull	10,870 0 0
W. Griffiths	9,976 10 1
F. Osman	8,992 0 0
W. Meredith	8,356 8 11
Krauss & Son, Bristol (*accepted*)	8,352 0 0

SOUTH SHIELDS.

For erection of a store, Imeary Street. Mr. Fred Rennoldson, architect, South Shields.

J. C. Nichol	£1,702 0 0
R. Allison	1,700 0 0
S. Sheriff	1,700 0 0
W. Wilson	1,675 14 0
A. Ross	1,660 0 0
W. J. Robertson	1,651 4 2
W. Christie	1,561 12 0
C. Henderson	1,514 3 5
R. Crawford & Sons	1,506 11 8
J. Moore, South Shields (*accepted*)	1,481 0 0

SOUTH SHIELDS—*continued.*

For extensions to the engine-house, the boiler-house and bunkers at the electricity works, West Holborn. Mr. Fred Rennoldson, architect, Union Chambers, King Street, South Shields.

R. Allison	£2,622 12 2
S. Sheriff	2,409 0 0
W. J. Robertson	2,400 8 11
J. Moore	2,389 0 0
J. C. Nichol	2,380 0 0
W. Christie	2,331 4 3
T. Lumsden, Jarrow-on-Tyne (*accepted*)	2,296 0 0

For rebuilding premises, 3 Ocean Road. Mr. Fred Rennoldson, architect, South Shields.

J. Young	£1,484 0 0
A. Ross	1,458 3 9
R. Allison	1,446 11 8
W. Christie	1,414 14 11
J. C. Nicol	1,402 17 2
W. J. Robertson, Mowbray Road, South Shields (*accepted*)	1,388 13 2

SHREWSBURY.

For additions and alterations to public convenience, The Square, &c. Mr. W. Chappel Eddowes, borough surveyor.

Accepted tenders.

G. Buckerton, Abbeyforegate, Shrewsbury (urinal)	£118 0 0
G. Morris, Belle Vue, Shrewsbury (extension of sewer, London Road)	132 3 4

ST. MARY CRAY.

For erection of a fire station.

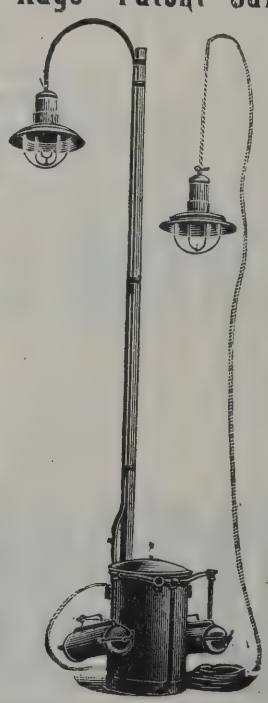
Stebbings & Pannett (*accepted*)	£538 0 0

STOKE MANDEVILLE.

For erection of farm-buildings and cottages. Messrs. W. F. Taylor & Son, architects, Aylesbury.

G. H. Gibson	£2,391 0 0
Webster & Cannon	2,238 0 0
Cook & Sons	2,174 0 0
W. G. Green & Co., Aylesbury (*accepted*)	2,163 10 0



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SWINDON.

For erection of bowling alley at the Haydon Street Workmen's Club, for Mr. Howard Horsell. Messrs. WILLIAM DREW & SONS, architects, Swindon.

J. LAY, Swindon (*accepted*)	£185 9 4

For rebuilding Foresters' Arms public-house and shop, Fleet Street, for Messrs. T. & G. Arkell. Messrs. WILLIAM DREW & SONS, architects, Swindon. Quantities by the architects.

C. Williams	£4,257 17 0
H. & C. Spackman	4,144 6 6
Flewelling & Huckson	4,081 0 0
W. Chambers	3,983 0 0
A. J. Colborne	3,641 10 10

For road-making, sewers, &c., on the Even Swindon Estate, for Mr. James Morrison, J.P. Messrs. WILLIAM DREW & SONS, surveyors, Swindon.

BAGLEY & WILKINS, Swindon (*accepted*)	£1,906 15 6

For erection of house, Goddard Avenue, Swindon, for Mr. W. B. Wilmer. Messrs. WILLIAM DREW & SONS, architects, Swindon.

A. J. COLBORNE, Swindon (*accepted*)	£435 0 0

For erection of house, Goddard Avenue, for Mr. Sam Smith. Messrs. WILLIAM DREW & SONS, architects, Swindon.

F. J. LIDDINGTON, Swindon (*accepted*)	£360 0 0

THRELKELD.

For erection of two cottages.

Accepted tenders.

A. Relph, builder	£381 0 0
W. Grisdale, joiner	166 10 0

TIPTON.

For restoration of Upper Church Lane. Mr. W. H. JUKES, surveyor.

G. Law	£500 5 6
H. Hughes & Son	315 0 0
D. & J. HYDE, Gornal and Tipton (*accepted*)	262 13 6

For construction of sewers in Victoria Road and Conygree Road. Mr. WM. H. JUKES, surveyor.

J. Gittings	£185 0 0
T. Allsopp	185 0 0
G. Law	183 0 0
H. Hughes & Son, Gornal, near Dudley *	180 0 0
J. Bateman	170 0 0

* Recommended for acceptance.

TRURO.

For erection of a pair of cottages at Malpas, near Truro. Mr. WM. SWIFT, architect, 38 Lemon Street, Truro.

H. Tippet	£526 0 0
R. H. Tonkin	522 0 0
C. & J. HARRIS, Truro (*accepted*)	470 0 0

WALES.

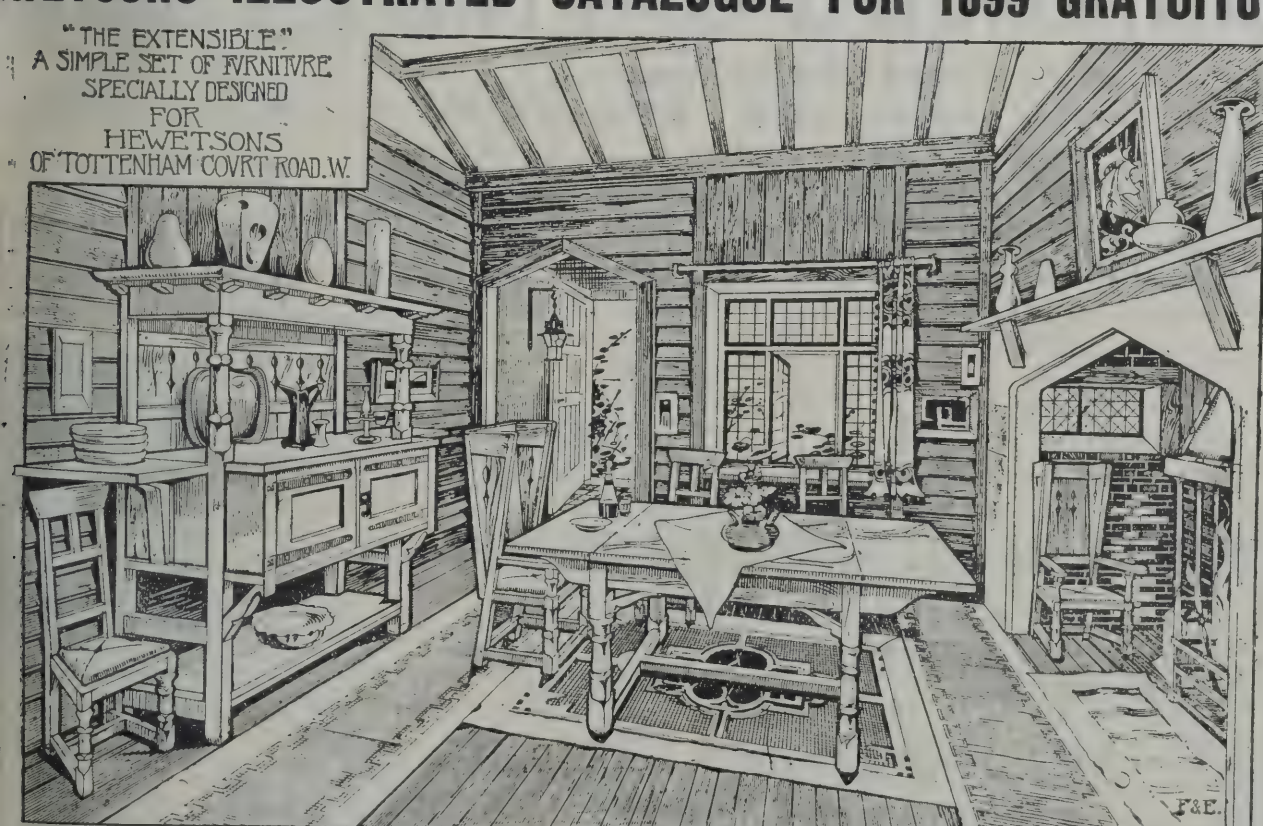
For repairs and alterations to the British school, Govilon, Abergavenny.

J. Morgan	£69 0 0
T. S. Foster	49 0 0
F. Lloyd	46 10 0
J. DAVIES, Govilon (*accepted*)	40 0 0
J. Davies	36 12 6

For proposed alterations and additions to workhouse buildings at Pantey, for the Pontypool Board of Guardians. Messrs. LANSDOWNE & GRIGGS, architects, Newport.

Stephens & Bastow	£19,994 0 0
Morgan	18,228 6 8
D. Jones	17,980 0 0
D. J. Davis	17,955 0 0
C. Lock	17,617 0 0
J. Linton	17,284 0 0
C. H. Reed	17,255 0 0
Bailey Bros.	16,779 0 0
D. W. RICHARDS, Newport (*accepted*)	15,980 0 0

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WALES—*continued.*

For erection of residence at Amlwch, North Wales. Mr. R. DAVIES, architect, Bangor.

Thomas & Son	£1,420 0 0
W. & O. Pritchard	1,310 0 0
T. OWEN, Amlwch (*accepted*)	1,070 0 0

For erection of lecture-room and alterations of classroom, library, &c., adjoining Bethesda chapel, Amlwch. Mr. R. DAVIES, architect, Bangor.

T. Owen	£968 0 0
T. T. PARRY, Llanfair, P. G. (*accepted*)	864 0 0

For erection of a Calvinistic Methodist chapel, schoolroom, chapel house and offices at Llandegfan. Mr. JOSEPH OWEN, architect, Menai Bridge.

J. Evans	£1,859 0 0
E. Jones	1,475 0 0
D. Owen	1,353 0 0
W. O. Daniel	1,050 0 0
W. JONES, Bangor (*accepted*)	1,335 10 0

WATFORD.

For levelling, paving, kerbing, metalling, flagging, channelling, lighting and making-good Cecil Street (part 1), and for levelling, paving, channelling, lighting and making-good Butcher's Yard. Mr. D. WATERHOUSE, engineer, 14 High Street, Watford.

Cecil Street.

G. R. Mann	£497 0 0
F. Dupont	485 0 0
BRACEY & CLARKE, Watford (*accepted*)	475 0 0

Butcher's Yard.

Bracey & Clarke	170 0 0
G. R. Mann	148 0 0
F. DUPONT (*accepted*)	144 0 0

For construction of 18-inch, 12-inch and 9-inch iron pipe sewers, with manholes, &c. Mr. D. WATERHOUSE, engineer.

G. R. Mann	£2,992 2 0
Merredew & Wort	2,988 11 6
F. Dupont	2,897 0 0
J. Jackson	2,868 9 11
E. H. JACKSON, Hornsey, N. (*accepted*)	2,846 19 0

WHITEHAVEN.

For restoration of Hogarth's church, Mount Pleasant. Mr. J. S. MOFFAT, architect, Whitehaven.
CHAPPLE & SON, Moor Row (*accepted*).

For alterations and additions to the Oddfellows' Hall property in Lowther Street and Queen Street. Mr. J. S. MOFFAT, architect, 53 Church Street, Whitehaven.

Accepted tenders.

Ramsay Bros., girders, wrought and cast-iron work, and electric lighting.
Chapple & Son, all other work.

THE Queen's Theatre and Opera House, Keighley, is being entirely reconstructed. The elevation in Queen Street will have a frontage of 83 feet. The auditorium will be 50 feet by 60 feet, and the whole interior, circles and all, will be constructed of fire-resisting material. The cantilever principle has been adopted, so that the view of the stage from any part of the house will be uninterrupted. The stage dimensions are 65 feet wide and 45 feet deep. The stage itself will be on a level with Adelaide Street. From floor to grid the height will be 60 feet. This part of the building is being constructed of brick, concrete and timber, and is entirely separated from the auditorium and dressing-rooms by a double asbestos fire-resisting curtain and iron doors. The internal decorations of the house will be executed in fibrous plaster, and the predominating colours will be in harmony with the prevailing shades of the draperies and upholstery. Gold will play an important part in the scheme of decoration. The style adopted will be the French Renaissance. Electricity will be employed for lighting purposes—and this, indeed, forms part of the decorative scheme—but gas will be laid on as a reserve. The building will be heated by means of the low-pressure hot-water system, whilst no precautions are to be spared in regard to the possibility of fire and the evil effects of indifferent ventilation. The contracts have been let to Messrs. Greenhow & Murgatroyd, builders, of Keighley, and operations are to start immediately. Meantime, Messrs. Kershaw & Manning have secured the hall of the Mechanics' Institute, pending the completion of the new theatre, of which Mr. F. Matcham is the architect.

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TRADE NOTES.

EYSTONES PRESBYTERIAN CHURCH, co. Wicklow, now in rse of erection from designs by Mr. H. J. Lundy, Dublin, ieing ventilated by means of Mackay's patent invisible roof tilators (sole makers: Cousland & Mackay, 150 Hope eet, Glasgow).

THE Acomb Board schools, York, are being warmed and tilated by means of Shorland's patent Manchester grates patent Manchester stoves.

A NEW turret striking clock, showing the time upon three rnal dials, was set going on Wednesday, May 24, the en's Birthday, at St. Clement's parish church, Bradford, ks. The clock was presented by the Hon. Mrs. Whittuck, donor of the church. The clock was made and fixed by srs. Wm. Potts & Sons, clock manufacturers, of Leeds and vcastle-on-Tyne, the builders' work by Mr. Newell, Edinh Street, Bradford.

VARIETIES.

e ceremony of opening the new Post Office, which has n erected in Cathcart Street, Greenock, at a cost, including of about 20,000*l.*, was performed on the 22nd inst. The ding, erected from designs by Mr. W. W. Robertson, Her esty's Board of Works, Edinburgh, is in the Renaissance e of architecture, and is one of the handsomest in Greenock.

URING a heavy thunderstorm which passed over North Notts it noon on the 23rd inst. the lightning struck Welbeck Abbey, seat of the Duke of Portland. The whole of the lead-work ripped away from the turret clock, and many of the squares lass in the windows of the grand dining-room were shed. No further damage was done. Fortunately no one injured.

THE *Pall Mall Magazine* for June is bright and interesting usual. It contains contributions by F. C. Burnand, H. G ls, Mrs. Belloc-Lowndes, Edgar Jepson, H. B. Marriott-son, W. Clark Russell, G. S. Street and others. The illustions are numerous and artistic, and notable among them a series of exquisite little sketches by Herbert Railton, h appear in connection with an interesting article on me Bridge Chantries," written by Francis Crowther.

THE Duke and Duchess of Connaught will open the hospital erected at Woodford, Essex, to commemorate the Diamond Jubilee of Her Most Gracious Majesty Queen Victoria on June 1; the Lord Mayor of London and Sheriffs will also be present. An endowment fund has been generously subscribed for by the inhabitants of the neighbourhood, and Mr. J. R. Roberts, J.P., of Woodford, kindly presented the land, hospital, and all internal fittings, which are of the most modern and approved design. The architects are Messrs. J. Kingwell Cole & Kenneth Wood.

A NEW Wesleyan chapel was opened at Wortham, near Diss, last week. The new building stands on the site of the old one, and is of red brick, the interior being comfortably fitted. Mr. Isaac Osborne, of Diss, was the builder, and the cost was 281*l.* 15*s.* 6*d.* The new chapel and schoolroom, the latter being connected with the chapel by sliding doors, afford accommodation for upwards of 200 persons.

THE British consul at Ispahan, whose report on the condition of his district for the past year has just been published, says that almost the only public work going on is the destruction of the lovely old Sefavian buildings in Ispahan. Nearly all the old palaces, gardens and places which made Ispahan so renowned in the sixteenth and seventeenth centuries, and which even up to twenty years ago were the delight of the traveller, have disappeared. The Chehar Bagh, with its quadruple avenue of chenar trees, its kiosks, basins and waterways, is now practically a wilderness.

THE new drill-hall for the Gourock Company of the 1st Renfrew (Volunteer Battalion) A. and S. Highlanders was formally opened on the 17th inst. The building, which is situated at the north-east corner of the public park, is 104 feet in length by 48 feet in breadth, with a height of 27 feet, and is built of red brick. The hall proper is 70 feet in length and 46 feet in breadth, and the remainder of the erection is taken up with officers' quarters, men's reading and recreation-rooms, and the instructor's house, which has a frontage to Binnie Lane. The house is a commodious one, and the recreation-room, which is 35 feet by 12, will be furnished in a suitable manner. The hall will cost 1,500*l.*

THE annual general meeting of the Glasgow and West of Scotland Master Plumbers' Association was held on the 17th inst. in the Building Trades' Exchange, 30 Gordon Street. There was a good attendance of members. The president, Mr. J. T. Renfrew, occupied the chair. The secretary in his report,

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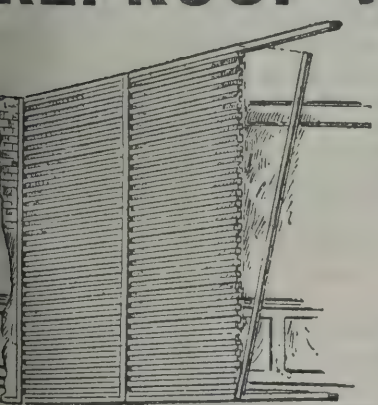
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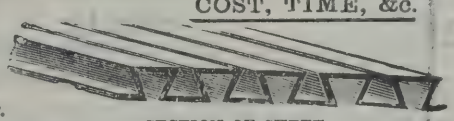
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among other matters, referred to the large increase in the membership of the Association, the number being now 160, as compared with 135 last year. The treasurer reported that the funds of the Association now amounted to about 800*l.* The office-bearers for the coming year were appointed, and are as follow:—President, William Mackie; vice-president, Samuel Cowan (Ayr); hon. treasurer, Thomas Day; and secretary, John Wylie, writer, 204 St. Vincent Street.

THE members of the London and Middlesex Archæological Society intend visiting St. Albans on Saturday, the 3rd prox. The party will be conducted by the Rev. Canon Benham and Mr. William Page. The chief places to be visited are the cathedral, St. Michael's Church and the walls of the Roman city of Verulam.

AN early start is to be made with the work of the new bridge at Kirkcaldy, which is estimated to cost between 13,000*l.* and 14,000*l.* The contractor for the work is Mr. Alex. Fraser, jun., and Mr. Galloway has just been appointed clerk of works. The bridge is to be built from designs by Mr. W. D. Sang, C.E., Kirkcaldy. The main object of the new bridge is to form a connection on the high level between the second and third wards of the burgh.

CARNEGIE HOUSE, erected at Montrose Asylum for the accommodation of private patients at a cost of about 20,000*l.*, has now been formally opened. The house, which is named after Miss Carnegie of Charleton, who was the initiator of the movement which founded the asylum in 1782, was commenced four years ago in order to alleviate to some extent the overcrowding of the main asylum, which at present is occupied by about 660 patients. It is plain externally, but everything inside tends to the comfort of the inmates, and it is more like a country mansion than the adjunct of an asylum. It is heated by the Sturtevant system and lit by the electric light. The engineering works in connection with Carnegie House, as well as similar other works in course of execution at the asylum, have been designed and supervised by Mr. T. Young, consulting engineer, Glasgow.

THE first meeting for the year of the Architectural and Archæological Society of Durham and Northumberland will be held on Friday, June 2, at Richmond and in Swaledale. Members will assemble at Richmond station at 11.50. They will drive to Marske, where the ancient church will be examined, and from there to Marrick Abbey, the ruined tower and choir of which still remain. Proceeding up the dale, Grinton Church will be visited; it is principally of the fifteenth century, bu retains some original Norman work. Returning by the sout bank of the Swale the fragmentary ruins of the small conventua church of Ellerton will be seen, and on arriving at Richmon the remaining time will be spent at the parish church, Trinit Church and Greyfriars Tower. The whole of the drive i through an extremely beautiful and interesting countr Members will dine at the King's Head.

THE removal and enlargement of the Emperor's Berli stables, which are opposite the old palace at the corner c Breite Strasse and the Schlossplatz, will cost from seven t eight million marks. According to the plan of the architec Herr Geheimrath Ihne, the front facing the Spree will b 200 yards in length. The Emperor requires, amongst othe things, two riding grounds, several coachhouses for about 30 carriages and stalls for 270 horses. Several work yards an farm yards are also needed, as well as dwellings for 50 familie and 80 unmarried servants and coachmen. The chief façad opposite the Schloss required reconstruction on a large scale and this was rendered very difficult by the different characte of the rooms looking on to the Schlossplatz, some of which ar quite insignificant. The architect has, however, been fortunat in his design, having arranged the chief room of the uppe floor (the large carriage-room, with its costly historical an modern sleighs and coaches) as a State-room, thereby givin it the appearance from the outside of a museum.

A NEW and commodious Constitutional Club, situated i the Military Road, Chatham, was opened last week. Th building, which is plain in character, is executed with whit Suffolk bricks and Bath stone dressings. There are tw reading-rooms, one of which communicates with the ba Beneath the bar and the reading-room is the cellar, and th accommodation on the ground floor also includes a secretary' room. On the first floor are two spacious card-rooms, eac with a bay window, through which the balcony can be ap proached, and a billiard-room with two tables. The secon floor is exclusively taken up by the steward's quarters, whic constitute bed and sitting-rooms, kitchen, pantry, stores, &c An important adjunct of the Club is the Queen's Hall, at th rear of the other part of the building. Its dimensions ar 53 feet in length, with a width of 34 feet, and it will seat 35 people. The main entrance is from the Military Road, on th left of the Club premises, but there are also two entrances a the back from the passage-way which leads off from Nelso Road. There is an ante-room as well as lavatories in connec

TO ARCHITECTS, SURVEYORS, &c

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with the hall. At the Club end of the hall is a permanent form, with a roomy balcony overhead and a ladies' retiring-n. The building is heated by hot water on the low-pressure em, at a cost of 124*l.* The building has been erected at a tract price of 2,885*l.*

A NEW Conservative Club, which has been erected at diff from the designs of Messrs. Veall & Sant, was opened the 16th inst. by Mr. Winston Churchill, son of the late d Randolph Churchill. The structure, which is of simple ation, has a frontage to Neville Street of 28½ feet, and to Burgh Place of 100 feet. It is erected on land leased from Marquis of Bute. The materials are Newbridge stone and bon red pressed bricks for the facings, with Bath stone ssings. The centre gable to Neville Street is of solid -timbering, the panels being filled in with ornamental k by Mr. Wormleighton. The side entrance is in Forest e, with a massive carved Bath stone balcony. On the und floor there is a wide entrance hall, reading-room, bar, ard-room and lavatories. A wide and handsome staircase itchpine and teak leads to the first floor, where there is a e assembly-room, with an outside approach from the street, an ante-room. The assembly-room can be divided by ns of a sliding partition. There are also on the same floor rge committee-room, kitchen, scullery and offices. On the nd floor are situated the steward's apartments, with bath-m, &c. There is in the basement ample cellarage and a tle alley. These are well lighted, so that artificial light will be required in the daytime. The internal fittings through-have been carried out in a substantial and very creditable ner. The contractors are Messrs. Melhuish Brothers, diff. The cost of the building was about 2,700*l.*

AT a special meeting of the Colchester Town Council last k, Alderman Jas. Wicks presiding, the new town hall com-tee reported that the architect had written stating that with ard to the Victoria Tower there would be no difficulty in nging for the clock and chimes, which had been presented he Corporation, the cost involved being 300*l.* The additional of the Portland stone over the Owen stone for the tower ld be about 300*l.*, and he would very much prefer the ner. Consideration of the matter had been deferred.

BUILDING AND BUILDERS.

A NEW police-station is to be built at Chapeltown, N.B. A site is to be purchased for 2,500*l.*

A TERRIBLE building accident is reported from Crefeld, Germany. The wall of a house in course of construction fell in without a moment's warning, and twelve workmen were killed. The two contractors were severely injured.

THE foundation-stone of a new public hall for Pitlochry was laid on Thursday last. The building is designed to accommodate 600 persons, and is estimated to cost about 2,500*l.*

WHILE working on the chimney-stack of a house at Peterborough on the 20th inst. a bricklayer named Bird was killed through the breaking of the scaffolding. The body first struck the roof of the house and then the roof of the outhouse, from whence it rebounded to the ground. The tiles of the roof were broken, and deceased's head was terribly gashed.

AT a meeting of the Hull property committee, the Town Hall sub-committee reported that they had considered the resolution passed by the City Council with reference to the proposed extension of the town hall. The city engineer was instructed to prepare and submit plans and sections of the existing hall and site and buildings connected therewith, and that the engineer also report as to what further accommodation it would, in his opinion, be necessary to provide.

THE foundation-stone of the new schools in connection with St. Andrew's Church, Wolverhampton, was laid on the 13th inst. The scheme for the new building will entail a cost of about 4,000*l.*, but at present it is proposed to build only rooms to accommodate about 600 girls and infants. The school will be two storeys high, and the upper floor will be used for the girls. The front of the building will have an imposing appearance with three gables, and special arrangements are made to enable the children to leave the school rapidly. The material used in the walls will be red brick with Hollington stone dressings, and the roof will be covered with tinted tiles, while internally the walls will be covered with enamelled bricks, and the fittings will be of pitch pine. The designs have been provided by Mr. F. H. Lynes, and the builder is Mr. J. Herbert, both of Wolverhampton.

MR. W. A. DUCAT, Local Government Board inspector, has held an inquiry at the Oldham Town Hall into the application of the Corporation for power to borrow 14,209*l.* for the erection

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of refuse destructors at Hollinwood and Robin Hill, and 12,335*l.* for the erection of public baths at Hathershaw and Lowermoor. Mr. A. Nicholson (town clerk) informed the inspector that the Corporation already possessed a destructor at Rhodes Bank, and public baths in Union Street (Central), Hollinwood and Waterhead. The destructors would result in a considerable saving in the cartage of refuse from the extremities of the town. The baths were urgently required, and the sites chosen were in districts which were well populated and were still growing. There was no opposition to the application, and after the inquiry closed the inspector, accompanied by members of the Council, visited the sites of the proposed buildings.

THE foundation-stone of a new church in Grange Road, Bradford, to be known as the church of St. Columba, has been laid. The architecture is Early English, and the nave will be 79 feet long and 24 feet wide, with aisles on each side 11 feet 6 inches wide, from which there will be projecting transepts on the north and south sides. At the west end the plans show there will be a vestibule about 8 feet long, with a similar width to that of the nave. On the north side there will be a chapel 35 feet long and 17 feet wide, which will be utilised for special occasions and week-day services. On the opposite side, or the south side of the chancel, there will be the organ chamber, as well as vestries for the clergy and choir. From this portion there will be a staircase which will lead to the basement, which will be furnished as parish rooms. The fall of the ground will afford splendid light, through windows which will be above the ground level. The church will be built of local stone, with a roof of Westmoreland slate, and will have a turret which will be 65 feet high and have a diameter of 9 feet, and this will be octagonal in shape, at the foot of which there will be an entrance to the parish rooms. The architects, Messrs. T. H. & F. Healey, have executed plans for a church which will be well lighted by leaded windows of an ornamental character. The sittings will be of pitch pine, but the chancel as well as the communion table will be of oak. The pulpit and font will be of stone.

A SYNDICATE has been ormed at Ripon for the purpose of carrying out extensive building operations and to meet the increasing demand for villa residences, hotels and hydros. Lord Ripon has sold two sites on the west of the city, the one being on the high ground overlooking the cricket-field on the Studley Road and having a charming prospect in the direction of Studley Park. Here it is proposed to erect a large residentia hotel, which will stand in its own grounds of 5 or 6 acres, and where, if the Corporation are successful in securing the Aldfield Spa, it is hoped sulphur water may be laid on to provide baths for visitors. The 24 acres of land purchased from Lord Ripon to the south of the cricket-field is to be laid out for villa resi dences, and eventually a new road in the direction of Studley may be opened between Skellbank and Bishopton, which would be an alternative route to Fountains Abbey for visitors from Harrogate.

THE scheme for a new Congregational church at Swinton which is to cost about 1,700*l.*, and is to be built in front o the existing premises, to face the main thoroughfare, is being vigorously pushed forward. The new church would have been commenced some time ago but for a difficulty with the Charity Commissioners concerning the sale of the old Independen chapel. The assurance has been received that the old building can be sold and the funds applied to the new chapel, on condi tion that any mortgage raised on the property be paid off in thirty years by annual instalments of principal and interest The amount to which the Commissioners will allow the church to go in the way of mortgage is from 900*l.* to 1,000*l.*

THE Coventry City Council have passed plans for the erection of a new fire station on the Pool Meadow, in further ance of the scheme which has been under consideration for two or three years past. The new buildings are to be placed upon a portion of the site now occupied by the old baths, and will be sufficient for the requirements of the city for some years. They will be complete and up to date in every detail, and will be fitted with the most modern time-saving appliances for harness ing the horses, opening doors, &c., and will enable the efficient volunteer fire brigade to turn out in the smartes possible manner. The erection of the fire station will necessi tate the demolition of the old baths, and such part of the site as is not required for the fire station will be added to the Poo Meadow. About a thousand square yards of land is at presen enclosed, and of this not more than 350 square yards will be utilised for the new buildings. The front will abut on Hale Street, but will be set back somewhat so as to allow of an improvement in the street line at that point, and at the adjoining bridge over the Sherbourne. The erection will be of brick and slated, with stone dressings at the front elevation. On the ground floor there will be an engine-room 40 feet by 32 feet in extent, capable o receiving three steam fire-engines with hose-reel, and adjoining

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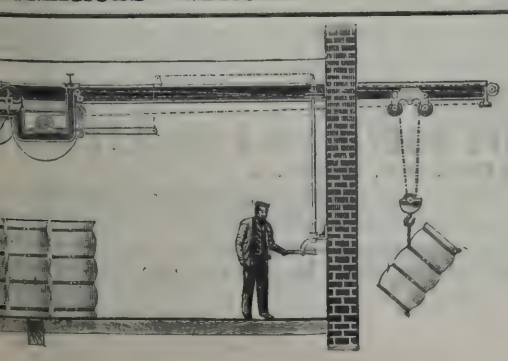
will be the room for the men on duty, in which the phone and electric alarms will be placed. Stabling accommodation for six horses is planned, with harness-rooms, hay corn stores, an isolated loose-box, and a workshop for hauling and repairing the engines and appliances. It is proposed to cover a portion of the yard for the purpose of . Above the fire-engine room will be a recreation-room, an apartment for the committee and bathroom and story for the men. The erection of a tower 70 feet high for ing the hose is also contemplated. At present this portion he apparatus is dried in the open air, a somewhat unsatisory and ineffectual method, under which the hose very kly deteriorates. The whole of the buildings, including drying tower, will be heated with hot water. Adjacent to fire station there will be three cottages, for the permanent ineer to the brigade, who will have charge of the station, ines and appliances, and for the two horse drivers. Proon is also made for pumping water for street watering from existing well on the premises, as this is found to be a very able addition in summer to the ordinary supply. It is mated that the cost of carrying out the entire scheme will ount to about 5,300*l.*

A NEW hospital for women is about to be erected in ds. The existing building, which was originally a private dence and has for some years been used as a hospital for nen and children, has become quite inadequate, and will, en the new premises are erected, be devoted exclusively to purposes of a children's hospital. The exterior of the build- will be simply treated. Inside, however, all will be as com- e and well arranged as hospital experience can suggest. e out-patients' department will comprise an entrance-hall, a ge waiting-hall, an examination-room and two consultation- ms, each with ante-room and dressing-room attached. ere will likewise be a dispensary and drug store, accommoion for the hall porter, a room in which perambulators may placed and lavatory accommodation. The arrangement of se several apartments is such as to obviate, as far as practile, confusion. The women's hospital will consist of three ds, each with eighteen beds, and four single wards. On h of these three floors there will be a day-room a ward scullery. The principal ward will likewise have attached a well-lighted operating-room, with an anæsthetic-room and recovery-room. A lift sufficiently large to take up a patient and bed will be provided. The ground floor of this department will be occupied by the administrative rooms, including board-room, waiting-hall, reception-room, accommodation for the medical staff, the house surgeon, the matron and nurses, and the kitchens. The boiler, engine and laundry, &c., will occupy the basement. The maternity department, occupying the first and second floors of the building devoted to it, will contain four wards, each with four beds, or sixteen in all, and the arrangement will be such that each ward, in case of need, can be isolated. Other necessary accommodation will be provided, including a small isolation hospital with disinfecting apparatus.

THE new halls which the Glasgow Corporation have decided to erect for the Springburn district will occupy a prominent site at the corner of Millerbank Street and Keppochhill Road. Included in the design are two halls placed together longitudinally, and so arranged that while the entrances, exits and retiring-rooms for each are quite separate and distinct, they may be let together and used en suite when occasion requires. The main hall measures 77 feet by 50 feet, exclusive of crush hall and orchestra, and provides comfortable seating accommodation for 1,209 persons. The principal entrances are from Millerbank Street, and open into a spacious crush-room, from which any part of the hall may be reached. Ample exit accommodation is provided at each end of the hall, both from area and gallery levels. In the dividing wall between the two halls are two sets of double doors, which will be opened when halls are used en suite. The platform entrance is from Keppochhill Road, and communicates by means of a corridor under the platform with the retiring-rooms which overlook the lane. On the ground-floor is a committee-room, which will be used as a platform or green-room, while immediately above are situated the dressing-rooms for the artistes. There is a cloak-room in connection with the ladies and gentlemen's retiring-rooms in the basement. In the basement under the main hall a large store for forms, &c., is provided, together with three committee-rooms, which are placed so that they are lighted and ventilated to an area to Keppochhill Road. It is proposed that these rooms should be divided by movable



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partitions. The lesser hall measures 52 feet by 27 feet, and provides seating accommodation for 408 persons. The principal entrance is from Millerbank Street, and from the entrance hall a staircase leads upward to the gallery and downward to basement. There are emergency exits at each side of platform. The kitchen is placed in the basement under the lesser hall, and a lift for the convenience of purveyors is provided from the kitchen corridor to the service lobby at the south side of platform. The corridors in the basement are of ample width, and are so arranged as to facilitate communication with the various staircases. It is proposed to heat the building with low-pressure steam, in pipes, coils and radiators. Electric fans placed in the roof will draw off the foul air, and fresh air will be admitted behind the heating coils. All sanitary appliances will be of the latest type. The main roofs will be carried on steel principals, and it is proposed that the balconies shall be supported on steel cantilevers built into the wall. The materials for the exterior will be red freestone for walls and green Westmoreland slates for roofs. The total cost of the building is estimated at 11,404*l.* Mr. W. B. Whitie is the architect.

ELECTRIC NOTES.

THE Bill confirming the electric-lighting provisional orders with reference to Alloa, Dumfries, Inverness and Kilmarnock has been passed by the committee of the House of Commons on unopposed Bills.

AT a ratepayers' meeting in Heckmondwike the District Council's electric-lighting scheme, prepared by Mr. Hawtayne, consulting electrical engineer, London, was approved. The scheme was explained by Mr. S. Wood, who moved the resolution of adoption. Mr. Lewis Shaw seconded, and the motion was supported by Mr. T. Redfearn, and carried with only a few dissentients.

EARLY on the morning of the 14th inst., before traffic commenced, the electrical machinery for actuating the wedges and turning the Navigation Bridge, recently erected by the Weaver Navigation Trustees at Northwich, was tested for the first time with highly satisfactory results by the contractors—Messrs. Mather & Platt, of Manchester—in the presence of Mr. J. L. Saner, the engineer to the trustees, who is responsible for the works. This is the first instance in Great Britain of a swing-bridge being worked by electric power.

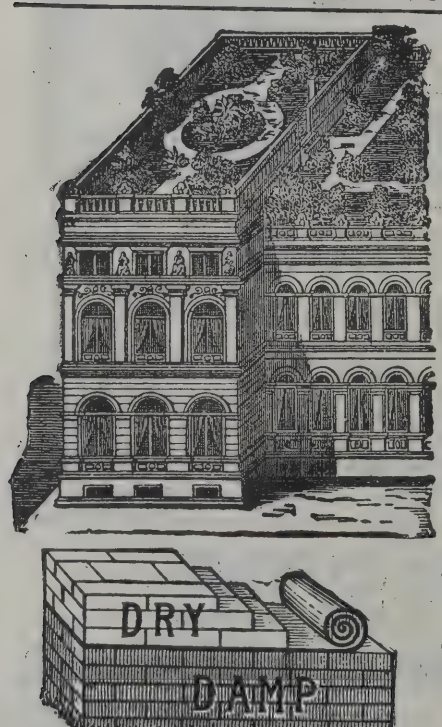
IN connection with the electric-light extensions, additi to the generating stations in Coventry, which are being m under the direction of the city engineer, are proceeding sa factorily. The new buildings are now well above the gro line, and will probably be completed within the next months. The sub-stations for transforming purposes in diffe parts of the town have also been finished. For the lightin the main thoroughfares of the city by electricity the wires h all been laid and the standards erected. Practically all remains to be done is the production of the arc lights.

THE electric-lighting committee of Edinburgh Town Cou have decided, on a representation by the resident electr engineer, to recommend the extension of the electric-ligh subway from Picardy Place to Little King Street, at a prob cost of 1,500*l.* They also recommended the acceptanc several estimates, among which was one for the supply "feeders" amounting to over 18,000*l.*, and another for w in connection with the erection of water tanks at Dewar P station, amounting to over 500*l.*

COLONEL C. H. LUARD, an inspector of the Local Gov ment Board, held an inquiry on the 19th inst. at the Sall Town Hall with reference to an application of the Corpora for permission to borrow 5,822*l.* for electric-lighting purpo and 4,000*l.* for the building of a public hall, library and readi room at Irlams-o'-th'-Height. Mr. L. C. Evans, acting t clerk, who appeared for the Corporation, said it was propo to build an electric-lighting station on some land in Strawb Hill Road. This land had been purchased with the consen the Local Government Board. It was originally the prop of the Lancashire and Yorkshire Railway Company. Corporation were obliged to construct an abayment in Manchester, Bolton and Bury Canal so as to allow boats stop at the place without obstructing the traffic, and they l also to build a retaining wall. The Corporation proposed widen the road and erect a generating station.

MR. JOHN W. HILL, consulting engineer to the Delaw (Ohio) Water Company, has just issued a report with regar electrolysis of water pipes. He says:—With reference to electrolysis of the cast-iron mains in streets where the elec railway is placed, I was enabled to make a number of tests electric current in the water mains, at different points, wh the transfer of current from the rails of the track to the wa main, and from the latter back to the rails was most likely occur, and from the data so obtained I am inclined to th

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no serious damage to the water pipes has thus far occurred. h destruction by electrolysis of several galvanised iron e pipes near the power station of the electric railway can counted for by their acting as electrodes to transmit the nt from the water main to the rails of the street railway. e services are, in all cases but one, connected to the main d the rails. Within the year the rail joints of the electric ay have been rebonded, and the rails crossbonded with r conductors, since which time no service pipes so far as n have been injured by stray electric currents. Nevertheie advises that steps should be taken at an early date to rly connect, with copper conductors of suitable size, the mains with the negative or receiving poles of the electric rators.

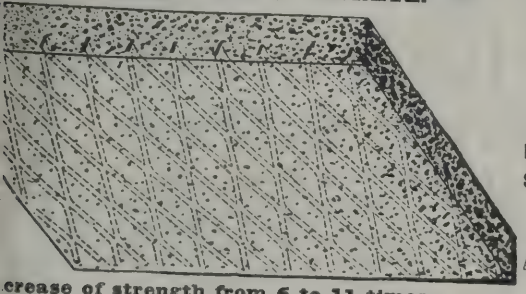
ON AND EXETER ARCHITECTURAL SOCIETY.

following report was read at the annual meeting of the Society :—

is satisfactory to know that our list of membership has ly increased, and now stands as follows :—Members, 45; ate members, 9; associates, 13; honorary members, 4—71, as against a total of 68 in 1898. One of the members Council (Mr. G. Soudon Bridgman), having retired from ce, has resigned, Mr. J. E. Harvey being elected by the il to his vacant seat. Since the annual meeting, held at r on May 7, 1898, there have been held six general gs and seven meetings of the Council, when many rs of professional interest have been dealt with. The ects' Registration Bill, and the attitude of the various es in relation thereto, has been a source of considerable pondence. Communications have been made with the Institute, the Society of Architects, and the various societies, from which it would appear that, while the A., the Leeds and Yorkshire, and the Birmingham ies are against the Bill, the Society of Architects, the e Institute, the Northern Architectural, and the Sheffield ies are in favour of it ; while the remaining societies are neutral or have not given a definite answer. The New Wales Allied Society "intend shortly to endeavour to the introduction into the Parliament of this Colony of a ving such (Architects' Registration) for its object." But of the manner in which much of the building work is ed in this district, your Council feel strongly that some steps should be taken to safeguard the interests of not only the profession but the public at large. The Council have had before them the "Administration of Building By-laws in Rural Districts" ; also communications from the Birmingham Architectural Society with regard to "Building By-laws and their Administration" ; the new building by-laws for Exeter ; the Tavistock Road (Plymouth) competition ; the St. Thomas's Board Schools competition, as well as those for the Okehampton new workhouse and Totnes cottage hospital. The advice of the R.I.B.A. has been asked as to the extent of the liability of architects under the Workmen's Compensation Act, 1897. This has been referred for counsel's opinion. The prize offered by the Society for the best sheet of measured drawings has been awarded to the only competitor, H. E. Roskruge, Devonport. The Council are glad to be able to state that the balance in hand amounts to 8*l.* 14*s.* 11*d.*, which is principally owing to the saving and profit accruing from the publication of the extended annual reports, amounting in the last two years to over 13*l.* In accordance with the rule, three members of the Council—Messrs. King, Bridgman and Tait—would retire ; but Mr. Bridgman having resigned, his place was filled by Mr. J. E. Harvey. Messrs. King, Harvey and Tait are eligible for re-election. The Plymouth, Devonport and Stonehouse branch has been doing useful work, especially in connection with the competition for the Tavistock Road building scheme, the conditions of which were so manifestly unfair, from a professional standpoint, that representations were made to the Corporation of Plymouth with a view to their modification. The Corporation, however, would not accept the suggestions, and in consequence no practising architect of the three towns (with the exception of a junior member of the profession who is not a member of this Society) took part in the competition, and Mr. Crickmay, R.I.B.A., who was asked by the Corporation to act as assessor, declined the appointment. The branch report their funds to be in a satisfactory condition.

The president, Mr. Crocker, in his address expressed their congratulations to Mr. Cameron, the Exeter city surveyor, whose genius had apparently solved the great sewage question and turned it into an effluent of the most tempting appearance. He alluded to the admittedly rare bestowal of titular distinctions upon members of their profession, but did not think the matter of much consequence, except as a gauge of the conception existing in certain quarters of the national importance of architecture. Dealing with the question of architectural educa-

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CE LIST AND ESTIMATES ON APPLICATION.

tion, he said he would extend the usual month on probation to three months at least, during which time everything possible should be adopted to discover what sort of a man the pupil was likely to make. If he showed no special aptitude it was hardly necessary to say that it was much better he should go home. After a reference to the question of the amount of personal instruction which could be reasonably expected from the principal to the pupil, the president went on to speak of the Architects' Registration Bill, which had passed its first reading in the House of Commons. Its object was set forth in the first clause:—"Whereas it is expedient that persons requiring professional aid in architecture should be enabled to distinguish qualified from unqualified practitioners," &c. It was said by objectors that artistic qualifications could not be tested by examinations, but surely that was only partially true, for the proportion of marks given by the R.I.B.A. for literary and artistic subjects was very large in comparison with those given in the other branches. Another objection was to indiscriminate registration. That seemed to him very much like arguing that if an evil be great it must nevertheless not be arrested. Again, there was a third objection to any endeavour to protect the public. It was urged that if the public were satisfied with their choice and with what they got, well and good. But were they? He confessed, however, that he had more sympathy with the last objection than with any other. When he turned to the advantages of the Bill, he spoke with no affectation of self-deficiency. It had been felt that architecture ought to be redeemed from he possibility of any person designating himself architect who possessed no other qualification than, as someone put it, "the ability to pay for a brass plate." It appeared to him that the men in whose power it was either to place a blot on the landscape or to dignify the city, ought, in the best interests of a noble profession, to be amenable to some scientific or artistic standard. It was largely for the architects of the country to say whether the highest interests of architecture were best respected and secured. The R.I.B.A. still stood aloof, and in considering the question they must, of course, place all personal interests last and keep only the highest objects before them.

A vote of thanks to Mr. Crocker for his services as president during the year was cordially adopted, on the motion of Mr. Coles, seconded by Mr. Hine.

Mr. Ralling proposed the election to the presidency of Mr. C. King.

This was seconded by Mr. Luff, and unanimously carrie

In accepting the office, Mr. King returned his thanks fo honour conferred upon him, and promised to do all in power to promote the interests of the profession during coming year.

Mr. C. J. Tait, of Exeter, was appointed vice-presid and Messrs. Penn, Harvey and Luff were elected membe the Council.

Thanks were expressed to Messrs. Reed and Shires, general secretary and secretary of the Three Towns' bra respectively, for the assistance they had rendered to Society during the past twelve months.

PATENTS.

[*This List of Patents is compiled specially for this Journa Mr. G. H. Rayner, of the firm of Rayner & Co., sulting Patent Agents, 37 Chancery Lane, London, W from whom all particulars and information relatin Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

9625. Benjamin Robinson, for "Improvements in manufacture of glazed or fireclay bricks and the like."

9669. Emmanuel Brogneaux and Henri Steven, for "I provements in rotary presses for the manufacture of bricks conglomerated articles in general."

9771. Reginald Haddan, for "Improvements in t bricks."

9816. Charles Woodbury Stevens, for "Processes fo manufacture of artificial stone."

9946. Joe Hirst, for "Improvements in the method of in means for paving."

10048. Hendrick Ludeling, for "Improvements in roo tiles."

10075. Paul Cornelius and Moritz Kluge, for "Imp ments in and relating to grates and furnaces."

10102. John Gill, for "Improvements in extractors chimneys and other places."

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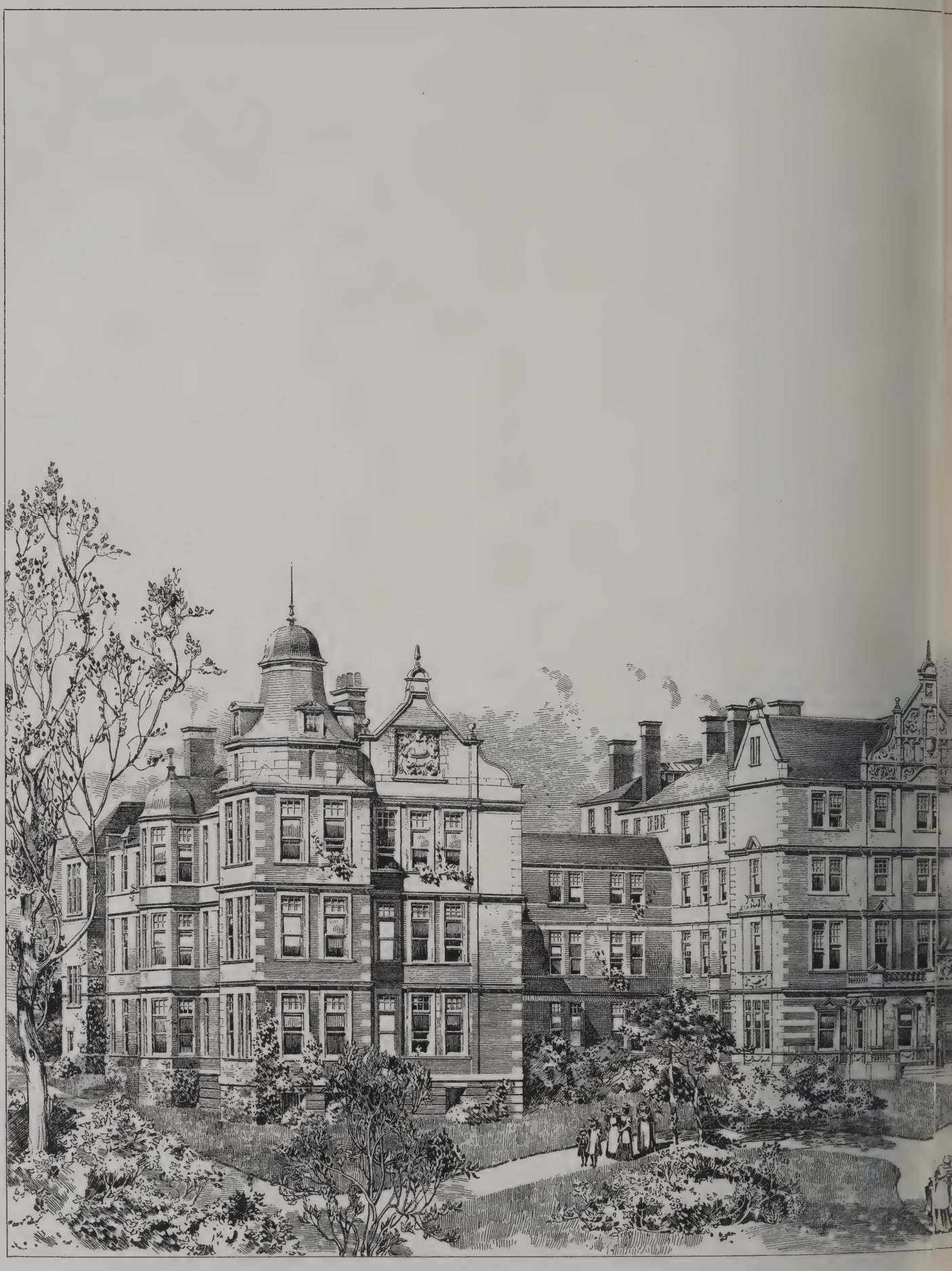
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CATHEDRAL SERIES, No. 182c.—ST. ALBAN'S: VIRGIN AND CHILD AT BACK OF REREDOS.



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CATHEDRAL SERIES, No. 182a.—ST. ALBAN'S: DOORWAY, SOUTH TRANSEPT.



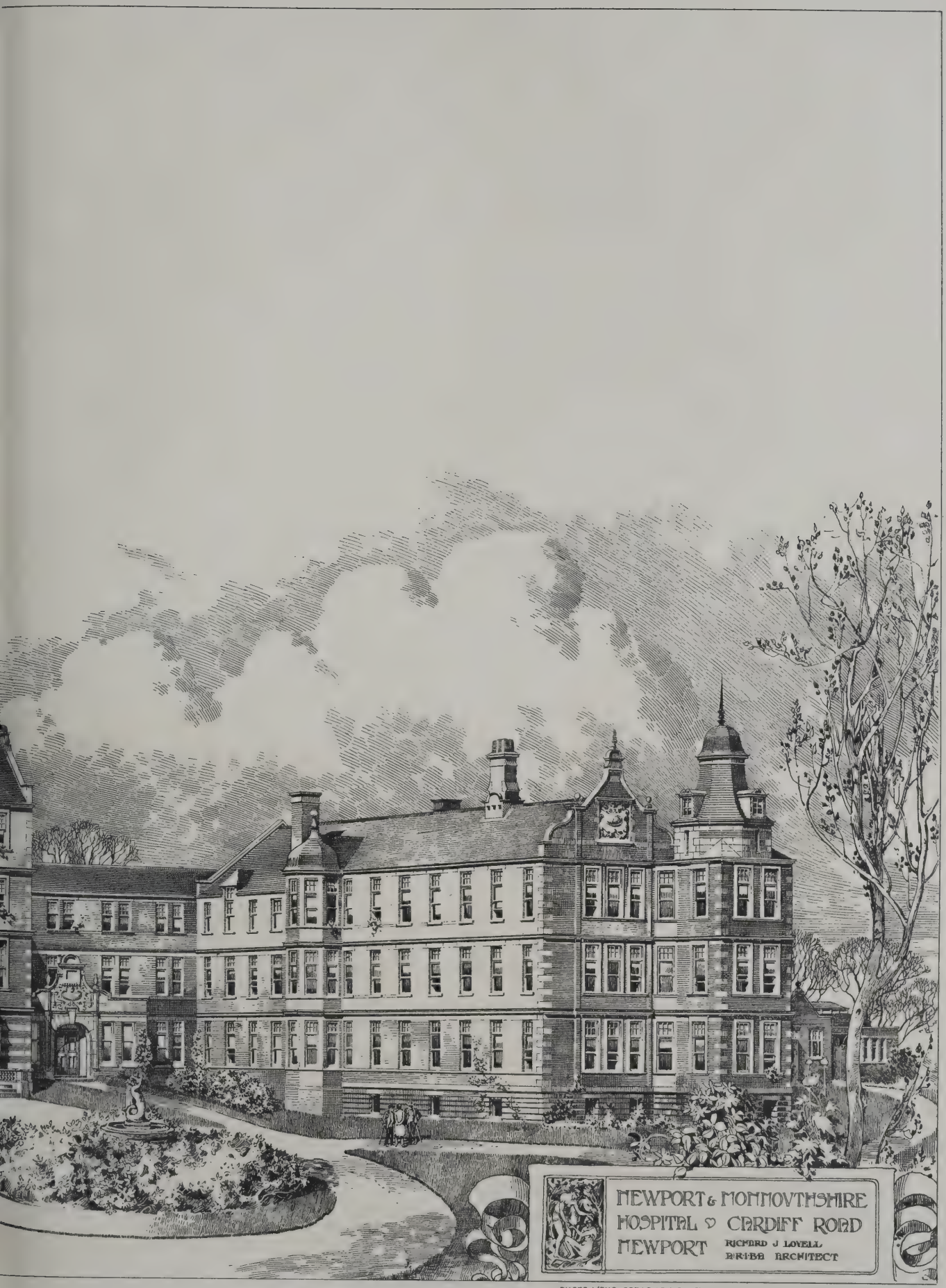


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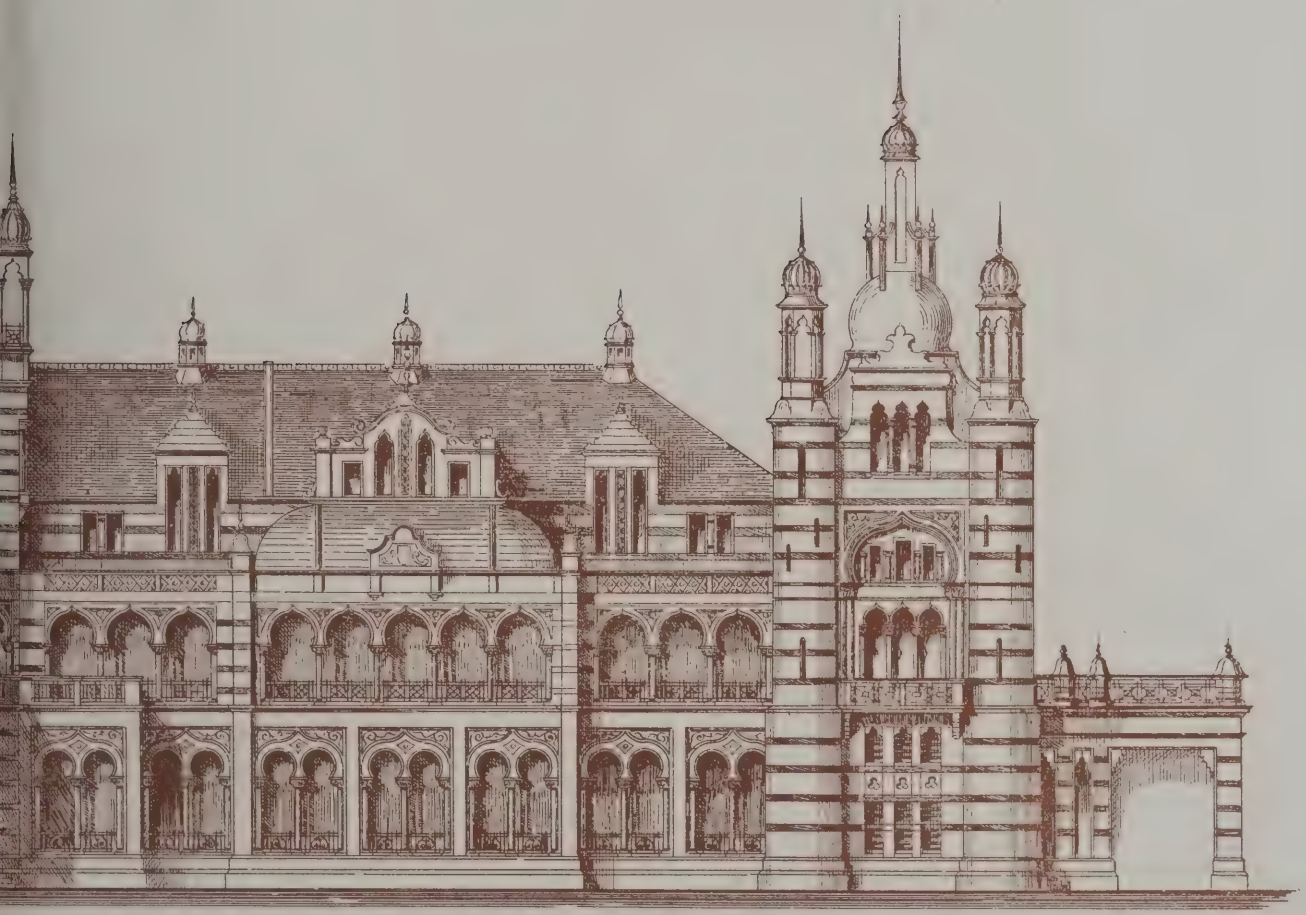


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CATHEDRAL SERIES, No. 182b.—ST. ALBAN'S: DOORWAY IN SOUTH AISLE.



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CATHEDRAL SERIES, No. 182d.—ST. ALBAN'S: THE WATCH GALLERY.

The Architect.

THE WEEK.

When the print of Rosa Bonheur's *Horse Fair* appeared n Gambart's window it was taken as a revelation. andseer's and J. F. Herring's well-groomed steeds eemed to belong to a different species from the powerful nimals that were exhibited in the neighbourhood of Paris. he interest was magnified when it was found the painter as a young woman. In those days there was little nterest taken in French art, and English amateurs were ot aware that the artist had gained a reputation by a succession of able works in the Salon. Mdlle. Bonheur was ne daughter of a painter, who had to sacrifice his future to ne necessity of providing for a numerous offspring. Yet e was unable to do more for Rosa than to apprentice her o a dressmaker, for she showed no willingness to study. ut sewing was as hateful to her as reading. Accident evealed an inclination towards sculpture; then colour btained supremacy over form, and she became a copyist n the Louvre. Next she took to landscape painting, and nally sheep became her models. The family lived on the xth floor of a house in the Rue Rumford, Paris, and there sheep was installed. As her skill increased she was tracted to the abattoirs, and attended one three times a week. n 1841 two of her pictures were seen in the Salon. But er works were not appreciated until the *Bœufs du Cantal* as purchased by an Englishman, and immediately afterards Rosa Bonheur was awarded a first medal. The rench Government also gave her a valuable Sèvres vase. n 1849 two of her paintings were purchased by the State, ne being the well-known *Labourage Nivernaes.* She ould then afford to be eccentric, and to wear a masculine rb whenever she passed beyond the fortifications. She llowed herself no relaxation. The original of Schaunard the "Vie de Bohème," described her as "l'ascète du avail et de la vertu." She remained what she was in 849 up to her death on Friday last, in her cottage at By, ear Thommery, Fontainebleau. Only a few days had apsed since she had declined to allow her name to be ntered among the candidates for the *médaille d'honneur* of e Salon. Rosa Bonheur had lived for seventy-seven ears, and during fifty of them she had accomplished an nount of work that entitles her to be ranked with the eat animal painters of Holland. Her extraordinary ccess was attributed by her to constant labour rather than genius.

A week ago the designs for the memorial of Louis rançais, the landscapist, were exhibited at the Ecole des eaux-Arts, Paris. It did not require long to make a lection. The model of M. Peynot was unanimously lopted, an event which is rather unusual in art competitions. The site of the memorial is to be at Plombières, a spot which commands a view of fine scenery. . Peynot has designed a half-length portrait of the artist, nich enables the arms to be represented; one hand holds pencil, the other a palette. Français appears to have s gaze rivetted on the beautiful scene before him. The st is flanked by two symbolic figures. One is Painting, no is draped, and presents laurels, palms and flowers to e artist. The second is an undraped girl, who plays on a pe, and stands for nature. The combination is appropiate, for there was something of an antique spirit to be ced in the works of Français. Whether he employed lours or crayons he was always a stylist, and enhanced e subjects he represented.

As we anticipated last week, the coveted *médaille honneur* has been awarded in the section of architecture the salon to M. Loviot, for his design for a salle des fêtes. painting M. Tattegrain has been successful. The rk which gained the distinction was a scene from the ack on Saint Quentin by the Spaniards. Originally e artist was known as an engraver, but he now produces ry large historical pictures, which are remarkable for the tention given to costume. His *Entry of Louis XI. into aris* won him a reputation, which is sustained by this ar's *Exodus*. In sculpture the successful artist is M. Ernest Dubois, but M. Boisseau was within two votes of the majority. M. Lecouteux obtained the medal in the section of engraving and lithography. MM. Hannotin and Boütron have obtained medals of the first class in architecture, and MM. Maistrasse and Berger have been recommended for a similar distinction. The second class were awarded to MM. Chaussemiche, Laborey, Balleyguier, Chaussepied, Héneux, and third-class medals to MM. Bélesta et Thillet, Bourdillat, Sansaulieu and Guinot.

On Wednesday the application for a faculty to allow of the sale of the forecourt of St. Dunstan's in the West was heard in order to enable the Law Life Assurance Society to extend their offices. It was stated by counsel that the building of the church was commenced in 1831, and it was consecrated in 1833. The Law Life office was erected at the same time, and by the same architect, and the building harmonised with the church. If the new plans were approved the proposed extension over the forecourt would maintain that harmony. At present there was no proposal before the Court to fill up or occupy the forecourt on the east side, but the idea was to devote the proceeds of the sale of the site on the west of the tower to the ultimate erection of a rectory house on the east. But that part of the scheme is in abeyance until questions of ancient lights are arranged. The sum to be paid is 4,500*l.* There was no opposition on the part of the vestry or any of the parishioners. It was maintained that the general effect of the scheme in its entirety would not be detrimental from an æsthetic point of view. The tower would simply be flanked by buildings in architectural harmony with it on either side. Evidence was given by Mr. Clifton and Mr. Caröe. The Chancellor declared his readiness to grant a faculty, but intended to visit the site to determine what provisions would have to be made to meet the requirements of the case.

If the plasterers have at last succumbed, it was owing not only to the resolution and union of the builders, but in a large measure to the failure to find allies among the other building trades. The latter may have considered the time was not ripe for a great strike, but at present we can assume that the policy of allowing the plasterers to remain isolated was dictated by good sense. At present there is the consolation of an assurance that a year in which the losses of its predecessors can be compensated will be allowed to run its course without any social obstacle suddenly appearing. The conference between representatives of employers and plasterers was held in London on Tuesday. A chairman was found in Mr. E. T. Cook, of the *Daily News*, who was without any interest to make him partial to either party. It was decided that the cause of all the woe, viz. the claim that only foremen who belonged to the Plasterers' Association should be employed, must be formally abandoned. The determination of the number of apprentices is to be referred to a special joint committee, but it was suggested that the difficulty could be solved by means of a provision for having every apprentice legally bound. The men have resolved to avoid boycotting and blacklisting in all cases where the employers adhere to the rules, and the employers have undertaken to strictly enforce the rules in all parts of their contracts. Joint committees are to be established in various districts to define the demarcation in cases where there is any dispute between plasterers and other trades about the right to do certain classes of work. Pending reference to the committee, there is to be no strike or lock-out. In cases of objection on the part of members of the Plasterers' Association to work with non-members who had made themselves specially objectionable, notice is to be given, and a truce of six days is to be allowed to enable representatives of masters and men to arrive at an amicable settlement. Finally, the employers agreed that where they can secure British plasterers the foreigners employed during the dispute will be dispensed with as their contracts expire, and members of the Association will not be required to work on the same buildings with them. The members, on their part, are not to object to fixing work prepared by the foreigners. The men have yet to endorse the arrangements. We hope both parties will respect the agreement, which is advantageous for the building trades in this country.

ROCHESTER CATHEDRAL.

(See Illustrations.)

WE hope we shall not be accused of irreverence or indifference to history or ecclesiology for saying that Rochester Cathedral has suffered because the story of "Edwin Drood" was not destined to be completed. The reason for our belief is founded on facts which are almost universal. To gain for a building popular esteem something else is required besides architectural beauty. It must have been associated with events which appeal to the emotions. Failing them the building can become almost as interesting on fictitious grounds through the power of the poet or the writer of romances. Mr. RUSKIN, with all his love of truth, was, like an ordinary tourist, fascinated by "ROB ROY'S pillar" in Glasgow Cathedral, and from passages in his books we can see that he preferred to trust to SCOTT'S descriptions of buildings rather than to the impressions which the buildings made on his own mind. Now what Rochester requires is something of that historical or legendary nature which it does not possess. It stands in so admirable a position, and is so near London, the ordinary lover of architecture cannot be satisfied with either the Norman or the Decorated work, and he is no less indisposed to accept its commonplace annals. Happy is the country or district which has no history, for that usually means many generations of men who are able to live in peace. But an existence of that kind does not excite much interest after it has passed away. Suffering has a better chance of remembrance. Much less than a century is sufficient to make people feel no pain at the recital or recollection of the woes of those who suffered calamities, or if we cannot help having sympathy then it becomes a luxury.

Now there is not anything which can be considered sublimely tragic or pathetic in the history of Rochester, and if DICKENS had realised his intention the cathedral would have gained a new interest which would have attracted crowds. The earlier names of the city, Durobrivæ, Roibis, Raribis and Hrof-Ceastre, are evidence of antiquity, and apparently it was of some importance prior to the arrival of the Roman CLAUDIUS. When about seven years after his arrival in Canterbury St. AUGUSTINE, having secured the support of ETHELBERT, resolved to establish two other bishoprics, London and Rochester were selected for the sites as if they represented southern England. The Roman missionary, JUSTUS, was appointed to the episcopal chair placed for him in a new church in the stronghold on the Medway, which was dedicated to St. ANDREW the Apostle, who was the patron of the monastery from whence the missionaries had arrived in England. From some of the property then assigned to the see a revenue is still derived for the support of the cathedral clergy. JUSTUS was not allowed to enjoy a peaceful episcopate, and at length he fled across the channel from his persecutors. The kings of the time were not steadfast in their faith, and in common with the northern tribes they found great difficulty in approving of a doctrine by which they were supposed to agree that their ancestors, whom they reverenced, were justly punished in another world for paganism. In one of the outbreaks against Christianity Rochester and its cathedral were destroyed by the Mercian king ETHELRED in A.D. 676. In the course of the restoration of the existing building about ten years ago, remains were discovered in the foundations which were supposed to have formed part of the first cathedral. As Rochester was attacked in A.D. 839, 885 and 998 by Danish invaders, any building which was erected to take the place of JUSTUS'S cathedral was likely to have suffered, and at the time of the Norman Conquest it was described as falling to pieces.

WILLIAM'S brother ODO, the warrior Bishop of Bayeux, appears to have been placed in command of the castle of Rochester, which the Conqueror had erected or restored. For the bishop's office ERNOST, one of the monks of the famous abbey of Bec, was selected by LANFRANC; but as he lived in Rochester for only a few months he was unable to exhibit his power. He was succeeded by GUNDULPH, whose name will always be connected with the cathedral. He possessed that instinct for building which characterised so many of the Mediæval clergy, and there was scope enough for its exercise at Rochester. As was said by LAMBARDE, he "never rested building and begging, tricking and garnishing till he had advaunced this his creature to the just wealth, beautie, and estimation of a right Popish Priorie." Apparently he commenced with the tower, but for what purpose cannot be determined. The history of the cathedral during four centuries suggested there was a need to supplement the strength of the walls with a defensive structure, and GUNDULPH, who was employed at the Tower of London, may be supposed to have a knowledge of military engineering which he would wish to exercise for the security of his own church. There is another theory, according to which the tower was a campanile; but as it was never much more than 60 feet in height it could not be very serviceable in that capacity, for the sounds would not travel far. That it was used as a belfry does not imply there was no other reason for its construction. The lower part of GUNDULPH'S tower has survived, and is preserved as a relic, but it does not increase the picturesqueness of the cathedral.

The value of the relic is enhanced because it is uncertain how much of the cathedral can be ascribed to the bishop. The Norman bays of the nave up to the choir arch were probably carried out by him on the south side, but whether he completed those on the opposite side is doubful. While the Norman style prevailed alterations took place, and it is supposed that a part of GUNDULPH'S work was superseded by masonry arranged in a somewhat different form. The Norman triforium, for instance, is considered to belong to the later period, and as much of the west front as is Norman and which is generally accepted as the most interesting part of the exterior, cannot be credited to GUNDULPH. Bishop ERNULF, who was consecrated in 1115, and his successor JOHN, were also lovers of building, and it is supposed they endeavoured by casing and other means to transform the severity of the work of the first Norman bishop. The cathedral was consecrated in 1130, when HENRY I. attended, but during the ceremony a fire took place in the city to which many of the wooden buildings succumbed, and the cathedral did not altogether escape. During the twelfth century there were other fires, and one of the consequences is the extreme difficulty of discovering when several parts of the Norman building were erected.

The need of enhancing architecture by interest of another kind was more felt in an earlier period. Although Rochester Cathedral was almost the oldest in England, and was associated with St. JUSTUS, St. PAULINUS and St. YTAMAR, who were among the bishops, yet it was without a martyr, and was therefore in a manner inferior to the mother church of Canterbury. In 1201 a Scottish baker named WILLIAM, who belonged to Perth, had vowed to make a pilgrimage to Palestine, and arrived in Rochester. He worked at his calling while on his journey, and made it a rule to give one in ten of his loaves to the poor. From Rochester he intended to proceed to Canterbury, but he was murdered on the way by his servant. His body was brought back to the cathedral and obtained the reverence usually given to a martyr. Out of the offerings made at the tomb enough money was obtained to pay for rebuilding the choir. The work was accomplished under the direction of WILLIAM DE HOO, the sacrist, who may have been the English WILLIAM, the renowned successor of WILLIAM of Sens at Canterbury. In the course of the thirteenth century WILLIAM of Perth was canonised, and his memory deserved all the honour which the clergy could bestow, for at the time when his remains arrived the cathedral treasury was empty. The reverence for him was not confined to the poor, for it is recorded that EDWARD I. on a visit to Rochester offered fourteen shillings at the shrine.

From time to time additions and alterations were carried out in the cathedral. The usual rule of introducing the style of the moment was not always adopted, for it is believed that builders as late as the Decorated period imitated the Norman work of the triforium. In 1343 the central tower was raised, but it is needless to say it is not the structure now seen, which cannot be said to possess the qualities of fourteenth-century Gothic. For the existing tower Mr. COTTINGHAM was responsible. During the Perpendicular period there was a revival of interest in the building. JOHN ALCOCK, who reigned from 1472 to 1500, was the last of the building bishops, and during his

piscopate the west window and other works were constructed. The lady chapel, which adjoins the nave and the outh transept, was another work of the time. The years hich followed were not eventful, and the bishopric declined, possible, in importance. It is now difficult to understand hy JOHN FISHER, who was chancellor of Cambridge, ıould be considered as receiving promotion when he was ıade bishop. He was executed by HENRY VIII. in 1535, nd subsequently a new order of things was introduced.

It was the king's desire to apply the revenues of the athedral mainly towards educational purposes. But it annot be alleged that the conservation of the cathedral was eglected. About a century after the change it was reported Archbishop LAUD that the building suffered from the bsence of glass in the windows, but the explanation offered y the Dean and Chapter was that extraordinary expenses ad to be met, and that the windows were left unprotected hile other works were in progress. About the same time military officer described the cathedral as "very lightsome nd pleasant." The Parliamentary troops did not commit as ıuch vandalism in Rochester as in other places, and confined ıeir acts to the altar and its surroundings. But a great ıurch may superficially appear in excellent condition hile dangers to its stability are increasing. It was reorted in 1662 that although a sum of 8,000*l.* was exended by the Dean and Chapter of the cathedral, at least 000*l.* in addition would be required to complete the paration.

In 1679 the fall of the steeple was declared to be ıminent, and the estimated cost of the required works as said to be 1,000*l.*, but by a smaller outlay the timber ructure was made to endure until 1749. The cathedral ıs a heavy responsibility to the authorities. HASTED, the storian, writing in 1782, was of opinion that "in all kelihood the care and attention of the present Chapter ll not be sufficient to prevent the fall of it even in their ne." During the present century it was necessary to pend large sums on reparations. Although COTTINGHAM, COTT and PEARSON have accomplished much, there are any opportunities remaining for those who are lovers of verential restoration.

CHARLES SIMART.

[BY A CORRESPONDENT.]

T is often said that if an artist will scorn to produce works which are not above the ordinary level of the ırket, and will endeavour to rival the great masters of tiquity or of the Renaissance, he is sure of renown. The e of CHARLES SIMART, the French sculptor, is a comentary on that theory. Only about forty years have passed since his death, and yet his sacrifices for the sake the highest class of art are now remembered by no ore than a few sympathisers. His career is never referred as an example of lofty aims, and as far as fame goes he ght have been one of the artists who divided their oughts between commerce and art, and of the two prered the former. Yet no man of his time was more pired with the forlorn hope of elevating art than CHARLES IART, and for the greater part of his life he suffered ough faith in his ideal. The antique sculptors devoted mselves to lofty subjects, and SIMART also would not ndescend to treat anything of slight importance. As a ult, what he produced was generally above the intelliıce of the public. SIMART was therefore deprived of the rons on whom artists depend. He accepted his fate, l not until the close of his life did he utter the sad clamation that "sculpture was a horrible trade." Yet the n who endured so many privations for the sake of art onged to a class who might be supposed to aim at wealth ove all things.

CHARLES SIMART was born in Troyes in 1807. His ıer was a joiner, and it was intended that he was to ow no higher occupation. In those warlike days France s not indifferent to technical education, and the boy was tructed in practical geometry and line drawing. But the ıng SIMART found more delight in less formal work. e drew the figure and copied ornamental forms. Antique fascinated him, and with such tools as he found in his father's workshop he carved a copy of a bust of the NIOBE when he was only fifteen. In French towns there are always men who are on the look-out for indications of artistic power. Troyes was not an exception. SIMART was considered to be likely to add to its reputation, and arrangements were made to enable him to study sculpture in Paris, and a sum was guaranteed that would be sufficient to pay his fees in one of the ateliers. The expenses of maintenance and lodging he was expected to provide by employment of some sort in Paris.

In common with the majority of students in similar circumstances, SIMART suffered during his first period in the city. But such trials are not without advantage, for they are tests whether a youth's enthusiasm is sincere. DUPATY the sculptor took pity on SIMART and obtained for him some humble commissions, and, among others, one of the numerous busts of CHARLES X. which had to be produced in 1826 for official purposes. He was too poor to employ a carver, and SIMART was therefore obliged to operate on the marble as well as to model. His ability was recognised, and PRADIER, who was supposed to be inspired with the antique spirit, not only employed him, but brought SIMART as a companion to Rome. He studied as well as worked as a sculptor in the ancient capital, and on his return to Paris in 1833 he competed for the Prix de Rome and was successful.

SIMART went back to Rome under new conditions. He possessed the skill of a practician as well as the ardour of a student. He was able therefore to utilise to the utmost the resources which Rome possesses. His theory was that by an impartial combination of the study of life and the study of the antique he would be able to advance towards the goal which was sought after by the greatest sculptors in all ages. He was by nature an idealist, but that did not make him indifferent to living forms. SIMART'S eclecticism was exemplified by the *Disc-thrower* and the *Orestes*, which under the conditions of his prize he was bound to send to Paris. The latter was purchased by the Government in order to be kept in Rome to serve as an incentive to future prizemen. It will be said that the majority of sculptors adopted principles corresponding with those of SIMART, for who can nowadays be an unmitigated idealist or realist? Everyone must compromise, and the result will correspond with personal idiosyncrasy. The proportions of realism and idealism are not to be determined as if they were chemical quantities, and a sculptor's most characteristic work is that in which he adopts the quantities that are satisfactory to himself. SIMART leaned to idealism, and there was a seriousness about his figures which made people believe that he preferred the severe, and looked upon himself as a follower of the earlier schools of Greece. But it could not be said that his works were chilling or inanimate. The subjects of the public commissions assigned to him were, however, sufficient to raise a prejudice against SIMART. For the Senate he produced figures of *Philosophy* and *Poetry*, and it would be difficult without becoming exaggerated for either to assume the animation which the people of Paris admire. RUDE'S *Chant du Départ* and the *Danse* of CARPEAUX are examples of the classicism which have perennial interest in the capital. SIMART could not imagine *Justice*, *Agriculture*, *Industry*, *Commerce* presenting such an appearance of active force. Repose with him was an indispensable quality of sculpture, and the subjects offered to him for treatment required it as essential.

SIMART was as much an admirer of INGRES, the painter, as any of his pupils. The sculpturesque figures of that artist appealed to him more strongly from the canvas than if they were modelled in clay. In return INGRES used all influence to aid the sculptor. He obtained for him the support of the DUC DE LUYNES. One of the large rooms in the Château de Dampierre was adorned with wall paintings by INGRES, and SIMART, on his recommendation, executed a frieze. The subjects he selected were the various ages of which the world was supposed to have had experience—gold, iron, &c. SIMART'S success induced the DUC DE LUYNES to give him a commission for a reproduction of the *Athené* of the Parthenon, which was one of the great works of PHIDIAS. The description of PAUSANIAS was followed, and therefore several materials were employed. The face was of ivory, with eyes of azurite, a blue mineral containing much copper. Around the neck was a collar

of green amazonite ; the breast was covered with a gorget of gilt copper, with serpents and a medusa of ivory ; the tunic was of silver, to which a green tone was imparted ; the feet were of ivory, with sandals higher than those employed on the Greek stage. The arms were of ivory, but the material was there more suggestive of heaviness than of strength. On the head was a colossal helmet. The appearance of the figure was a surprise, but it was judged as if it were an *objet de Paris*, which was to be placed on a table in a salon. SIMART had endeavoured to represent a being that was a spirit rather than a woman, and critics were disappointed because the statue did not correspond with one of the ivory figurines to be seen on the boulevards, and the head was not as attractive as one cut from meerschaum for a pipe-bowl.

Another work for which SIMART was selected consisted of the reliefs which surround the sarcophagus of NAPOLEON in the Invalides. The subjects were serious, and in any place could not well be treated in a lightsome mood, but in a mortuary chamber there was an additional cause for realising their full importance. That SIMART's reliefs impress most visitors is a tribute to his skill, but we are afraid the true cause of the effect produced is not always admitted. The sculptor's name is now rarely mentioned, nor is his example cited as a pattern for his young countrymen, although he was prepared to endure much for the sake of his art. The recollection of his fate is not encouraging, and it would be well if critics would more often realise that the failure in more than one sense of CHARLES SIMART forms a commentary on the sublime doctrines which are announced for the guidance of artists, who are expected to make sacrifices such as are not imposed on any other class of men.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last at Conduit Street, W., Professor Aitchison, R.A., president, in the chair.

The President moved the temporary suspension of by-laws 3 and 7, so as to allow of the nomination of the Royal Gold Medallist elect, Mr. George F. Bodley, A.R.A., as a Fellow. The motion for suspension was carried by acclamation.

The Secretary announced the decease of Mr. Charles Bell, who was elected Associate in 1870 and Fellow in 1880.

A letter was read from Lord Reay, who had been invited to the meeting, in which he expressed regret for not attending, as he was going abroad. In commenting on the paper to be read, Lord Reay said :—"Mr. Bailey's paper is of great interest to architects and educationists, and deserves to be widely read and translated in foreign languages, as it is sure to attract the attention of foreign educationists. Mr. Bailey speaks with authority. The building operations of the London School Board are on such a large scale, the problems which have to be solved are so varied, they have been so carefully considered by a number of experts, that Mr. Bailey's admirable review of this branch of the School Board work cannot fail to meet with the full recognition due to the care with which it has been written."

Mr. T. J. Bailey, architect to the School Board for London, read a paper on

The Planning and Construction of Board Schools.

Dealing first with the public elementary school, the author dwelt upon the need for careful selection of the site. An ideal site would be one of about two acres, rectangular, with the longest side as a street frontage and having a western aspect streetwards. There should be proper provision of light and air, immunity from noise of traffic for classrooms, an open playground space of at least 30 superficial feet for each child, and of such a shape as to be available for games such as foot-ball for the boys, tennis, &c., for the girls. In London and crowded districts where the ideal 30-feet minimum cannot be realised, the playground question is usually best solved by providing on the ground-level for boys and infants, and putting a flat over the whole top of the building to form a playground for the girls ; where sufficiently large, playgrounds should have a covered space, 50 or 60 feet by 18, with sides enclosed, open in front to the sun. Various desirable accessories to playgrounds, the most suitable paving, walls and railings, gates, the school-keeper's lodge, &c., were duly detailed by the author.

Next treating of the buildings, the author described the three-storey school as being the most usual type. The infants are on the ground floor, the girls on the first floor, the boys above. The maximum size or accommodation of a group should not exceed 1,548—in departments of boys 516, girls 516, infants 516—and if further accommodation is required, it should be provided by a separate mixed department. The hall, considered by the Board indispensable to every department, is a very good size at 54 feet by 30 feet ; the classrooms, ten in number to each department, graduate from sixty to forty in accommodation. If possible, the main line of classrooms should face the playgrounds rather than a noisy road, and draw their light from the east, as that aspect suns up the rooms in the early morning and does not disturb them for the day. The hall, facing west, provides a good reservoir of sun-lighted air to help the classrooms, and is a cheerful place to march the classes into for recreative or collective purposes. Architecturally this elevation, being the more broken up (comprising the main lighting of the hall, the staircases, cloak and teachers' room and blocks and gable ends of wings), is more desirable for a street front than the long unbroken line of classrooms. Two staircases for each senior department are required, and two entrances for the infants on the ground floor. The author then described in detail the plan of the building, the dimensions of the various rooms and staircases, the fittest materials for facing walls and for floors and staircases, the requisite fittings and the lavatory and sanitary arrangements.

Touching warming and ventilation, the author glanced at the efforts towards improvement in these matters during the last twenty years. He commended as very good the system of low-pressure hot-water pipes round the walls and just above the floor where the desks are placed, and a few ventilating radiators bringing in warm fresh air ; but even with this system an open fire in the room is needed, the brick flue simply connecting with the outer air not being sufficient for extraction. The author had tried trunks from the ceiling-line of each room gathered into groups with a single outlet equal to the combined area of the group, and with a coil of hot pipes in the same to produce an upcast. This was effectual as far as ventilation was concerned, but could not be recommended for schools of more than one storey in height ; in three-storey buildings it had the effect of conveying the sound from the rooms below to those above and disturbing the classes. The greatest care should be taken to get continued purity of air and with as little trouble as possible. The system known as the "Plenum" effected this in the only satisfactory way; it introduced fresh filtered air above the heads of the occupants of the room, warm in winter and cool in summer, diffused it over the area and extracted it at the floor-level on the same side as the inlet, carrying away with it all the unpleasant odours of damp and evil-smelling garments. This system has the further advantage that where closed and even double windows are necessary to exclude noise there is always a quiet side from which the supply of air can be drawn, and the closed and double windows improve the working. The cost is not appreciably more than an ordinary hot-water installation, but the builder's work involved in the formation of ducts, flues, &c., is a rather costly item.

In a section on furniture and fittings the author dealt with the pattern of desks and their arrangement in the various departments, the lighting, the seating accommodation, platforms, cupboards, and the adjuncts found essential for educational and recreative purposes. Interesting reference was made to an order issued by the Board to each of their schools requiring a plan of the departments to be prepared by the scholars under direction of the teacher, measured and drawn to a scale of 4 feet to the inch, the furniture delineated and the walls coloured in, and submitted to the architect for approval before being framed and hung up in the school. Some two or three hundred of these plans had been submitted to the author, and he had been much surprised and pleased at the high quality of the work. Few had been returned for revision, and some would have been no discredit to an architect's office.

The higher-grade schools, of which there are forty-four in operation under the London School Board, are equipped with rooms for science teaching in addition to those for art and manual work. They comprise chemical and physical laboratories, with balance-room and small dark-room for experiments in photography, and a store for chemicals, also a demonstration and lecture-room. The buildings, fittings and general arrangements of the Cassland Road school, Hackney, a typical example of the higher-grade school, were shown in a series of detail drawings exhibited by the lecturer.

A third division of the paper was devoted to buildings for special instruction, comprising centres for domestic economy (cookery, laundry-work and housewifery), manual training in wood, manual training in metalwork, swimming. The combination of subjects in the domestic economy curriculum has led to the requirement of a building in each case capable of giving proper facilities for the teaching. A typical building planned after consultation with the committee in charge of these subjects and the lady superintendent, consisted of a class-room on the ground-floor 22 feet by 18 feet, seated for 40 girls, a kitchen, sitting-room, scullery and bedroom, with entrance-lobby and staircase leading to the laundry and cookery class-rooms on the upper floor, the object being to provide instruction in general housework, as well as cookery and laundry work.

)etails were given of the requirements of the manual training entres for wood and metalwork. With the sanction of the :ducation Department the Board have decided to establish ıree swimming-baths in connection with the schools at Marlorough Street, Southwark; Hugh Myddelton, Finsbury; and yham Road, Brixton. Particulars were given of the proposed ath at Lyham Road. The building will be separate from the :hool and have a distinct and separate entrance, with superıtendent's office, &c. The swimming-pool will be 50 feet by ɔ feet, 2 feet 9 inches deep at one end and 5 feet 6 inches at ıe other, lined with white glazed bricks, and having dressing-oxes, spray-baths, w.c.'s, &c., and washing and drying-room ɔr towels and bathing dresses. The water will be warmed by ıe injection of steam round the sides close to the bottom of ıe bath, the pipes being in chases and cased for protection.

The mixing of children mentally weak with those of normal ıtellect being productive of undesirable effects on both, it has een found necessary to provide accommodation for these in ɔecially planned buildings. There are thirty-nine centres in ctual work in London, with 1,597 children on the rolls October 31, 1898), and about thirty-five more are either in ourse of building or immediately contemplated. The unit for assroom is less than that for the ordinary school, more indiidual attention being required. The classrooms are all on the round floor, are 20 feet square and seated for twenty children. hall corridor about 20 feet wide, well warmed and ıade as cheerful as possible, is provided for exercise, rill, &c. A good lavatory and baths are provided; boys ıd girls are frequently taught in mixed classes, but ave separate playgrounds and offices. Schools for the deaf 're also provided on the centre system, and are much on the ame plan as those for the mentally defective. The classrooms 're smaller, 18 feet square, and seated for ten. Seats should ɔ arranged in a circle, and the rooms should have a strong gh or top light so that the lips of the children can be watched ıd studied, they being taught to read what is said by the lip ovement. The Board have seventeen centres in operation, th 513 children on the rolls (October 31, 1898), and seven in urse of provision. Particulars were given by the author of a heme for the establishment by the School Board of a home r the boarding and instruction of deaf children who had to be ught on the sign system. The schools will be built on the ttage home principle, the number in each home not to ceed ten, and the training will be largely agricultural or rticultural. In most divisions of the London district school acmmodation has to be provided for a few blind children. These mber about 150, distributed over eight centres, and it is genery sufficient to provide two small classrooms at each centre th separate entrances, cloak-rooms and lavatories, the classes ing mixed. Separate play-yards and closets are necessary.

Under the head of "Buildings for the Training of Teachers," e author described a scheme of buildings for this purpose ıich might be considered as very complete, and as embodying that is likely to be required in the future. On the ground or are provided four classrooms for forty-two and thirty-six, o of each seated with single desks; a central hall, 50 feet nches by 33 feet 6 inches, with staircases, &c., at each end; the first floor are four classrooms, and a properly equipped mnasium over the hall; on the upper floor an art room over e gymnasium, the remainder of the floor being devoted to emical and physical laboratories, lecture-room, balance and rk-rooms. A basement is provided for the engineering appa.us, and also a kitchen for the preparation of luncheons. ıe site of the particular buildings dealt with was large ɔugh to give space for lawn tennis on the girls' side, and for tball on the boys'.

The buildings for industrial and truant schools, which next ne under consideration, must be of an essentially different ıracter from other buildings of the Board, as they are ırding establishments. Descriptions were given of a buildrecently erected for this purpose in connection with the *ɪftesbury* training ship and also of the Upton House ant school, the only building as yet erected specially the purpose. The Board are negotiating for a large of some 15 acres in the neighbourhood of London for the pose of erecting two establishments—an industrial school about 120 boys and a truant school for a like number. e two institutions will be entirely separate as far as their upation and management are concerned, but will probably under the control of one superintendent and body of nagers. Details of the proposed plan and general arrangents of the buildings were given by the author.

For the purposes of the administrative work of the Board ndon is divided into eleven divisions, necessitating a corre-ɔnding number of office buildings. The offices for the East mbeth Division, now erecting in the Peckham Road, were ɔcted for description as a typical block. On the ground ɔr is the entrance hall, a large room 57 feet by 22 feet for the itors to perform their clerical work, a room for the assistant ɔerintendent, and an office for the check clerk, also the atories, w.c.'s, &c.; on the first floor a committee-room, used also by the superintendent, and a clerks' office; on the second floor the correspondents' and clerks' offices, and caretaker above.

In a few general remarks, with which the paper closed, the subject of cost was dealt with. The Princess May school, Kingsland, was cited as a typical case, and as tenders were received only so lately as March of the present year, it may be considered as up to date. The building is to be of three storeys, to accommodate 1,548 children, on a site of about 1¼ acre. The cost per head is estimated to be 13*l.* 18*s.* 4*d.* This includes building the whole of the brickwork in cement, also the provision of glazed bricks to staircases, corridors and dadoes of classrooms and halls, but does not include furniture. The cost of enclosing the whole site with walls and railings, tar-paving, drainage, and provision for deep foundations below a normal depth of 6 feet is about 5,000*l.* more. The total cost will be some 750*l.* within the limit allowed by the Education Department. There was a suggestion a few years back that unnecessary expenditure was incurred on architectural adornment, and the committee dealing with this branch of the work ordered two or three schools to be built of stock bricks and slate roofs, with no architectural features about them. It was found, however, that the difference of cost between bare utilitarianism and buildings designed in some sort of style and regard for materials and colour was rather less than 5 per cent.

The Hon. Lyulph Stanley remarked that the building of public elementary schools could not be approached from a purely architectural knowledge of construction. The architect in such work had always to adopt the policy of the managers of any such scheme, and the exigencies of his work would follow the requirements of his employers. Mr. Bailey in his paper had indicated the requirements of school buildings and had suggested certain things in the planning of them, but no definite rule could be given. Many of the educational points had to be carried by force by the London School Board before the Education Department, who often raised objections to the details of a plan.

Mr. C. J. Dawson, headmaster of the Aldenham Street Board School, said the requirements of the accommodation should be framed by the possibilities of a teacher's powers. The combined question of ventilation and warming should receive attention, as in many schools the system of ventilation did not answer, and the mere opening of windows had risks for both the teachers and children.

A vote of thanks to Mr. Bailey, proposed by Mr. E. W. Mountford, was seconded by Mr. R. Phenè Spiers.

The meeting then terminated.

THE ARCHITECTURAL ASSOCIATION.

THE annual dinner of the Association was held at the Holborn Restaurant on Wednesday evening last, the president (Mr. G. H. Fellowes-Prynne) in the chair.

The company numbered over eighty guests, and among those present were:—The Archdeacon of London, Sir Edward Clarke, Q.C., M.P., Canon A. S. Porter, Rev. R. M. Blakiston, Sir H. H. Howorth, M.P., Mr. Aston Webb, A.R.A., Alderman Hind, Dr. G. V. Poore, Messrs. Reginald Blomfield, J. C. Preston, W. E. Riley, H. H. Staham, T. Blashill, W. White, H. Fellowes-Prynne, E. Swinfen Harris, H. Hall, A. W. Johnston, H. Hale, E. A. Fellowes-Prynne, C. Kelway, R. H. Weymouth, C. H. Strange, A. Bolton, A. Dickson, H. L. Florence, F. W. Macey, E. T. Hall, H. T. Hare, G. M. Nicholson, R. S. Balfour, T. Holderness, H. W. Pratt, F. R. Taylor, E. A. Mutter, Beresford Pite, W. H. Seth-Smith, Cole A. Adams, John Slater, Rev. James Beeby, Messrs. B. F. Fletcher, J. Murray.

The usual loyal toast having been honoured, the President proposed "The Church and Houses of Parliament."

The President said he offered an excuse for putting the Church first, because it was always closely allied to architecture. At the present time there was no more difficult toast to propose than the Church, because the subject was full of pitfalls to the uninitiated layman. The Church's influence on their noble art was incalculable, and the art has had an influence on the Church. With reference to St. Paul's Cathedral all who were connected with their art had an interest in the decoration. There was, however, a critical part. St. Paul's was a national monument, designed by one of the greatest of their artists, and architects felt they had a right to speak on the subject of its decoration. Professional advice in the matter seemed to have been ignored, and with the work of such a national character it was necessary that the architecture should be kept intact. The legislature did not seem to encourage architecture, although it was by the art that the history of the country was written preserved in stone.

The Archdeacon of London, who responded, said the modern churches of London were not as satisfactory as earlier examples. They seemed poor in fabric, and there was often great

need for better ventilation. With regard to the decoration of St. Paul's the intention was well meant on the part of the Dean, who had been recommended to take the expert advice of Sir William Richmond. The work he had introduced was extremely beautiful in its way, but the criticism it had called forth showed such professional disapproval that the committee for the decoration had reconsidered their scheme, and when the work was resumed the result would be satisfactory.

Sir Henry Howorth, responding, said architects might think they were badly treated by the Legislature and that Parliament did not do its duty to their art, but in reality the freedom that was allowed to architecture encouraged variety and gave great opportunities to the members of such a profession.

The other toasts which followed were "The Royal Academy" and "The Royal Institute of British Architects," proposed by Mr. H. H. Statham, and responded to by Mr. Aston Webb, A.R.A., and Mr. H. L. Florence; "The Architectural Association," proposed by Sir Edward Clarke, Q.C., M.P., and responded to by the President; "The Guests," "The Lecturers and Instructors," "The Committee and Officers," and "The President Elect."

Songs during the evening were sung by Messrs. S. Constanduros, H. Passmore, F. D. Clapham and G. B. Carvill; Mr. Leonard Butler at the piano.

ST. THOMAS'S CHURCH, NEWPORT, ISLE OF WIGHT.

A MEETING was lately held in Newport, Isle of Wight, to make arrangements for the restoration of St. Thomas's Church. The following report by Mr. John B. Colson (Colson, Farrer & Nisbett), architect and surveyor to the Dean and Chapter of Winchester, was read at the meeting :—

Agreeably to your instructions I have made a careful survey of the fabric of your church, and will now report to you as briefly as practicable the result of my observations. The object in view in asking me to make this examination is, I understand, more especially to obtain an opinion in respect of the decay which has occurred to the masonry forming the decorative features of the exterior of the building, and I propose, therefore, to strictly confine myself to this subject, and to report to you upon what, in my opinion, is desirable to be done for its proper restoration and permanent sustentation.

Generally, I may say, as regards the building, the walls of the main fabric appear to be in a solid and substantial state, and from this it may be inferred that the foundations are sound. The stone ashlar of the outward wall surface, formed principally of stone from Quarr Abbey and Binstead, or of local freestone, is in a good condition, and with the mortar jointing or pointing appears to be thoroughly hard, to be quite suitable to its situation and able to withstand the various atmospheric influences to which it is exposed.

The decay, which is the principal subject of this my report, is wholly confined to the lighter and more salient portions of the structure, such as the pinnacles, parapets, string-courses, mouldings and the like, some of which are in an advanced stage of dilapidation, which must not be overlooked, lest the detail features of decoration become obliterated, and possibly worse effects follow to the main walls themselves. Moreover, there is an evil contingent upon this decayed condition of the stone in the constant falling of it upon the roofs, whereby damage accrues to the slates and gutters become choked, to say nothing of the danger to the public by the falling of broken fragments into the adjacent street.

As regards the walls, mere surface defects, when the heart of the work is sound, are of comparatively little importance, provided only that the joints are made secure against the penetration of water; but when parapets, pinnacles, weathering, string-courses and other light portions become really defective, a source of danger is created that cannot prudently be overlooked. My statement will show, and it is apparent to any casual observer, that the condition of your church in this respect is indeed deplorable, especially taking into consideration the fact that the building is practically of modern construction.

Erected in 1854, the tower being completed a few years later, therefore not half a century old, the decay cannot be accounted for by age and exposure, and there can be no hesitation in my saying that the fault is through the injudicious selection of the material used.

The stone of which the defective parts are constructed is known as "Caen" stone, is a limestone, and is obtained from the great oolitic formation in Normandy, and has been imported into England from a very early period, its first appearance being about 1300. [The vicar interpolated the remark that he had had an opportunity of seeing the original agreement for the building of the church, and apparently Caen, as well as Swanage and Binstead stone, was included as well.] There was a cessation of its use after 1448, when Normandy was lost to this country, and it was not until the early part of the present century that its employment here was resumed.

Being of pleasing colour and of a texture easy to work, yet capable of great resistance to crushing weights, it became the fashionable stone of the period, and was largely used about the middle of the present century by eminent architects and builders, and it is not casting the slightest reflection upon the judgment of those who advocated its use in stating that it has not fulfilled its expectations, and that here, as elsewhere, it has proved itself not able to resist the dissolving power of moisture charged with the sulphuric and carbonic acids peculiar to our town atmospheres, and in this particular instance aggravated also by the presence of salt.

I will now proceed to describe the condition of the several portions of the church in the same order as I noted them upon the occasion of my survey, viz. :—

North Clerestories of Nave.—The clerestory windows being in a somewhat sheltered position, are in a fair condition, the stone having acquired a good weather surface and is little decayed. Slight fractures have occurred in the tracery arches, but are of no particular importance.

South Front of South Aisles, with the Porch.—The copings, parapets, cornices, string-course under windows, upper plinth moulding, gables and weatherings of buttresses are all in a more or less decayed condition, the apex stones and the lower weatherings of the buttresses being considerably fretted away, the panelled parapet being in the same state, the detail of ornamentation being in some instances entirely lost. The string-course under the windows and the upper plinth moulding are at first sight not in such a bad state, but upon close examination the mouldings are found to be much eroded on the under side, and on the exposed position are entirely eaten away. The window-sills are especially bad and the decay is equally apparent upon the inside. The traceries and the mullions of the windows and the porch doorway being protected by the projections above are in a fair condition, and the jamb stones are only here and there decayed, but the hood or lable stones, together with the carved corbels, are much disintegrated and losing their detail. The lower plinth weathering is of a harder stone, viz. Portland, and is in good condition.

North Front of North Aisle, with the Porch.—The remarks made above upon the south front entirely apply to the north aisle, but, if anything, the buttress gables may be described as being in a slightly inferior state.

Eastern End of Chancel, Nave and Aisles, and Chancel Aisles.—The pinnacles, gable coping, parapets, buttress gables and weathering, and the string-courses are all in a much disorganised state, the pinnacles and more exposed portions being especially bad; in fact, one chancel pinnacle is entirely gone and the other partially so; the crosses on the gables are also lost, as well as much of the copings, parapets and mouldings. The tracery and mullions of the windows here, as in the nave aisles, are not so bad, but the jamb mouldings, labels and sills are, upon close examination, found to be in places much destroyed. The Portland stone lower plinth weathering is intact.

The Western End of the North and South Aisles of Nave.—The remarks made upon the eastern front apply equally in these cases, the pinnacles and copings being especially bad.

The Tower.—With the exception of the spire of the turret, which has apparently recently undergone repair, all the stonework of the pinnacles, the parapets, string-courses, buttress gables and weatherings are in a sadly decayed and disorganised state. The pinnacles and parapets, being of great elevation, and consequently much exposed, are seriously defective. One pinnacle may be described as being in a dangerous state, being eroded to the core, and is temporarily propped up with a piece of wood, while all are supported by iron stays attached to the tower roof. The elaborate detail of this portion is becoming entirely lost, and unless receiving prompt attention will become a complete ruin.

The stonework of the belfry windows is in a comparatively better state, as is also that of the lower string-course and mouldings, but on the exposed portions there are signs of much decay, and there is almost everywhere evidence that the process of deterioration is being rapidly proceeded with. The western entrance, which is of good design and of somewhat elaborate detail, being in a sheltered position, is fortunately in a better condition, and the defects that have occurred are of minor importance.

It will be learnt, I think, from the detailed description already given that although there is nothing seriously defective in the structural stability of the fabric, yet that a large extent of repairs more or less costly is required to make good dilapidations and to put the building in a satisfactory condition. I know full well how distressing it is to the eye of taste to have new and modern work substituted for that which is old and venerable, but here such feelings of sentiment need not be taken into consideration, and although I should be the last to advise the removal of a single stone and substitution of new where it is not absolutely necessary, I cannot but feel that it

ecomes my duty to advise the adoption of an extreme course nd to restore in this particular instance faithfully what would otherwise be lost. Any attempt at patching and repairing or he reworking and dressing down of the existing stones would e futile, as in a few years' time the church would present the ame dilapidated appearance as now; besides, the character and etail of the mouldings, which are exceptionally good in conrast to much work executed about the same period, would be ntirely lost and destroyed.

Again, any cutting away of the decayed portions and the ubstitution of new stone of a different quality, at the same ime leaving *in situ* the at present undecayed portions would e entirely unsatisfactory, and the church would be in fifty ears requiring again somewhat the attention that it is proposed o give it now. The brushing away of the fretted portions and he treatment of the stones with some preservative composition ould only be a temporary measure and could not be recomended in any way as an effectual remedy of the existing rouble.

I am therefore constrained to suggest the adoption of a older course, and to advise the entire removal of the Caen tone from all parts of the exterior of the church (excepting, erhaps, the tracery of the windows and the western entrance) nd the substitution in its place of a stone of a more durable uality, worked to the same detail and design as at present.

As regards the stone to be used, the existing walls give essons which may be profitably pondered. The stone used in ne ashlar facing of the exterior of the walls, although much lder, being probably portions of the prior church, shows little r no signs of decay, and proves incontestably that the stones f coarser grit (although perhaps from local quarries) are far ore durable than the fine-grained limestone which has until ecently largely been used throughout the country.

The very coarse-grained stones of Quarr Abbey and instead are, of course, unsuitable for the fine detail of decorave work, and I should prefer the use of the best beds of the hilmark quarries in Wiltshire. This stone is of a siliciferous ature, gives excellent weathering qualities, while the soft and en grain renders it capable of being elaborately worked, and is well adapted for buildings near the sea.

It is impossible at this stage to state accurately what the ctual cost will be, but it may be sufficient for present purposes o say that the probable cost of a complete restoration such as have suggested would not be less than 3,000*l.* In underking a work of this kind it would not be necessary or dvisable to embark on the whole at one time. One façade ould be treated at a time; for instance, the south of the outh aisle, of which I was enabled to make a somewhat etailed estimate, could be completed and finished at a cost of o*l.* before another portion was commenced, and so on from me to time until, as funds permitted, a section of the whole ould be taken in hand and completed.

The north façade would probably be about the same cost. hat to the tower being in the worst condition should, however, eceive first attention. The pinnacles would have to be entirely built, and advantage should be taken of the occasion to rengthen the bases, which could be done without difficulty, s the walls below are wide enough to provide the requisite earing.

The cost of the restoration of the whole of the tower stonework may probably amount to 1,000*l.*, and a similar amount ay be expended upon the eastern portion of the church.

A slight settlement of the tower is observable, probably sulting from the increased weight of that portion of the ructure on footings resting on a bed of the treacherous subil known as "blue slipper." This settlement has caused a ight fracture throughout the arches of the nave and clerestory indows immediately adjacent, and though unimportant at esent, a careful watch should be instituted to ascertain hether the settlement is of a progressive nature so that ecessary steps may be taken in time to prevent further bsidence.

In conclusion, I may perhaps be allowed to remark that in y humble opinion your church, occupying as it does a central osition in your town, having in connection with its erection e associations of Her Majesty the Queen and the late Prince onsort, and being in many respects the most important edifice the kind in the island, is in every way worthy of receiving e attention the foregoing report suggests should be bestowed on it.

THE GREEK STAGE.

A PAPER was read by Professor Percy Gardner at the last meeting of the Hellenic Society on the scenery of the reek stage. He began by stating his opinion that there was t all periods in the Greek theatre a raised stage, and proeeded to consider what kind of a background it had. He ccepted the tradition that the first painted background was iat made for Æschylus by Agatharchus, of Athens, but maintained that this background was not a canvas scene, but a wooden erection painted to resemble the front of a temple or palace. This scene, like the other stage arrangements due to Æschylus, became stereotyped and was not altered according to the requirements of particular plays. Those requirements were met partly by the use of periacti, three-sided prisms which turned on a pivot and presented to the audience different paintings which conventionally represented different localities, partly by the use of stage properties, curtains and the like. But in all periods stage scenery was very simple and not realistic. These views were enforced by an examination of the statements of Vitruvius and Julius Pollux, and in particular by setting forth the testimony offered by inscriptions from Delos, which prove that the painting of the front of the stage building was permanent and paid for, not out of the costs of producing plays, but out of the cost of construction.

THE SURVEYORS' INSTITUTION.

THE annual meeting of the members of the Surveyors' Institution was held at the Institute, Great George Street, on Monday, Mr. Robert Vigers, the president, in the chair.

The report stated that the total number of members in May 1899 was 2,993, as against 2,836 in the previous year. The balance-sheet showed that there had been an increase in subscriptions of about 170*l.* on the year. The total revenue for the year had been 8,177*l.* On the expenditure side the total payments out of revenue (current expenses) had been 6,094*l.*; on account of building contract 13,100*l.*, and after paying other expenses there was a balance in hand of 630*l.* 17*s.* 4*d.* The total investments amounted to upwards of 21,000*l.* The percentage of successful candidates, taking all the divisions together, had been 63·44 per cent., as compared with 63·77 per cent. last year. The "Institution" prize of 15 guineas was gained by a candidate in the building sub-division, who obtained 850 marks out of a possible 1,000. The special prize of the value of 10 guineas was awarded to a candidate in the building sub-division, who obtained 788 marks out of 1,000. The Crawter Prize for the best work on valuations was awarded to a candidate in the land agency sub-division. The Penfold Gold Medal was awarded to the candidate who obtained the highest marks in Division IV., with 855 out of a maximum of 1050. The "Penfold" Gold Medal was gained by a building candidate in Division III., who also won the "Driver" Prize of the value of 15*l.*, with a total of 1,044 out of 1,200 possible marks. The Preliminary Prize was awarded to the candidate heading the list in the preliminary examination with an aggregate of 492 out of 500 marks. The "Daniel Watney" Forestry Prize had again been withheld this year, there being no candidate whose work showed sufficient merit to justify its award. The Institution was at last in occupation of its new and permanent home, after many vexatious delays, some of them due to the present disturbed condition of the labour market. The rehousing of the Institution had engaged the anxious and almost unremitting attention of the Council for the last five years. Early in 1894, on the failure of the promoters of the Westminster Improvement Bill to carry out the scheme under which they had agreed to allot to the Institution an advantageous site on the north side of Great George Street, it was referred to the building committee to consider and report on the terms for acquiring a sufficient area of the surrounding property for the extension of the Institution premises on the existing site. It was sufficient to state that as a final result it was decided to acquire three additional houses, viz. 13 Great George Street and 3 and 4 Little George Street, which, with the site of the then existing premises, afforded a building area of 6,700 square feet. For this area the Ecclesiastical Commissioners finally agreed to a ground-rent of 1,000*l.* per annum on a lease for 999 years, in place of the 1,070*l.* which the property was previously yielding, the Institution undertaking to put up a new and substantial building as security for this rent.

On the motion of Mr. Swayne, seconded by Mr. Joseph Starr, the report and balance-sheet were received and approved.

The Chairman, in acknowledging a vote of thanks to himself at the close of his year of office, congratulated the members on their new building, and said the business of the Institution was greatly on the increase.

Mr. T. M. Rickman was appointed the President for the ensuing year.

The Chairman then distributed the prizes. Mr. Gate gained the Institution Prize, Mr. Arthur George Bradshaw the Special Prize of Ten Guineas, Mr. Geo. Freeman the Penfold Silver Medal and the Driver Prize, Mr. Sidney Arthur Smith the Penfold Gold Medal, Mr. Bowden the Crawter Prize and Mr. A. Neate the Students' Prize.

A vote of thanks to the Chairman closed the proceedings.

NOTES AND COMMENTS.

THE objects discovered during last season's exploration of Silchester and which can be seen during next week at the rooms of the Society of Antiquaries, although not all remarkable are at least interesting. The most important is the mosaic pavement, in which local materials were used. It has not the artistic quality of the remains at Bignor, which might have formed part of a palace, but it shows how well the artists could produce effects at an economical rate. The borders are excellent, and probably were derived from Greek patterns. Manufacturers of scagliola will acknowledge the skill shown in the imitations of white and red marbles and porphyry. Brickmakers are now treated as if they were a species of machines, and their early predecessors were likely to have experienced equal injustice. That at least one Roman brickmaker could write is testified by the word "Satis" inscribed on one of the examples, and fancy can therefore picture him as possessed of various intellectual qualities. Prisoners were not unknown in Silchester, for effective handcuffs were discovered, and they form a contrast with the jewellery which may always be calculated on as existing among Roman ruins. The revelation of Silchester itself will have more interest than any articles to be unearthed, but to complete the excavations a further likely sum of 3,000*l.* is needed.

MANY will regret when they learn that the proposal to use a part of the grounds of Wolvesey Castle, Winchester, for an Early English museum as a memorial of the millenary of King ALFRED has excited opposition from distinguished persons, who represent the laity of the diocese of Winchester. An appeal has been addressed to the Ecclesiastical Commissioners asking them to withhold their consent to the alienation of any portion of the grounds. The reasons offered are the following:—(1) At no distant future the entire area of the Wolvesey precincts may probably be needed for ecclesiastical purposes. The trustees of the diocesan Church-house now occupy the greater portion of the Wolvesey grounds, and may need for diocesan purposes the space demanded for the proposed King Alfred Memorial. The privacy and seclusion of the premises would, if so needed, be of paramount importance. (2) In the possible event of the Wolvesey Palace being at a future date required for the episcopal residence, the alienation of a portion of the grounds, which are very limited in extent, would be more than a grave inconvenience. (3) The erection of a hall or museum to contain a non-existent collection of Anglo-Saxon antiquities is in itself an anomaly, and if such collection should be forthcoming, it is in London and not in a small provincial town, however historically famous, that the students and the archæologists would prefer to locate it. (4) To place any such edifice among the venerable walls of Wolvesey is both incongruous and inappropriate. Mr. BOWKER, the honorary secretary of the national committee, in reply, says the actual site for the memorial in Winchester has not been definitely decided on, and no application is at present to be made to the Ecclesiastical Commissioners on the subject. The Ecclesiastical Commissioners have announced that they have no intention of taking any steps for alienating any part of the Wolvesey Palace grounds.

THE United States have found so much profit in bringing art to the aid of the manufacturer, it was not to be expected that the Canadians would remain indifferent to the new policy which must be serious for them, for there is danger of their products being restricted to raw materials which their neighbours can turn to profitable account. The Canadian Manufacturers' Association accordingly issued a manifesto a few weeks back in which attention is called to one of the deficiencies of the educational system. An extract will suggest the spirit of the document:—"Whereas, fully appreciating the merits of all that may be said relative to the necessity of technical schools being established by those in authority, to whom attaches the responsibility for the life and growth of our commercial enterprises, it is expedient to direct attention to the teaching of art and design which is an important part of the education which should be imparted to the young people of the country who propose to give their after years to labour in industrial pursuits; and whereas there are no existing schools constructed or equipped to meet the necessities herein alluded to; resolved, that this Association use its efforts to induce the proper authorities to establish or contribute to the support of schools of art and design in the manufacturing centres of the country that will promote the growth and development of our industrial institutions." There is no reason why the Canadians should not possess sufficient aptitude to be turned to account in industrial art. The occasional examples of painting and drawing which are seen in England are at least equal to the average work of British artists.

THE American Society of Engineers have issued a series of rules relating to the reading and publication of papers, which are worthy of imitation elsewhere. They are as follows:—"(1) In preparing all papers, discussion and correspondence on technical subjects for the press, the third person shall be used. The contributor of a paper shall be referred to as 'the author,' a correspondent as 'the writer,' and one who contributes to the verbal discussion as 'the speaker.' (2) All redundant matter, interrogations which the text of the paper renders needless, and sarcastic forms of expression shall be excluded. (3) All errors in orthography and grammar shall be corrected. In cases where there are two correct spellings, that to which preference is given by the best authorities shall, for the sake of uniformity, be adopted. (4) Ambiguous or obscure statements shall be restated in clearer form, care being taken, however, to preserve as far as possible the language and style of the author. (5) No unnecessary changes in wording shall be made. (6) Whenever time will permit, a proof of any paper and discussion in which any changes indicated in rules 4 and 5 have been made shall be submitted to the author before publication. But in this connection it should be borne in mind that it is not always possible, on account of lack of time, to submit a proof, and that inasmuch as the first publication of all discussions will be a preliminary one, necessary corrections may be made before the final issue in the volumes of *Transactions*. (7) Oral discussions shall be reported stenographically. From this report a rearranged form of the matter brought out by the speaker shall be carefully prepared and forwarded to him, together with the full report of what he was understood to say, and whenever time permits any modifications or amplifications of this statement shall be printed in *Proceedings*. When it is not possible to secure the approval of the speaker prior to this publication, he shall be allowed to make corrections, changes or amplifications in his discussion before it is published in *Transactions*."

FIREMEN like Sir E. M. SHAW, who have had great experience with building material, generally express confidence in the endurance of sound timber amidst flames. The British Fire Prevention Committee's latest publication contains an account of an experiment which was made on a solid timber floor in March of this year. The floor measured 10 feet by 10 feet, and consisted of 9-inch by 12-inch fir beams laid flat on the walls and bedded in fireclay. The pieces had been used as strong struts, but the holes in them for bolts and mortising were filled with grouting. On the floor a load of bricks weighing a little over a ton was placed. The test lasted from 3.20 P.M. to 4.35 P.M., and the highest temperature was 19.55° Fahr. On examination it was found that the fire had penetrated from 1½ to 2½ inches, while the remainder of the beams were in as good condition when removed as when first operated on. The fireclay in the joints and holes prevented the fire from going through, and there, as in the bedding, remained perfectly soft. The boarding on the top of the beams was not scorched or damaged. The experiment is important from its confirmation of the opinion of experts. It was conducted by Messrs. F. R. FARROW, C. E. GOAD and ELLIS MARSLAND.

ILLUSTRATIONS.

CATHEDRAL SERIES.—ROCHESTER: GENERAL VIEW FROM CASTLE. CORNER OF NAVE AND NORTH TRANSEPT.

SHIPLAKE COURT, HENLEY-ON-THAMES.

ST. JOHN'S FOUNDATION SCHOOLS, LEATHERHEAD.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

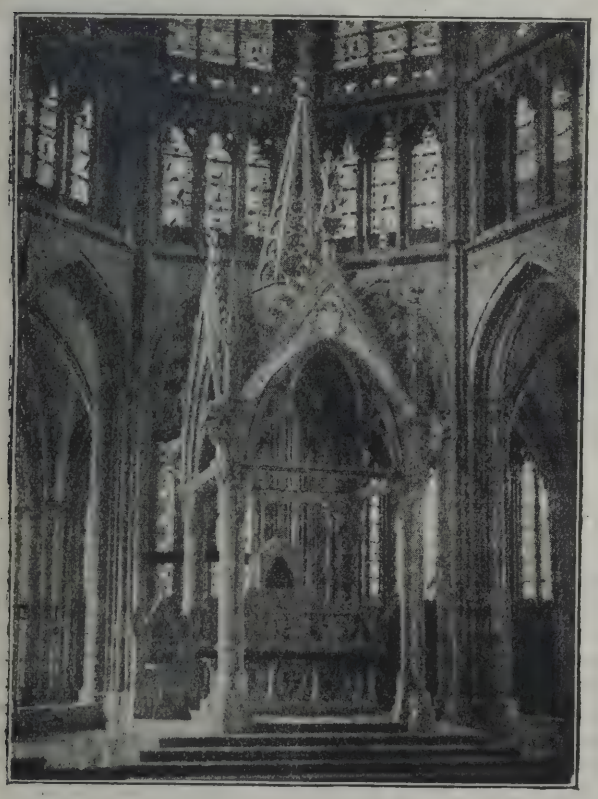
BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &C.

(*Continued from page* 339.)

XXI.

Nevers—Paris.

THE afternoon heat was so intense that after a modest refection at an "auberge" in front of the abbey church (where the oddest collection of peasantry conceivable were gathered in discussion of a meal dignified by the name of déjeuner) I was fain to sit down under a hedge a little way out of Souvigny, book in hand, and forego the treat I had promised myself of seeing a Burgundian narthex and a unique chevet of narrow stilted arches at St. Menoux, distant about four miles. With an alternate glance at the brown stone, red-tile capped towers of the abbey down in the hollow to the left, and the pages of one of those delightful Thackerayesque sketches, in which the cloak of humbug and hypocrisy is twitched so forcibly and yet so good-humouredly, the time wore away until—one more stroll round the fascinating abbey having been obtained—I sought the return train for Moulins, at which cheerful little cathedral city I arrived once more, only to discover, to my chagrin, that the last slow train for Nevers had departed. However, I consoled myself with recollections of the very jolly-looking old Lady Abbess who had been my travelling companion during the twenty minutes' ride, and who had addressed some remark of polite conventionality in response to my salute on entering the carriage, but the import of which I had been unable to divine



NEVERS: HIGH ALTAR AND APSE OF CATHEDRAL.

owing to the noise and bustle attendant upon the departure of the train. However, I had bowed, looked pleasant, and made up for my seeming discourtesy by assisting her, on arrival at Moulins, with her packages; of which she had a great assortment in all shapes and sizes, including a bonnet-box—I opined it held her best "coif"—and a "Gampy" umbrella, a downright useful alpaca affair tied round the middle with a piece of string. She was met at the entrance to the platform at Moulins by another Mother Superior, very grand and stately.

Together they entered a small donkey-chaise, in which they drove off into the city in a cloud of dust with an air that the most expert "whip" might have envied, and as I wandered back to the Hôtel du Dauphin I recalled the following passage from Southey with reference to this devoted body of women:—"Two of them (for they generally go in couples) set out on their charitable mission. Wherever they go their dress protects them. Even more enlightened persons than the common peasantry hail it as a happy omen when on a journey a *sœur de la charité* happens to travel with them, and instances are recorded in which their presence has saved travellers from the attacks of robbers. During the Revolution they were rarely molested, being the only religious order permitted to wear their dress and pursue their vocation."

Much as I regretted not having prolonged my visit to Souvigny, I contrived in one way or another to occupy the evening at Moulins, and it sped away with as much expedition as could reasonably be hoped for, a capital band on the boulevards contributing materially towards this result, besides affording an excellent opportunity for observing the diversions of the Moulinais. The cathedral and church of the Sacred Heart both remained open until quite a late hour, so I sat about in them, much admiring the fine effect produced in the latter by the setting sun, which, streaming through the windows of the apse,* flooded the choir with gorgeous colours, the opposite end of the building being left in gloom. Wishing to get a good clear morning for visiting the various objects of interest in Nevers, and being moreover due at Vézelay on Friday, I took advantage of the Paris express which passed through Moulins at eleven o'clock. Soon we were flying through the silent night, a galaxy of lights relieving the monotony now and again as the train ran screaming through a station. After an hour's run, with the stop of a few minutes only at Saincaize, the junction for Bourges, the express rattled across the Loire, and on the stroke of midnight, with the lamps of the stone bridge at a little distance "shivering" with solemn effect in the stream, rushed into the dimly-lighted station at Nevers. Glad I was, after hurrying along the platform, tenanted only by a few sleepy-eyed children gnawing their way through indigestible-looking buns, to find the omnibus belonging to the Hôtel de l'Europe drawn up outside the door of exit, to throw myself into the remotest corner of the vehicle, which—the horse doubtless wanting to get home to its bed—thundered off into the city like a fire engine at full gallop. Past the cathedral, looming large against the midnight sky, it tore; threaded several tortuous streets; rumbled under the Port de Paris, and finally deposited me at the excellent Hôtel de l'Europe, whose night porter was sitting up in anticipation of late arrivals.

Nine o'clock on a glorious sunshiny August morning, and the *enfants du chœur* of St. Cyr's Cathedral at Nevers, in scarlet and white, are tripping down that spiral staircase which Prof. Willis has referred to as so remarkable a specimen of "interpenetration"—*i.e.* running of several series of mouldings into one another. Arrived in the great western transept, they proceed, after a little preliminary skirmishing, towards the choir, where several vicars-choral have already taken up their stations by the great books, ready to commence the morning offices. These are sung unaccompanied, but with much solemnity, to the old plain chant, which sounds, as always, very soothing and restful as I steal softly round the processional aisle behind the high altar. Here, while lighting their candles preparatory to the commencement of the Canon of the Mass, two of the aforementioned small individuals—who, by the way, take a ritualistic rather than a musical part in the function—are indulging in a little diverting by-play with the lucifer matches, luckily screened from the eye of the officiating priest by the retable and its ornaments. I then resume my seat at the summit of the flight of steps leading from the floor of the vast Middle Pointed church to its Romanesque western apse, upon whose conch is depicted a grand Byzantine Majesty, still looming through the veil of whitewash which, as far as practicable, has been removed from it.

Although Nevers Cathedral is wanting in some of those accompaniments which are the glories of its northern sisters, it is unquestionably a noble edifice, and must take a high rank among French churches of the second class from the excellence of its east end, from the elegance of its solitary tower, and from the imposing solemnity of its western crypt and apse, a feature which it shares with but one other French cathedral—that of Besançon.

* It will be remembered that the apse of this church faces the west, contrary to strict rules of orientation.

Some forty years ago St. Cyr was monographed by the diocesan Vicar-General l'Abbé Crosmier, who bore a very high reputation as an archæologist. Like its neighbour, Bourges, the cathedral of Nevers has no transepts,* otherwise it is of the customary French arrangement. The choir disorientates considerably to the south, and the florid Gothic tower stands just to the east of what must be looked upon rather as a gigantic narthex than a western transept. This forms, with the apse and crypt beneath it, the only portion of the original Romanesque church built by Hugh II., and whose date may be fixed at 1028.

It would appear that the cathedral of St. Cyr at Nevers was originally a church of that Romanesque type met with in the neighbouring province of Auvergne, as at Issoire and elsewhere. The whole of this Romanesque church, with the exception of the portions above mentioned, was swept away to make room for the present great Middle Pointed building.

The three-aisled crypt of the eleventh century beneath the western apse is, like the coeval one of St. Germain at Auxerre, very solemn and awful; indeed, it was quite a relief to emerge from its speluncar shade into the lightsome lantern-like upper church, whose beauties gradually unfolded themselves as I once more seated myself in the western apse, and took in the whole of its transeptless length, terminating in the modern Gothic baldacchino, at one glance. Six bays are assigned to the nave, that to the east being much wider and higher than the others. All are good Early Middle Pointed, and support a triforium of much elegance. This is composed of a series of trefoiled arcadings, the base of each shaft resting upon the caryatid figure—if such an expression can be used in describing a Gothic church—of a saint.

The clerestory windows are large ones of two broad lancets under a depressed arch, like those in the same situation at Seez; each has by way of tracery a lozenge-shaped piercing in the head. As there is but little stained glass, the flood of light poured in through these great windows gives to the church—at any rate to the eye of the visitor with the storied solemnity of Bourges, Chartres, Auxerre and Troyes fresh in his mind—an air of coldness, intensified by the recent scraping to which the whole interior has been subjected.

The choir of four bays is very tolerable Late Middle Pointed, but its circumambient aisle and chapels are gems of thirteenth-century work. Perhaps the most graceful feature of the choir is its glazed triforium, which, like that at Tours, is a continuation downwards of the clerestory. All the windows in the eastern apse are filled with modern stained-glass—pleasing in ensemble, but lacking distinctness from the smallness and multiplicity of the subjects which are placed in medallions, as well as from the preponderance of blue.

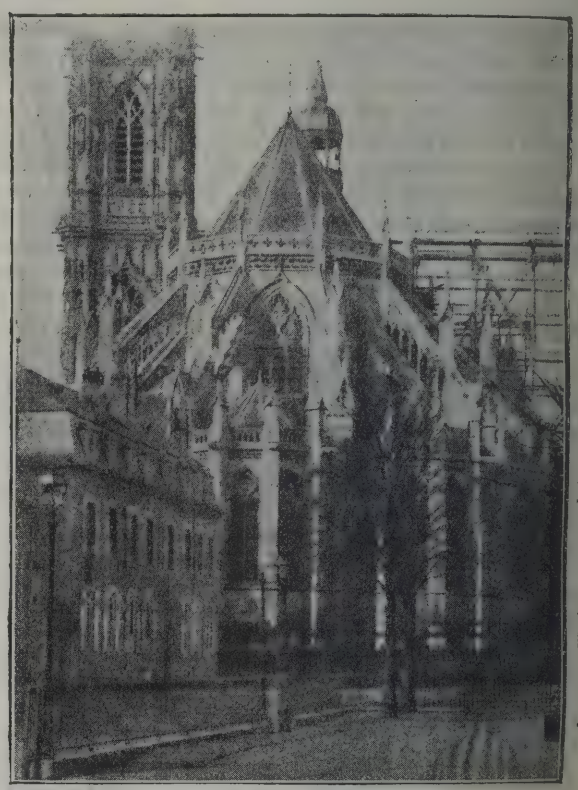
The chapels radiating from the procession path are, as I have mentioned above, the best thirteenth-century work. Throughout, the detail, and especially that of the foliaged ornament, is executed with the utmost care, and has received the highest eulogiums from the graceful pen of Elisé Reclus:—"On y reconnaît tous les feuillages de nos bois, et de nos champs, la feuille de chêne, de peuplier, de roseau, de chardon-frisé, &c.; la perfection de l'imitation, et la finesse de travail, sont réellement admirables." This same fidelity to nature is observable in the foliaged capitals to the pillars of the great north door, by which the cathedral is usually entered from the city. "Les archivoltes des portes," continues our author, "attestent également la patience et l'adresse des ciseleurs du xv^e^ siècle."

Each of these radiating chapels at Nevers has five windows of two lights each; their tracery, like those in the clerestory of the apse, where it is composed of three large trefoils, is Geometrical Decorated.

As in the neighbouring cathedral of Moulins, the high altar and its accessories at Nevers have been restored in the Mediæval style, piscina and credence being duly provided.

The mensa of stone rests upon six small pillars, but, unlike that at Moulins, is destitute of frontal. There is a very pretty stepped predella with small carved subjects from the Passion, and this supports the crucifix and candlesticks. Over all rises a baldacchino, similar in "motif" to that in the cathedral at Moulins, but of stone, and exclaiming loudly, as does the whole of the stonework, for the polychromatic decoration which, I was informed, it was intended to apply to it. Each side of the baldacchino has a trefoiled arch beneath a gable, and from its low roof sprouts an open-work spirelet. A rood-beam sustaining a crucifix spans the arch of the apse immediately in the rear of this baldacchino.

At the time of my visit all the *instrumenta* were in a very inchoate condition. I noticed that the old Grecian stalls with high wainscotted backs relieved by Corinthian pilasters had been retained, but the organ case had not been replaced, the instrument standing beneath one of the arches to the north of the choir, and looking more like a great pyramidal-topped packing case than anything else.



NEVERS: EAST END OF CATHEDRAL.

While sitting at the top of the steps leading to the western apse, a Sœur de la Charité directed my attention towards a small door just to the left of the space in which the altar stood, so, thinking that in all probability it conducted to some interesting and as yet unexplored part of the cathedral, I passed through it, only to find myself in a long, barn-like room which, fitted with sash windows of the most domestic description, and tricked out with bannerets and bits of calico stuck about wherever it was possible to stick them, presented the most perfect picture of a "rag-fair" presented by any Roman Catholic church of my acquaintance—English or foreign. To whom it was dedicated I did not pause to inquire, but after one glance of disgust around, tempered by the consolatory reflection that such a display of motley had been banished hither from the cathedral proper, I turned and fled towards that typal church of the Auvergnat Romanesque, St. Etienne, noticing, by the way, the fine grouping of the apse of the cathedral with its solitary steeple. This last stands on the east side of the south-west transept, and is of a type rather common in this part of France—Clamécy, of which more anon, and St. Pierre at Auxerre possessing very similar ones. Of two epochs, this tower at St. Cyr, Nevers, is very striking in its outline. The lowest part, which reaches to the top of the clerestory, and presents a double series of trefoiled arcades, belongs to the close of the fourteenth century; the second portion, dating 1509-28, is almost covered with niched statues of saints; the highest, or belfry stage, has one window of two lights in each face, and is surmounted by a very graceful pierced parapet. There is a turret at the north-west corner, but no spire or

* The omission of transepts is evidently a "localism." Compare Varzy, Clamécy, and the more distant seventeenth-century church of St. Pierre Auxerre.

capping of any kind, and an effect of combined elegance and solidity is imparted to the mass.

A saunter through a variety of quaint and unexpected by-ways brought me to the church of St. Etienne. It is cruciform, perfectly regular, has the eastern apse and two side ones radiating from the procession path; a low tower (longer from north to south than from east to west), and surmounted by a stunted octagon; a western narthex to its nave, and all those details which have as distinct and marked a tradition of their own as those met with in the Romanesque of the Rhine or Normandy or Pisa or Lombardy.

Much of the beautiful local colouring of St. Etienne externally has been lost by merciless flaying, which process the west front was in 1894 undergoing. The three Romanesque arcades at its summit were then untouched, but I trembled for their safety. In their unrestored condition they were a poem. From the east side of either transept projects an apsidal chapel, which, taken in conjunction with those radiating from the procession path, the red-tiled roofs and the small arcades relieving the wall of the apse clerestory just under the eaves like the Rhine churches, help to compose a very pleasing but by no means gigantic ensemble. A painting of 1609 suspended in the church shows the central tower surmounted by a very tall octagonal spire of four stages; of this the base, relieved on its cardinal sides by arcading, alone remains.

Internally, St. Etienne forms a striking contrast to the delicacy of detail and luminousness which are the characteristic features of St. Cyr. Here all is sternness and simplicity, allied with solemnity, brought about by the modicum of light which the round-headed windows admit. A peculiar feature here, as in many Romanesque churches of the Auvergnat type, is the arch opening into the transept—not the one at the crux, but that which is on a level with the walls of the aisles—a feature rendered necessary by the elongation of the tower from north to south. At St. Etienne this arch is pitched low, the wall space between it and the transept roof being pierced with five arcades. And here is another feature of this peculiar type of Romanesque—*i.e.* the blind arcading in the north and south walls of the transepts, where a straight-sided arch occurs between two circular ones.

The apsidal chapel opening from the north transept retains its original features—*i.e.* three Romanesque windows within arcades upon shafts with thick square caps. The chapel opening from the opposite transept is a restoration, replacing a later one, and therefore less interesting. The apse of the choir has its dome perfectly plain; here are five very narrow and stilted arches; beneath the tower the chorus cantorum is formed; its stallwork of the last century is tolerable.

Another walk round the spacious aisles of the cathedral and it is time to start upon the first stage of the route towards Vézelay. To reach this retired spot either from Nevers or Avallon the best plan is to take the train to Sermicelles, a small village on the line between these two important towns. Thence it is but a six-mile walk—and a most charming one, too—to Vézelay. Or, by writing to the Hôtel de la Poste there, an omnibus will meet the train specified. I, however, am not only anxious to see the church at Clamécy, but to get a good long day's walk, and Clamécy being 18 miles from Vézelay this latter is easily secured.

Trains on the line between Nevers and Avallon not being frequent, that starting from Nevers at five o'clock is somewhat inconveniently crowded. Several children are of the party in my carriage, but of their presence during the earlier stage of the journey I am not aware, since they are being sat upon by the adult portion thereof.

Urzy, Guérigny, Poiseux, Prémery, Arzembourg, Corvol l'Embernard and Varzy—the last with its fine twin-steepled but transeptless church—are in turn passed by this most sluggish train, towards whose depopulation each village contributes its quota, attended by much scrunching of saboted feet on wet gravelled platforms, and much difficulty in putting up of serviceable-looking gig-umbrellas. The remaining occupants of my compartment during the last twenty minutes or so are a disagreeable-looking woman with the afore-mentioned hitherto half-concealed children, who, like the ladies at Queen Anne of Denmark's funeral, becoming tired with the length of the way, grow extremely fractious and unpleasant, receiving, as a relief to her own perturbed spirits, sundry pecks from the maternal bird in the shape of taps and pushes. These are subsequently exchanged for slaps, and remainder of the journey is performed to the accompaniment of weepings, both within and without—a drizzling rain, commencing shortly after quitting Nevers, developing, by the time Clamécy is reached, *i.e.* 7.15 P.M., into a good steady downpour. A small omnibus from the Hôtel Boule d'Or is drawn up outside the station, but finding that it is in waiting for the "down" train from Auxerre, I appropriate an old brougham and drive off in it to the above-mentioned hostel, in whose salle à manger I am presently engaged in discussing an excellent dinner, solus, hazarding many conjectures as to the ecclesiastical character of that apartment, in each angle of which is a cluster of Romanesque shafts.

Early the next morning I visited the church at Clamécy—a transeptless structure in vigorous and very Early Pointed, with a Late tower similar in outline to that at Nevers standing outside the line of the south aisle, and a square, circumambient-aisled east end like Moulins.

Returning to the Hôtel Boule d'Or I set out, with a southerly wind, a cloudy sky and the leaping Yonne as companions, to walk to Vézelay; but as I intend making that most remarkable of Burgundian Romanesque churches the subject of a separate paper at a future day, I will merely say that, after paying it more than one enraptured visit, I quitted the decayed hamlet which it so proudly dominates on the morning of Saturday, August 4, 1894, for Paris, *viâ* Avallon, Auxerre and Sens, both of which latter I revisited with, if possible, increased delight. I heard the morning offices on Sunday at Auxerre, and those of the afternoon at Sens.

Clearing out with cargo from the last-named archiepiscopal city at five o'clock on Monday morning, I fondly hoped to arrive in the gay Lutetia in ample time to catch the tidal train for Dieppe and Newhaven at nine o'clock, but alack, alack!

> The best laid schemes of mice and men
> Gang aft aglee.

The train is behind its time, and the great bell of Notre-Dame is sending its voice over what Mrs. Skewton called "that delightfullest of cities" for the morning offices. So, dismissing the vehicle at its portals, I enter the great five-aisled Transition church, which looks—but that it always does—most solemn in this soft morning light. A peculiar effect is produced by two sunbeams darting down on to the floor of the choir through the opened panes in the central windows of the apse—a piece of utilitarianism, if such it may be called, rendered necessary by the quantity of stained-glass in the other windows, and through which the sun's rays are able only to filter upon the massive Transitional piers and the high, close stallwork of the Renaissance.

Passing up the south aisle I take a chair, one of an empty collection very much at my service beneath the great crossing, and, banishing all thoughts of trains and steamboats, though the latter are brought to the recollection unpleasantly by the shrill whistles now and again of their small brethren on the river just outside the cathedral, compose myself to listen to the solemn, unaccompanied plain song of Terce.

Towards the conclusion of the office a few more canons take their stalls in the choir, one officiating at the *orgue d'accompagnement*. As he plays a soft introduction to the introit for the day—the festival of the Transfiguration—the officiating clergy in rich vestments of white and gold come slowly from the sacristy. At the offertorium I leave my seat in front of the choir and steal round to the *pourtour*, whence I am enabled to obtain an uninterrupted view of the ritual of the altar, which, as becomes the metropolitan cathedral, is carried out with much grandeur and decorum.

Outside the choir I was the only person "assisting" at the office: here are a few devotees, including several Sisters from the Hôtel Dieu and a few other people merely sightseers, who, to my surprise, are allowed to circulate and stare about them during the performance of this, the Church's highest office.

After this comes a long day in Paris, the note-book and pencil being kept active in visiting the Sainte-Chapelle, with its priceless store of coeval painted glass; SS. Paul and Louis and St. Louis en Ile, showy structures in modern Italian;

St. Germain des Près, St. Sulpice, St. Severin, St. Etienne du Mont, St. Eustache and St. Médard, all of which are so well known as to exonerate me from attempting any description of them.

Returning to the eastern quarter of the city, the day's proceedings are agreeably diversified by a stroll across the Jardin des Plantes, and about two o'clock the bells of Notre-Dame begin to sound for the post-prandial offices.

This time I do not enter the choir, but remain in the nave, leaning against the pillars and finding out fresh beauties in this wonderful edifice at every point. Most impressive is the flood of organ and chant as it steals about the double aisles, and the effect of a solitary treble voice, softly accompanied on the organ in the versicle following Nunc Dimittis, "In manus Tuas, Domine, commendo spiritum meum," forms a peculiarly solemn and restful ending to the day's services.

With this and the melody of the concluding antiphon, "Salva, nos Domine, vigilantes: custodi nos dormientes," I emerge once more into the brilliant sunshine of Place and Boulevard.



PARIS: WEST FRONT OF NOTRE DAME.

Bending my steps northward this time, I seek Hittorff's basilica of St. Vincent de Paul, and sit awhile in its impressive triple-aisled nave, whose columniation is divided into two orders—Ionic below, Corinthian above—with a broad strip between, like, but much loftier and more important than, the gallery front of a Wrennian church, as, *e.g.*, St. Andrew's, Holborn, and St. James's, Piccadilly. As in these two examples, the constructional gallery at St. Vincent de Paul forms a noble feature. Taking as his motif St. Apollinare Nuovo at Ravenna, Hippolyte Flandrin covered this band, which is equivalent to the triforium of a legitimate basilica, with long processions of saints on a gold ground—all reverently tending towards the high altar.

One hundred and fifty in number, and branching off right and left in two groups from an altar painted in the centre of the western band, which in that portion of the church forms the front of the organ loft, these figures seem to advance towards the Session in Majesty filling the conch of the apse.*

This was the work of Picot, decidedly creditable, but not to be compared with that of Flandrin.

A somewhat serious drawback to the otherwise fine interior of St. Vincent de Paul is the expedient adopted by the architect to obtain space for his apse. Making the extremity of the radius the pillars, not of the nave but those between the inner and outer aisles, he has caused his inner aisle to discharge itself suddenly into the apsidal hemicycle—a contrivance which cannot be regarded but as theatrical, and totally upsetting the gravity of basilican architecture.

From the west end of the church this arrangement does not force itself unpleasantly upon the view, but within the apse the effect is ruinous.

Barring this drawback, St. Vincent de Paul must be considered the most impressive and religious modern church interior Paris possesses, and it made a thoroughly satisfactory ending to a tour which had embraced so many, grand, and varied specimens of French ecclesiastical architecture.

(To be continued.)

* These paintings were disclosed to public view in 1853. The church, from the designs of Hittorff, had however been completed nearly thirty years before.

CELTIC ORNAMENTS FOUND IN IRELAND.

IT will be remembered that questions were asked in the House of Commons concerning the purchase of some goid ornaments which were found in Ireland. They were purchased for the British Museum, although in the opinion of some members the proper place for them was in the Dublin Museum. It was also alleged that the Edinburgh Museum was sometimes compelled to succumb to the British Museum when Scottish work was in the market. A commission was accordingly appointed for the following purposes:—

To inquire into the circumstances under which certain Celtic ornaments found in Ireland were recently offered for sale to the British Museum.

To consider and suggest regulations for avoiding undue competition between museums supported out of public funds in Scotland and Ireland on the one hand and the British Museum on the other, for the acquisition of objects of antiquarian or historic interest, and for insuring that in the case of objects which from their origin or associations are of peculiar interest either to Scotland or Ireland, the museum situated in the country so interested should be afforded an opportunity of purchasing them before they are acquired by any other institutions supported out of public funds, and to consider whether any, and if so what, relaxations should be made in the regulations (statutory or otherwise) which prevent the British Museum parting with objects which it has once acquired.

After the examination of witnesses and the consideration of other evidence, the following report has been issued:—

We have considered the several questions referred to us by your Lordships' minute of October 24, and we have the hono ur to report upon them to your Lordships as follows:—

I. "To inquire into the circumstances under which certain Celtic ornaments found in Ireland were recently offered for sale to the British Museum."

The objects mentioned in the first paragraph of your Lordships' reference consist of—

1. A hollow collar, in two sections, with elaborate repoussé ornament of eccentric curves.

2. A model boat with eight thwarts (originally nine), and a number of oars, spars, &c.

3. A hemispherical bowl of thin metal, with four rings at the edges for suspension.

4. A solid gold torc of stout wire, with a thinner wire twisted round it.

5. One half of a similar torc.

6. A necklace, formed of three plaited chains, with a peculiar fastening, and

7. A thin, single chain necklace of the same plaiting.

These objects are stated to have been found early in 1896 by a farm labourer whilst ploughing the lands of Mr. Joseph Gibson, in the neighbourhood of Limavady, in the north-west of Ireland; and they afterwards came—how, it does not clearly appear—into the possession of Mr. Gribben, a jeweller of Belfast, from whom they were purchased by Mr. Day, who is a collector of antiquities, a member of the Royal Irish Academy, and a Fellow of the Society of Antiquaries of London.

The above statement as to the circumstances under which these articles were discovered was furnished to us by Sir Patrick Coll, Chief Crown Solicitor for Ireland, as the result of inquiries made by the police upon the spot (but at a subsequent period); and he added that the facts so stated led him to the conclusion that the articles were treasure trove, and that they could now be proved to be so if the persons who knew the facts would give truthful evidence. The Attorney-General for Ireland, in answer to a question put to him in the House of Commons, during the last session of Parliament, expressed his opinion to the same effect.

The law and practice as to treasure trove in Ireland, so far

as it is necessary for our purpose to consider it, may be shortly stated as follows :—

"Treasure trove," says Sir Edward Coke, "is when any gold or silver in coin, plate or bullion hath been of ancient time hidden, wheresoever it be found, whereof no person can prove any property," and such treasure belongs to the Sovereign by prerogative (unless an express grant of the franchise of treasure trove can be established). It is usually given up to the police, or reported to the Government, and concealment of it is an indictable offence punishable by fine and imprisonment. The disposal of treasure trove is in the absolute discretion of the Treasury, acting on behalf of the Crown, but for many years the Treasury has had not direct dealings with treasure trove in Ireland, the whole responsibility in connection therewith having been delegated to the Royal Irish Academy. One hundred pounds (included in the Royal Irish Academy grant in aid) is annually provided by Parliament for rewards to discoverers of treasure trove, and this sum can be accumulated from year to year. The Academy posts notices in the constabulary barracks and other places throughout Ireland informing the public that payments for such articles, higher than those which could be obtained from dealers, will be awarded to finders of them who deliver them up to the police. The Government always give the Royal Irish Academy the refusal of treasure trove thus recovered in Ireland.

If, therefore, the hoard found near Limavady be treasure trove it ought according to law to have been delivered up to the police or the Government of Ireland, and it would in that case no doubt have been handed over to the Academy to be kept under their charge in the National Museum of Ireland. That museum contains one of the most valuable series of this kind of gold ornaments now existing, though, according to the evidence of Mr. Read, the best collection of general objects belonging to the class of late Celtic antiquities is to be found in the British Museum.

It appears, however, that Mr. Day having obtained possession of these objects in the manner above described offered them for sale to the British Museum under the circumstances which are set forth in the following memorandum prepared for us by Sir Edward Maunde Thompson :—

"In the autumn of 1896, Mr. Robert Day, F.S.A., a well-known collector of works of art and antiquities, living in Cork, informed Mr. C. H. Read, the keeper of the British and Mediæval antiquities in the British Museum, that he had secured from a silversmith some very fine gold ornaments of late Celtic work. Mr. Read, who is also the secretary of the Society of Antiquaries of London, suggested to Mr. Day that the Society should have an opportunity of seeing them.

"Accordingly, Mr. Day exhibited the ornaments at a meeting of the Society on January 14, 1897, and an account of the meeting appeared in the *Athenæum* newspaper of January 30.

"Meanwhile, Mr. Read having expressed an opinion to Mr. Day that these important objects should pass to the British Museum, should he at any time part with them, negotiations followed, with the result that Mr. Day offered the collection to the Trustees of the British Museum for the sum of 600*l.*

"Mr. Read recommended the purchase to the trustees in a report of April 5, 1897.

"The Trustees sanctioned the purchase at a meeting of the standing committee on April 9, 1897. The order for payment was issued on May 13.

"E. Maunde Thompson."

At the meeting of the Society of Antiquaries above mentioned, a paper was read by Mr. A. J. Evans, Keeper of the Ashmolean Museum Oxford, in which he said :—"There is at least no question as to the indigenous Celtic character of the most important relic contained in the Irish hoard. The collar gold collar, with its bold repoussé designs, is undoubtedly an ancient Irish fabric, and is at the same time the finest example existing of this class of work." Mr. Evans seems also to have been of opinion that probably the golden boat, and possibly the other objects, with the exception of the triple chain, were of Irish origin. On the other hand, Mr. C. H. Read contended, in the course of his evidence before us, that there was no proof that any one of these articles was made in Ireland.

Dr. Atkinson, who is secretary to the Council of the Royal Irish Academy, stated to us that that body had no knowledge of the "find" in question until the publication of the *Athenæum* newspaper (January 30, 1897), that they then immediately appointed a committee to consider the circumstances thus disclosed to them, and that he was directed to make inquiries of Sir Patrick Coll (as Chief Crown Solicitor for Ireland), by whom he was told that the Irish Government had no information on the subject, and that they could not move the constabulary to act until further particulars were furnished as to the time and place of the discovery. No other steps were taken by the Academy from that time (February 1897) until February 1898, and it appears to us that if this treasure had been upon the market throughout that interval there would have been some danger of its being sold out of the country and thus lost to our national collections; but Dr. Atkinson, in explanation of this seemingly long delay, said that he was satisfied that the articles were *primâ facie* treasure trove, and that as such they would surely be brought to the Academy for valuation and for subsequent deposit in its custody; that he did not believe that treasure found under such circumstances could be properly purchased by anyone; and that, in fact, he had no knowledge of the purchase actually made by the British Museum (in April 1897) until the beginning of 1898. With regard to the value of the objects, Dr. Atkinson stated that the Academy might have given 200*l.* or 250*l.* for them, but that on his initiative the Council would not have offered any such sum as 600*l.*

Early in the Parliamentary session of last year questions were asked and a discussion arose in the House of Commons, wherein it was on the one side stated that the hoard in question, when found, was treasure trove; that the claim of the Crown to it as such had not been defeated by anything which had afterwards happened, and it was argued that the treasure ought, therefore, to be recovered by the Government and handed over to the Royal Irish Academy; while on the other side it was contended that, apart from other objections to such a course, the authorities of the British Museum were precluded by the statutes which govern that institution from parting with such possessions even were they so minded. We shall not express any opinion upon the merits of this controversy, as the terms of your Lordships' reference do not invite us to do so.

We have to add that Mr. Day on April 13, 1898, wrote to the Chancellor of the Exchequer that he was willing to repay the Trustees of the British Museum 600*l.* if they would transfer to him the ornaments in question, which he would hand over to the Royal Irish Academy on their reimbursing him. This offer, however, was withdrawn by Mr. Day on May 19, 1898, and the objects remain in the British Museum.

II. "To consider and suggest regulations for avoiding undue competition between museums supported out of public funds in Scotland and Ireland on the one hand and the British Museum on the other, for the acquisition of objects of antiquarian or historic interest, and for insuring that in the case of objects which from their origin or associations are of peculiar interest either to Scotland or Ireland the museum situated in the country so interested should be afforded an opportunity of purchasing them before they are acquired by any other institutions supported out of public funds."

We are of opinion that, should it at any time be deemed advisable to make regulations for the purposes set forth in the second paragraph of your Lordships' reference, such regulations should be framed so as to provide that whenever it specially comes to the knowledge of the officers of any one of these institutions that objects which from their origin or associations appear to be of peculiar value to either of the others have been offered, or are likely to be offered for sale, information to that effect should at once be conveyed to the body so specially interested with the view of its having the first opportunity of purchasing such objects, and that in order to avoid as far as possible the chance of undue competition a friendly understanding should be arrived at as to what would be a reasonable price to give for the articles in question. These regulations might be framed for their own use by the Trustees of the British Museum and by the authorities of the other institutions respectively. But due care ought to be taken, both in the drafting and enforcing of such regulations, to provide against the risk, by delay in concluding a bargain or otherwise, of the desired objects being lost to all three museums.

We have, however, to report that the utmost goodwill has generally prevailed between the authorities of the British Museum on the one hand, and those of the museums of Edinburgh and Dublin on the other; that the former have on several occasions zealously assisted in securing for the latter objects which seemed to have a preponderating value for their collections, and further that, setting aside the very exceptional circumstances of the recent discovery in the North of Ireland with which we have already dealt, your committee have found only one instance in which such undue competition as is contemplated in your Lordships' minute has been made matter of complaint. That was the purchase by the British Museum of the "Glenlyon Brooch," an object long associated with a Scottish family, the Campbells of Troup, which the Council of the Society of Scottish Antiquaries were most anxious to obtain; but the evidence we have taken leads us to the conclusion that the contention in that case arose mainly, if not altogether, out of a misunderstanding between Mr. Read and Mr. Carfrae, the agents who represented the British and the Scottish museums respectively at the auction. Sir Edward Maunde Thompson told us that if the matter had been brought up for consideration in sufficient time beforehand he would have advised the Trustees of the British Museum to give way, while Mr. Read stated that if he had known that Mr. Carfrae was prepared to bid a sufficient sum to secure the brooch, he would have taken the responsibility of retiring from the competition, and we think it not unlikely that the desired object might, even after the sale,

have been returned to Scotland had not the statutes which govern the British Museum made such a proceeding impossible.

The policy indicated in the paragraph of your Lordships' minute now under consideration has been to some extent challenged by gentlemen who gave evidence before us, but we are satisfied, having regard to the friendly relations which have with such slight interruption existed between the authorities of the three national museums, that if that policy were accepted by them in the spirit which has hitherto in the main so happily prevailed, effect could well be given to it by their spontaneous co-operation.

III. "To consider whether any, and if so what, relaxations should be made in the regulations (statutory or otherwise) which prevent the British Museum parting with objects which it has once acquired."

In answer to the third paragraph of your Lordships' reference, we beg to say that the majority of the witnesses heard by us were in favour of relaxing to some extent the statutory provisions which prevent the British Museum from parting with objects which it has acquired (unless such objects are duplicates or are deemed by the Trustees unfit for remaining in the collection), and we recommend that the necessary steps should be taken for that purpose; but we think that the conditions under which the Trustees should be enabled to dispose of any property of which they are thus possessed ought to be very carefully considered, and we would suggest that such relaxation might perhaps be confined to cases in which the Trustees may in their discretion be willing to transfer, by way of exchange or otherwise, some article in their possession to one of the other national museums.

We venture further to recommend that corresponding relaxations should also be made in the rules which now impose on the national museums of Ireland and Scotland restrictions similar to those above mentioned as controlling the British Museum under its statutes, and that in all cases such transfers should be sanctioned at a general meeting of the trustees, or of the Councils of the Royal Irish Academy and the Society of Antiquaries of Scotland respectively.

In conclusion, we desire to express our sense of the valuable services rendered to us by Mr. E. G. Harman and Mr. L. J. Hewby, who have successively acted as secretaries to this committee.

RATHMORE.
JOHN MORLEY.
JOHN LUBBOCK.
JOHN EVANS.
HERBERT MAXWELL.
THOS. H. GRATTAN ESMONDE.

L. J. HEWBY, secretary.
April 5, 1899.

We have signed the above report, with which we are in general agreement, but as regards Part II. we think that the initiative should be taken by the authorities of the museum desiring to purchase any special object; and as regards Part III., though we admit that in some few cases the change suggested might be desirable, we think that the balance of advantage rests with the present system. If, however, any change be made we accept the provisions suggested in the report.

JOHN LUBBOCK.
JOHN EVANS.

URICONIUM AND CALLEVA.

AT the annual meeting of the Shropshire Archæological Society Mr. St. John Hope moved:—"That the Council of the Shropshire Archæological Society, with power to add to their number, for this purpose be a local committee to co-operate with the London committee in carrying out the work of exploration, and that subscriptions promised, if possible, for five years, be invited to defray the heavy expense involved." According to the *Shrewsbury Chronicle* he said that living, as he had the good fortune to do, in what he might call the centre of the archæological world, he could candidly say that one of the most desirable works to undertake in the interests of archæology was the systematic exploration of Uriconium in the same way and on the same lines that had been adopted at Silchester. There they had been working for nine successive years, and although at first people said it was absurd to attempt to explore a site of 100 acres, they had already finished some sixty of them, and in the course of their operations some most interesting discoveries had been made. There were four things to be taken into account before anything could be done in the way of commencing to excavate. They had to get the consent of the owner of the soil, and he was happy to say they already had that permission; then they had to make satisfactory arrangements with the tenant, and these he trusted would soon be brought to a successful issue. In the third place, they had to obtain the co-operation of a committee of experts who would supervise the work; and, fourthly, they had to secure the necessary funds. With regard to the third requirement, it was most necessary that there should be people of experience to direct those who would have to carry out the heavy part of the work, for if those engaged did not know what to look for, nor the value of things they came across, their labour would be in vain. At Silchester one member of the small committee was always on the site directing operations and seeing that everything was carried out in a proper way. This committee was entirely independent from another point of view. They did not have to employ draughtsmen, but made their own plans on the spot, the result of each year's work being afterwards transferred to a large map. Any antiquities discovered which were worth keeping were taken away, while those which were practically refuse were buried again. When any important buildings were come across, careful models were taken before the structures were covered up. He mentioned that some very curious results were obtainable from the bones of animals killed by the inhabitants of this Roman city for food. When compared with the bones of existing sheep and oxen, it was found that the former belonged to totally different grades, being altogether smaller in build, and presenting peculiarities of considerable interest. When they realised that these creatures lived more than a thousand years ago, it was remarkable to see what progress had been made in the breeds of animals in that period. With regard to the cost of the proposed work at Silchester they said they would want about 500*l.* a year, which they were told they would not get, but in nine years they had collected and spent 4,320*l.*, which divided by nine came to nearly 500*l.* a year. They had no difficulty whatever in getting it. In carrying out these excavations, they had to bear in mind the fact that the tenant must not be put to any loss. They took out of cultivation so many acres for the year, and the tenant was paid a sum per acre, which he named, so as to protect himself. Considering all the expenses which the operations would entail, the committee would require the minimum sum of 500*l.* a year, and in order that the work might be carried to a satisfactory termination, it was necessary to have a guarantee fund for five years; and at the end of that period, if the subscribers considered the result satisfactory, it was to be hoped that they would continue their subscriptions, for in course of time the committee hoped to produce such discoveries as would show that the work was being carried out with the best possible results. Mr. Hope then went on to speak of the mode of procedure adopted in carrying out the explorations. He said they took so many acres each year, according to the convenience of the farmer; these were pegged out in the autumn and left until the following year, when the work of excavating was begun. Experienced workmen were employed, and the ground was so trenched that nothing of any size could escape notice. At Silchester very little of consequence was found in the buildings, but a large number of antiquities were discovered in the numerous rubbish pits with which portions of the site were honeycombed. So far as Uriconium was concerned, he did not think that previous explorers knew of the existence of these pits, so that they had not been excavated, and the work when undertaken was likely to lead to some remarkable discoveries.

Mr. G. E. Fox seconded the resolution. He said that Mr. Hope having submitted such matters connected with the project of excavation of Uriconium as more immediately concerned the financial side of the question, he might perhaps be permitted to give some short account of what would be their plans in this excavation from the purely archæological point of view. To do this as clearly as possible, he proposed to give a slight sketch of the exploration of a kindred site to that of Uriconium, viz. Calleva (Silchester), where for the last nine years a committee, of which Mr. Hope and himself were two acting members, had been employed in unearthing a Roman city. It might be taken for granted that under very similar circumstances their action on the site in Hampshire would be repeated on the one in Shropshire. In 1890 the Silchester excavation committee was formed and the work begun. The site, surrounded by its Roman wall, covered an area of 100 acres. Within that wall the roadways or streets of the ancient town were occasionally revealed in the growing crops by the stunted state of the vegetation upon them. The excavations of the first year revealed two fine houses built round courtyards and a wonderful find of iron tools, which had evidently been hidden away and the place of hiding forgotten. In the same year the great double west gate of the city was uncovered. The next year was less fruitful in discoveries, but the third season made up for any deficiencies in the second, for in this year they carried out the examination of the forum and basilica of the Roman town. But what fully rounded off their season's work was the discovery of the foundations of a Christian church at the south-east corner of the forum insula, the remains of which were the only definite relics of a church of the Roman period existing in this country. In the following years blocks to the south were excavated. Perhaps the discoveries of the

ear 1894 were the most notable they had made, for in that ear they came upon extensive traces of what must have been, t one period, the predominating industry of the city. The locks along the main road from the forum to the west gate ere lined with the foundations of dyers' workshops, and scat-ered over the ground about them were traces of the furnaces f dye-vats and deep water pits. In later explorations in the nore central portions of the town they came across the founda-ions of important dwellings for the first class, one of which ontained a long suite of chambers, each with a fine mosaic oor of elaborate braidwork or fretwork patterns. Last year he traces of an early house of half-timber construction—of the ame sort of construction as was to be seen in so many of the ouses of Shrewsbury—were uncovered underlying a later, ut still early, house built above it, and in this again ere fragments of a pavement of the best kind of mosaic, tesselated floor probably the most ancient in date yet ound in Britain. Furthermore, the indications of a water upply leading from without the town on the west towards the asilica were come upon. He had said thus much of the ndertaking at Calleva in the hope not only of showing what vas to be found on the site of one Roman city, but what they night trust to discover on that of another, viz. Uriconium. Perhaps the objection might be made, "Yes, but if you have lug up one city and found so much, why do so with another, vhere you will only be repeating your discoveries?" The nswer to that question was that they did not expect to find in Jriconium a repetition of what they had found at Calleva; and hey knew for a fact, from the result of the excavations made at Jriconium in 1859-61, that decided differences of plan and osition were to be seen between the public buildings of the ne and the other city. At Calleva (Silchester) the forum was djacent to the basilica on its eastern side; at Uriconium the ublic baths take its place, but lie south of the basilica. The orum was yet to be found. Again, the walls of Calleva nclose an irregular octagon of 100 acres; those of Uriconium long pear-shaped area of about 170 acres. What further ifferences there were had yet to be sought, but differences ere surely would be. Let them now turn to the plan of Jriconium, and see what it presented to them. The place lay etween three and four miles from the foot of the Wrekin, and lose to the Severn, which, making a great bend, runs along a part f the western side of the city. A brook, the Bell Brook, rossed the area at its upper part, and here the ground was nore varied in level than elsewhere. Near where this rivulet rossed the site of the city wall the road from Shrewsbury ntered the place. The wall was now nowhere to be seen, but s foundations existed beneath the surface of the fields, and the uge ditch which lay in front of it could still be made out here nd there in the circuit, which was between two and three iles in extent. At one point north of the brook, on the north-astern side, not far from the ancient road called the Watling treet, this trench was very evident and there appeared to be aces of a gate. As for the other gates, their position could ot as yet even be guessed at, except perhaps the southernmost, the point of the site within which is situated the village of Vroxeter, and possibly even the northern one towards Norton. Vithin the area formed by the wall and ditch the long road om north to south might represent the principal way of the oman town, more especially as most of the discoveries of uildings had been made along it in the last hundred years. he traces of a portico of square piers were uncovered in a ackyard almost at a central point on this road between the orth and south gates in 1855. Some distance south of this, the year 1788, the baths of some great mansion were iscovered, but only the baths; the discovery was pro-ecuted no further, unfortunately. Then further south gain, not far from the village church, in 1827, in another ackyard, a mosaic pavement was uncovered. This the eople of Shrewsbury carried away piecemeal—not, however, efore some excellent person had made a sketch of it. The eople of Shrewsbury would be much too intelligent to do ch a thing nowadays, and would doubtless prefer to see the erfect floor in their museum, which would certainly be the se if the Society had the taking of it up. These, with a few her remains of little importance, were all that had been und on the site until the year 1859, when under the auspices the Shropshire Archæological Society something like serious erations were begun and conducted from that date till 1861 y Mr. T. Wright, F.S.A. When that gentleman undertook e work, nothing Roman remained above ground save the huge ece of wall, a little removed from the main road north and south, nd about the middle of the site, which had passed for centuries nder the name of the "Old Work" of Wroxeter. The obvious ing to do was to make this wall a starting-point, and digging as commenced against it, when it was found to be the end of wall continuing for a length of 229 feet westward. Then nother wall was uncovered at a distance of 67 feet from the rst, and parallel to it, and then other walls at right angles to ese showed the existence of a great quadrangular hall, which bsequent diggings proved to have been divided by rows of columns into a central nave with aisles on each side, floored with mosaics. This was the basilica of Uriconium, but it differed both in plan and dimensions from the Callevan basilica, in that it had no apsis or semicircular ends, and that its western end showed three doorways, the eastern end only being reserved for the magistrates' tribune. This building was never properly examined, for disputes arose with the tenant of the ground at the time, and the diggings were abandoned soon after they had begun. This was another point for them to work upon and needing careful work, for Roman civil basilicas were by no means common in this country—we had only the two he had named, viz. those of Calleva and Uriconium—and to ascertain their size and arrangement was of the utmost importance in estimating the status of a Roman town. South of the basilica stand the public baths within a courtyard, originally no doubt lined by colonnades. They formed a body of buildings with two wings, the body being composed of a vaulted hall, entered from the basilica, with cold bath-rooms on either hand. Then comes an apodyterium, which was practically a lounge, where, in a mild temperature, the bather could cool himself after taking the hot bath and before finishing up with a plunge in the swimming bath. It was a place where any amount of gossip went on, and all the news of the city, its district, perhaps even of the province, was discussed. South of this chamber was the swimming bath, and from it the hot baths were entered, first in order those used as hot-air baths only, then those for hot water. The courtyard served for games of ball; the colonnades surrounding it for exercise and conversation under cover. This establishment of baths was second only for size in this country to the famous one at Bath, and quite equal in size and accommodation to many found on the Continent. At Calleva the public baths had, he thought, yet to be found. No Roman city was without them. Only half these baths had been uncovered; the eastern wing still remained beneath the surface of the fields, and its excava-tion offered a rich harvest of antiquities to the explorer. The whole of the excavations of 1859-61 had been but imperfectly worked out, and much clearance was required to show in various places what was only half revealed. He had said nothing of the houses of the town, for at present it was only certain of the public buildings which had been explored, but from the ruins being more deeply buried than those at Silchester they would probably be able to study the plans of dwellings to greater advantage than those of similar build-ings on that site. As to the chance of finding early churches, this was a better one than at Calleva, for the life of the town went on longer and its destruction was more sudden, as, having been plundered and burnt, it did not, as appears to have been the case with Calleva, perish of slow decay. Sudden destructions, though it may appear a paradox to say so, were more conservative of remains than slow decay, as witness Pompeii and the other Campanian cities. It would be noted, perhaps, that in this account he had spoken almost entirely of the buildings only of the Roman towns described, not of their contents, and this had been intentional. The minor objects in their researches came of themselves; there was no need to seek for them. What was of real importance was to understand the plan and character of a Romano-British town, and to deduce from what remained of its public and private buildings the nature and amount of the civilisation of its inhabitants. They would probably form a very imperfect idea of the condition of the people of these islands in the Roman period if they based their judgment only on the objects in pottery, metal, glass or bone found on Roman sites, and this had been far too much the case up to the present time; but when they came to the remains of buildings they could speak of the conditions of existence they showed with far greater certainty. As house and hall, law court and temple, bath and market, were revealed to them as they turned over such a site as that of Uriconium, they were content to leave for the delectation of the usual collector the pottery, pins, rings, glass and all the minor objects of antiquity he so much prized, content to learn in the truest way from the remains of the edifices left the customs, habits, even perhaps the forms of government of the people of our island under the Roman sway.

The resolution was carried unanimously.

Excavations conducted by Mr. St. John Hope on behalf of the Society of Antiquaries have been in progress in the garden adjoining the residence of the Bishop of Dover, in the precincts of Canterbury Cathedral. Five Early English corbels were found beneath the site of the old monastery dining-hall, similar to those recently found during excavations for the Archiepiscopal Palace. The discoveries go to prove that the whole of the buildings on this side of the cloisters were entirely rebuilt in the second quarter of the thirteenth century.

The Annual Congress of representatives of the provincial Art Societies of France was held last week in Paris, when no less than twenty-three papers were read. The Minister of Public Instruction presided at the closing meeting.

CORRESPONDENCE

Flanged Plate Safes.

What's all this fuss about? Is it needful to occupy your valuable columns in demonstrating *ad nauseam* the fact that under our laws the granting of a patent does not guarantee priority either of design or manufacture?

You need not have apologised for the "scantiness of the English technical vocabulary," when you seek to bring into notice the claims of rival safe makers.

Those who are old enough to remember the famous lock and safe controversy which helped to establish the reputation of the company I have the honour to represent, will know that the English language was put to a pretty severe strain over that historical contest, and in these days it is, as a rule, better to adopt the Carlylean doctrine that "silence is golden."

On the other hand it seems essential, under some conditions, "to rush into print" in order to enlighten the rising generation.

With reference to the question of bent steel safes, I cannot do better than ask you to insert an extract from a letter written by me on this subject, and published by your contemporary, the *Ironmonger*, in their journal of August 3, 1895.

"In 1868 a certain French nobleman, closely connected with the Government as a contractor, applied to Hobbs, Hart & Co., for designs for a safe 'that, while resembling in outward appearance safes of continental manufacture, should possess the fire-resisting qualities of a good English London-made safe.' We designed such a safe, the original pattern being turned on a hardwood mandrel. We accepted a contract to make and deliver in France 1,500 of them. We made patterns, and laid down a machine for bending the plates, and to this day seamless bent body steel safes have been our specialty. The original machine can be seen in our works. In 1882 we designed and spent over 1,000*l.* in making a machine capable of bending cold (with perfect accuracy) steel plates of almost any thickness such plates can be rolled. Not the least curious thing in connection with the matter is the fact that from the date of our initiation of the system, by which we condemned for ever the water-tank system of construction—*i.e.*, five plates held together by angle irons—our competitors have been trying to prove that our idea of construction was fallacious; but now almost every maker of repute is adopting the system of bent bodies in some form, and every advertisement emanating from the trade contains a notice 'that new and powerful machinery has been put down' to do such work as for the 'last twenty-seven years we have been engaged in.'"

The Rip Van Winkles of the trade may wriggle or resort to subterfuge, but the fact remains.—Yours truly,

CHARLES LEE,
General Manager and Secretary.
Hobbs, Hart & Co, Limited,
76 Cheapside, London, E.C., and Arlington Street, N.:
June 1, 1899.

Piscinas.

SIR,—In your Tesseræ of the 26th inst., the article on Piscinæ or Piscinas (to adopt the word frankly into the English language), seems to me quite erroneous. The writer says that the object of the piscina was fourfold (1) for the washing of the priest's hands directly; (2) for emptying into it the contents of the basin in which the priest had washed his hands; (3) for pouring out the rinsings of the chalice after holy communion; (4) pouring out "other substances (?) on occasions such as may occur to the reader without our specifying them—which reverence and decency did not permit to be thrown into a common place." The third of these uses is the only correct one.

1. Piscinas are not always calculated to hold water. Even if the hole were corked up the sides are not always smooth, but are often corrugated, and the hole is often hidden by a rose or floral adornment, under which are six or eight communications with the hole or tube, leading to the small blind well which underlies the piscina in the foundations of the church.

2. Piscinas are usually too small, and some too shallow, to bear pouring into them the contents of a washing basin. When lately in St. Andrews, Scotland, I noticed in the unroofed church of St. Leonard's a remarkably shallow piscina. The sill of the south window of the chancel formed a credence table, and part of it was incised for a piscina—a shallow square depression, not an inch deep where deepest, viz. at the south-east corner, where the hole is. There is a similar shallow piscina in Lucca Cathedral, which had been long built up but was uncovered in the restoration of the church. It forms a beautiful arched recess with a floor like a tray, with a fall towards its north-east corner. The piscina in the apse of San Miniato at Florence is shallow, although of the common circular form. None of these would hold water to wash the hands in, nor allow of a basinful of water being poured into them without overflowing. Besides, the blind well beneath most piscina—some spill outwards on to the ground—are so small that a daily basinful, perhaps several basinsful, would inevitably gorge it and choke the piscina.

And what reason is there for treating the water in which a priest has washed his hands as holy, requiring to be thrown out reverently? The idea of his washing his hands is to remove impurities, worldly impurities, so as to fit him to handle consecrated elements, and such washings can be thrown anywhere.

3. The rinsings of the chalice, however, contain consecrated wine, and for these rinsings only was the piscina used. They were small in amount, and the shallowest piscina could take them without splashing, and the smallest blind well would absorb them.

It seems to me a pity that in our many reversions to old uses that of the piscina is not adopted. It is a beautiful object in our churches, and the use of it for a reverential cleansing of the chalice after Communion is far more decent than the ugly Romish substitute by which the priest makes himself into a piscina by swallowing the rinsings of the cup, and which many of our clergy seem inclined to follow. They seem to prefer copying Romish innovations to making real reversions. The use of the piscina certainly obtained in England till the Reformation: churches built in the latest Tudor Gothic are furnished with them.

To give one instance. In Burston Church, in Surrey, a south aisle with chapel was added in Henry VIII.'s reign. It is separated from the nave by an arcade of four centred arches—very depressed, Tudoresque arches. In the south wall, near the east end, is a piscina, with arch of the same kind to the right of the altar-place, which is clearly shown to have existed by the corbels which supported its reredos. For I think your writer is wrong when he says that there are piscinas where altars have never been.

4. I cannot discuss your writer's fourth use, for I do not understand what he hints at.—Your obedient servant,

May 29, 1899. W. E. T.

GENERAL.

An Excursion Meeting of the Northern Architectural Association will be held to-morrow, June 3, when by permission of the Right Hon. the Countess Dowager of Scarborough and the rector, Lumley Castle and Chester-le-Street Church will be visited.

Mr. Brock's Statue of the Queen is to be placed in the hall of the Junior Constitutional Club, Piccadilly, in the course of the year.

Mr. T. S. Gleadowe, one of the inspectors of schools, has presented to the Chester Museum a collection of Roman, Saxon and Mediæval relics, including personal ornaments in silver and bronze, ecclesiastical objects, weapons of war, agricultural implements, &c., comprising several thousand rare specimens. They belonged to the late Charles Potter, of Liverpool, and were mainly derived from the coast at Meols.

The Collection of Drawings of the Old Masters now exhibiting at the Birmingham Museum and Art Gallery has been visited the first week by no fewer than 44,000 people.

The Emperor of Austria contemplates the erection of a block of residential flats in Budapest as a private investment.

Mr. Claude Marks, a nephew of the late Mr. Stacy Marks, R.A., has received an "Honourable Mention" for his first exhibited picture in the Salon. The subject is *The Prodigal Son.*

Mr. James Thomson, architect (Baird & Thomson), of Glasgow, announces that he has taken into partnership his two sons, J. Baird Thomson and W. A. Thomson. The firm will be continued under its old title.

M. Benjamin-Constant, the French portrait-painter, who has received a commission to paint a portrait of the Queen, will open in a few days at the Fine Art Society's galleries an exhibition of his most important portraits. These will include Mlle. Emma Calvé, the Duchess Paul of Mecklenburg, Mme. Houssage, M. Paul Sohège, Comte Henri Delaborde, M. Chaplain, M. Bertrand and Sir William Ingram.

The Offices of the Tribunal of Appeal have been removed to the new premises of the Surveyors' Institution.

A Paper entitled "Foreshore Protection, with special reference to the Case System of Groyning," will be read by Mr. R. G. Allanson-Winn at the meeting of the Society of Engineers on Monday next.

Sir Wyke Bayliss, P.R.B.A., will deliver a lecture on Thursday next at the Architectural Museum on "The Bogey in the Studio: an Address to Art Students on the Questions of the Day."

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

DESIGNS invited for a new patent stove. Premium 25*l.* Assessor, Geo. B. Haite. Particulars from 159 Victoria Street, Westminster, S.W.

HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* are offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed 20,000*l.* Mr. S. Stead, Municipal Offices, Harrogate.

PLUMSTEAD.—July 27.—Designs are invited for proposed new municipal buildings and public library, at a cost of about 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

SALFORD.—June 6.—Premiums of 30*l.*, 20*l.* and 10*l.* are offered for designs for laying-out the site of the Infantry Barracks, and for erection thereon of public hall, shops and model cottages. Borough Engineer, Town Hall, Salford.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ASHBY-DE-LA-ZOUCH.—June 10.—For erection of farm buildings and manager's house at the new sewage farm. Mr. J. B. Everard, engineer, 6 Millstone Lane, Leicester.

BALHAM.—June 9.—For erection of a branch post-office. Mr. J. Wager, H.M. Office of Works, Storey's Gate, Westminster, S.W.

BARKING.—June 5.—For erection of eighty-three cottages for the working classes in Creeksmouth Lane, Barking, in blocks, as follows:—(Block A) 13 cottages, (B) 12 cottages, (C) 15 cottages, (D) 16 cottages, (E) 15 cottages, (F) 12 cottages (tenders may be sent in for one or more blocks); for erection of an office, store, testing-room, workshop and caretaker's apartments, in one block, at the electricity supply works, East Street; for sewering and making-up the roadway in front of the public baths and on the eastern side of the public offices, and for the erection of entrance-gates, boundary-walls and fencing. Mr. C. J. Dawson, Public Offices, Barking.

BARNSTAPLE.—June 7.—For erection of a flour mill, Rolle Quay. Messrs. Stanbury & Son, Barnstaple.

BATTERSEA.—June 7.—For supply and erection and carrying out of work in connection with the electric lighting of the parish. Vestry Clerk, Municipal Buildings, Lavender Hill, S.W.

BECKENHAM.—June 19.—For erection of a technical institute and public swimming-baths, including a covered bath 100 feet by 30 feet, an open-air bath 80 feet by 25 feet, 15 slipper baths, together with administrative laundry, boiler-house, &c., in Beckenham Road. Mr. F. Stevens, clerk to the District Council.

BRADFORD.—For erection of three houses, Newark Street, Wakefield Road. Mr. F. Moore, architect, 40 Sunbridge Road.

BRADFORD.—June 7.—For erection of a shop and house, Dracup Road, Great Horton. Mr. Sam Spencer, architect, 344 Great Horton Road, Bradford.

BRIERLEY HILL.—June 6.—For alterations and additions to hot-water apparatus at the Brierley Hill Board schools. Mr. Thomas Robinson, architect, Victoria Chambers, Stourbridge.

BRIGHTON.—July 27.—For alterations and additions to the public library, museum and art gallery on the Pavilion estate. Mr. Francis J. C. May, Town Hall, Brighton.

BRISTOL.—June 5.—For erection, alteration and extension of boot factory, Park Road, Kingswood. Mr. John Mackay, architect, Kingswood.

BRISTOL.—June 9.—For erection of a library in Cheltenham Road. Mr. W. V. Gough, architect, 24 Bridge Street, Bristol.

BROTHERTOFT.—June 12.—For enlargement of the Barley Sheaf school, at the Barley Sheaf, in the parish of Brothertoft. Mr. Jno. H. Tooley, 6 Bridge Street, Boston.



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BUXTON.—June 6.—For erection of a chimney stack for the generating station at the electric light works. Mr. Fred Cartwright, surveyor, 22 High Street, Sheffield.

CANTERBURY.—June 16.—For alterations, additions, repairs, plastering and sanitary work to wards C2 male and female, and alterations to matron's quarters, at the Kent County Lunatic Asylum, Chartham Downs. Mr. W. J. Jennings, architect, 4 St. Margaret's Street, Canterbury.

CARDIFF.—For alterations and repairs to the British Volunteer Hotel, The Hayes, Cardiff. Messrs. Veall & Sant, architects, Cardiff.

CARDIFF.—June 6.—For erection of a carriage-shed at Canton and a covering over steps at Cardiff Station, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

CARDIFF.—June 10.—For erection of a boundary wall at the workhouse. Mr. Edwin Seward, architect, Queen's Chambers, Cardiff.

CARLISLE.—June 5.—For erection of a wall at Harraby Hill House. Mr. George Armstrong, architect, 24 Bank Street, Carlisle.

CORNWALL.—June 19.—For erection of a fog-signal house, dwellings, &c., at Penlee Point, near Cawsand, Cornwall, for the Corporation of Trinity House, London, E.C. Mr. E. G. Verity, 31 Golden Square, London, W.

CREWE.—June 14.—For erection of a chimney stack and buildings, including iron roof work and water-tank for the electricity works, Edleston Road. Messrs. Hopkinson & Talbot, architects, 29 Princess Street, Manchester.

CROUCH END, N.—For erection of sixteen semi-detached villas. Specification from Messrs. Macer & Co., 39 Cheapside, E.C.

DEWSBURY.—June 9.—For erection of classrooms, conveniences, boundary walls, &c., at the Brownhill National schools. Messrs. Holtom & Fox, architects, Westgate, Dewsbury.

DUBLIN.—June 5.—For erection of a station building in timber at Laytown station, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

DUBLIN.—June 5.—For erection of four cottages (two double storey and two single storey) at Victoria Bridge station, for the Great Northern Railway Company (Ireland). Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

EXETER.—For erection of two residences on the Summerland Hill Estate. Mr. J. Archibald Lucas, architect, Guildhall Chambers, Exeter.

GLASGOW.—June 7.—For workmen's dwellings in St. James Road, Townhead. Mr. J. D. Marwick, town clerk, City Chambers, Glasgow.

GLOUCESTER.—June 12.—For erection of a cattle-shed and other works at the Field House Farm, Awre, and piggeries and boiling-house and other works at the New House Farm. Mr. Thomas Cadle, Lynwood, Denmark Road, Gloucester.

GREAT YARMOUTH.—June 9.—For erection of destructor buildings and chimney shaft 200 feet high, shelter hall, refreshment-rooms, lavatories and other buildings at Gorleston. Mr. J. W. Cockrill, surveyor, Municipal Buildings, Great Yarmouth.

HALIFAX.—June 5.—For erection of conveniences at Siddal school. Mr. W. H. Ostler, clerk, 22 Union Street.

HALIFAX.—June 5.—For erection of four through houses and house and shop at Lightcliffe. Mr. Raymond Berry architect, Arcade Chambers, Commercial Street, Halifax.

HALIFAX.—June 6.—For erection of laundry buildings at the borough hospital, Stoney Royd. Mr. Edward R. S. Escott, C.E., borough engineer, Town Hall, Halifax.

HALIFAX.—June 8.—For erection of Liberal club premises, Dyson Road. Mr. Medley Hall, architect, 29 Northgate, Halifax.

HARTLEY ROW.—June 12.—For erection of police cottages and cells at Hartley Row, Hants. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

HERNE COMMON.—June 12.—For additions and alterations at the union workhouse. Mr. J. E. Burch, clerk, 39 Castle Street, Canterbury.

HIGHGATE.—June 5.—For erection of workmen's dwellings (48 houses) at North Hill, Highgate. Mr. E. J. Lovegrove, surveyor, Southwood Lane, Highgate, N.

HIGHGATE.—June 8.—For repairs and renovations at the Infirmary, Dartmouth Park Hill. Messrs. Browett & Taylor, surveyors, 9 Warwick Court, Holborn, W.C.

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HUDDERSFIELD.—June 8.—For altering and converting operty in Peel Street and Brougham Road, Marsden, into a itcher's shop, boot and shoe shop, showroom for furniture, c. Messrs. John Kirk & Sons, architects, Huddersfield.

HULL.—June 14.—For construction, on the north side of e St. Andrew's Dock Extension, Hull, of a timber quay and ed, about 690 feet long, containing about 62,000 cubic feet of nber, for the North-Eastern Railway Company. Mr. T. M. ewell, engineer, Dock Office, Hull.

IPSWICH.—June 7.—For alterations and additions at the orough asylum. Mr. E. Buckham, borough surveyor, Town all, Ipswich.

IRELAND.—June 5.—For improvements to Bruckless hurch, co. Donegal. Mr. Edward J. Toye, architect, Strand, ondonderry.

IRELAND.—June 6.—For alterations to the iron roof over e down platform at Portadown station, for the Great orthern Railway Company (Ireland). Mr. T. Morrison, cretary, Amiens Street Terminus, Dublin.

IRELAND.—June 9.—For building a rectory at Portrush. r. Henry Seaver, architect, 128 Royal Avenue, Belfast.

IRELAND.—June 14.—For erection of school building at ictoria Road, Lurgan. Messrs. Young & Mackenzie, archi- cts, Donegall Square East, Belfast.

ISLE OF WIGHT.—June 5.—For erection of a tollhouse on e Yar bridge, Yarmouth, Isle of Wight. Messrs. Francis ewman & Cox, surveyors, 5 St. Thomas's Street, Ryde, Isle Wight.

JEDBURGH.—June 5.—For erection of a public hall. Mr. mes P. Alison, architect, Hawick.

KEIGHLEY.—June 5.—For erection of Board schools, anual training, cookery and laundry classrooms, &c. Messrs. . & J. B. Bailey, architects, 9 Market Street, Bradford.

KEIGHLEY.—June 6.—For pulling down and re-erection of e fronts of two houses and shops and setting back of oundary walls, &c., in Cooke Lane. Messrs. John Judson & oore, architects, York Chambers, Keighley.

KESWICK.—June 10.—For pulling-down and rebuilding the Woolpack inn, Main Street. Mr. D. N. Pape, surveyor, Lake oad, Keswick.

KIDDERMINSTER.—June 13.—For erection of a lodge near e infectious hospital. Mr. Arthur Coomber, borough sur- eyor, Town Hall, Kidderminster.

LEEDS.—For erection of an engine-house. Mr. Joseph Routledge, Waterloo Main Colliery Offices, Pontefract Lane, Leeds.

LEEDS.—For alteration of premises, Wade Street and Wade Lane, Leeds. Mr. John E. Preston, architect, Chapel-Allerton, Leeds.

LEYTONSTONE.—June 14.—For erection of a water-tower at the workhouse. Mr. Sturdy, architect, 44 Finsbury Pave- ment, E.C.

LEYTON.—June 6.—For construction of chimney shaft at the electric light station. Mr. William Dawson, Town Hall, Leyton, Essex.

LONDONDERRY.—June 7.—For erection of dwelling-houses and bakery in Strand Road. Mr. Daniel Conroy, architect, 2 Bishop Street, Londonderry.

LONDON.—June 6.—For erection of a station at Acton, Middlesex, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

MARKET DRAYTON.—For erection of New Crown Brewery. Mr. T. Tindal, architect, Longton, Staffordshire.

MIDDLESBROUGH.—For erection of five shops in Ormesby Road. Mr. T. H. Bulmer, Atlas Works, Ormesby Road.

MONTROSE.—June 10.—For erection of a villa for patients at Sunnyside, near Montrose. Mr. John Sim, architect, 160 High Street, Montrose.

MORLEY.—June 5.—For erection of mixed school and infants' school in Victoria Road. Messrs. Buttery & Birds, architects, Queen Street, Morley.

NAPLES.—July 10.—For construction of harbour and docks. Public Works Department, Rome.

NEWBURY.—June 12.—For rebuilding the Cock Inn, Shaw Mr. J. H. Money, architect, Newbury.

NORTH SHIELDS.—June 9.—For erection of schools at Percy Main. Mr. F. R. N. Haswell, architect, Tyne Street, North Shields.

NOTTINGHAM.—June 5.—For erection of four villas, Sher- wood Rise. Mr. F. Parkin, architect, Prudential Buildings, Nottingham.

NOTTINGHAM.—For erection of three villas on Wiverton Road. Messrs. Collyer & Slater, architects, 8 Bridlesmith Gate.

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SCOTLAND.—June 5.—For building works of Raeburn Brewery, Duddingston, Edinburgh. Messrs. R. Hamilton Paterson & Watson, architects, 10A George Street, Edinburgh.

SCOTLAND.—June 6.—For additions to steading, Fisherford, Auchterless. Messrs. James Duncan & Son, architects, Turriff.

SCOTLAND.—June 10.—For additions and repairs on dwelling-house and offices at Upper Mill of Tynet; repairs to offices at Castle Hill, Fochabers; alterations and repairs to offices at Oxhill; additions and repairs to offices at Bogs of Enzie; new barn at Upper Allaloth; repairs to offices at Lower Mill of Tynet; additions and repairs to offices at Braes of Enzie; new stable and loosebox at Slackend; repairs to dwelling-house at Corskie. Apply at the Estates Office, Fochabers.

SCOTLAND.—June 15.—For erection of the Clydebank burgh buildings, halls and baths, &c. Mr. James Miller, architect, 223 West George Street, Glasgow.

SCOTLAND.—June 19.—For erection of a hospital at Springvale, Ardrossan. Messrs. Fryers & Penman, architects, Largs.

SEACOMBE.—June 12.—For erection of boundary walling, shelter, conveniences, &c., at the playground in St. Paul's Road, Seacombe, Cheshire. Mr. W. H. Travers, district engineer and surveyor, Public Offices, Egremont, Cheshire.

SHEERNESS.—For erection of schools and cookery centre, with offices, boundary walls and fencing, at Broadway. Mr. Leonard Grant, architect, Sittingbourne.

SHEFFIELD.—June 20.—For erection of infectious diseases hospital at Lodge Moor, comprising six pavilions for scarlet-fever patients, two isolation pavilions, one receiving pavilion, administrative buildings, nurses' and maids' homes, water-tower, &c., also for heating apparatus and for cooking apparatus, &c. Messrs. Flockton, Gibbs & Flockton, architects, 15 St. James's Row, Sheffield.

SHEFFIELD.—For erection of eight cottages at Deepcar. Mr. J. Dobson Townend, surveyor, 21 Fargate, Sheffield.

SHOTLEY BRIDGE.—June 14.—For putting in the foundations of a steel gasholder tank on the site of the works of the Shotley Bridge and Consett District Gas Company. Messrs. T. Newbigging & Son, engineers, 5 Norfolk Street, Manchester.

SHRIVENHAM.—June 6.—For erection of a house at Shrivenham station, Berkshire, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station.

SOMERTON.—June 7.—For erection of premises in Broad Street, Somerton, Somerset. Messrs. Bowring & Hawkins, architects, Post Office Chambers, Glastonbury.

SOWERBY BRIDGE.—June 16.—For erection of foundry, mechanics' and japanning shops and appurtenances in Victoria Road. Mr. A. Clement Williams, architect, 29 Southgate, Halifax.

ST. ALBANS.—June 27.—For erection of farm buildings and farm block, an isolation hospital, and six cottages on the asylum estate at Hill End. Mr. George T. Hine, architect, 35 Parliament Street, Westminster.

TOTTENHAM.—June 6.—For erecting a boundary wall fencing and a convenience at the Chestnuts Estate. Mr. P. E. Murphy, M.I.C.E., engineer, Coombes Croft House, 712 High Road, Tottenham.

ULVERSTON.—June 14.—For raising the stone wall on the north side and part of the west side of the High Carley Hospital, providing and fixing a corrugated iron fence on the east and south sides of the High Carley Hospital, and providing and fixing unclimbable railing at the hospital. Mr. C. W. Dean, clerk, 3 Benson Street, Ulverston.

UTTOXETER.—For erection of twenty houses and a shop. Mr. C. H. Cowlishaw, solicitor, Uttoxeter.

WALES.—For erection of premises at Brynmawr, for Mr. J. Watkins, fruiterer, Beaufort Street, with whom plans and specification may be seen.

WALES.—June 5.—For erection of a mixed classroom at the Pontypool Board Schools, George Street, Pontypool. Messrs. Lansdowne & Griggs, architects, Newport, Mon.

WALES.—June 5.—For alterations and additions to Ebenezer English Baptist chapel, Cefn Mawr. Mr. J. W. Jones, architect, Brooklea, Acrefair, Ruabon.

WALES.—June 6.—For erection of eighteen houses at Argoed, Mon. Mr. Norman T. Price, architect, 32 High Street, Argoed.

WALES.—June 7.—For erection of the Calvinistic Methodist Chapel at Abercynon. The Rev. W. Jones, Dyfodwg House, Ton, Pentre.

WALES.—June 8.—For erection of club-house at Penarth. Mr. John W. Rodger, surveyor, 14 High Street, Cardiff.

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WALES.—June 10.—For erection of thirty or more houses at Cwmaman, Aberdare. Mr. Llewellin Smith, architect, 20 Commercial Street, Aberdare.

WALES.—June 12.—For extension and alterations to the Jersey Arms, Cwmavon. Mr. J. Cook Rees, architect, Neath.

WALES.—June 12.—For erection of Green Dragon Hotel and five dwelling-houses adjoining at Cadoxton, near Neath. Mr. J. Cook Rees, architect, Neath.

WALES.—June 12.—For erection of buildings, &c., for refuse destructor and chimney stack thereto at Barry. Mr. J. C. Pardoe, surveyor, Holton Road, Barry.

WALTON-ON-THAMES.—For erection of a cottage residence. Mr. George L. Crickmay, 13 Victoria Street, Westminster.

WANDSWORTH.—June 6.—For erection of a wall to enclose superintendent's new premises at the cemetery and erection of a boundary wall (about 227 feet run), for the Burial Board. Mr. G. T. Clouting, clerk to Burial Board, Town Hall, Wandsworth, S.W.

WARRINGTON.—June 15.—For erection of police buildings and constabulary offices in Wilson, Patten and other streets. Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-on-Tyne.

WHITBY.—June 12.—For erection of two dwelling-houses and shops and other premises in Brunswick Street. Messrs. R. Lennard & Son, architects, Cliff Street, Whitby.

WHITEHAVEN.—June 5.—For erection of infants' school to Trinity Schools, and for enlarging St. James's infant school. Mr. J. S. Moffatt, architect, 53 Church Street.

WINCHESTER.—June 6.—For firebrick and brickwork for the new destructor at the pumping station. Mr. W. Gamon, city surveyor, Guildhall, Winchester.

WINCHESTER.—June 6.—For alteration to lavatories at the Guildhall and building room at the pumping station. Mr. W. Gamon, city surveyor, Guildhall, Winchester.

WINCHESTER.—June 7.—For erection of a police cottage at Morn Hill. Mr. W. J. Taylor, county surveyor, the Castle, Winchester.

WOLSINGHAM.—June 12.—For erection of two cottages, with outbuildings, at Tunstall reservoir. Mr. Askwith, South Road, Bishop Auckland.

WOODFORD.—For erection of school buildings in Cowslip Road, near George Lane, Woodford, Essex. Mr. Edward Tidman, architect, 34 Victoria Street, Westminster, S.W.

WOOLER.—June 6.—For erection of two houses, with tailor's and cycle shops, in Glendale Road, Wooler. Mr. Wm. Robson Hindmarsh, jun., architect, Alnwick.

WORKINGTON.—June 10.—For alterations and extensions of a shop in Station Road. Messrs. W. G. Scott & Co., architects, Victoria Buildings, Workington.

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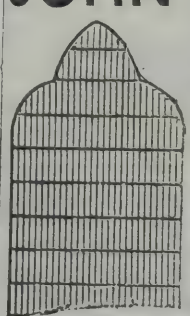
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For additions to "Springcroft." Mr. ALFRED CONDER, architect, Palace Chambers, 9 Bridge Street, Westminster.

E. Toms	£1,142 0 0
J. Grover & Son	1,096 0 0
W. AKERS & Co. (*accepted*)	911 0 0

IRELAND.

For structural alterations, drainage, &c., to the premises of the Co-operative Wholesale Society, Limited, Dobbin Street, Armagh. Mr. J. F. GILCRIEST, architect.

T. Collen	£348 0 0
J. McKee & Sons	297 0 0
D. P. Martin & Co.	290 11 9
J. MAGILL, Armagh (*accepted*)	284 0 0

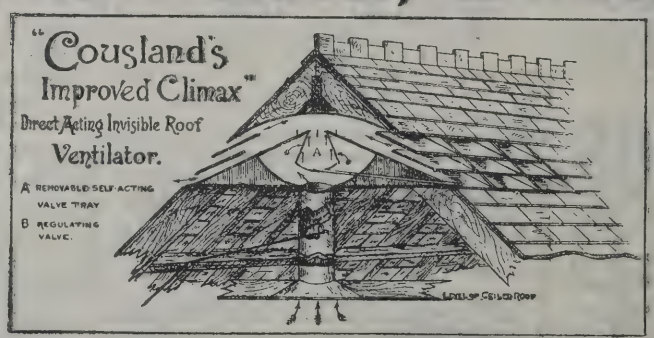
For repair of Clogh bridge, near Castlecomer. Mr. A. M. BURDEN, county surveyor, Court House, Kilkenny.

Fogarty Bros.	£150 0 0
B. Conran	149 10 0
I. LANGRELL, Castlecomer (*accepted*)	115 0 0

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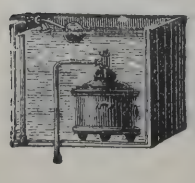
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LONDON.

For building new factory at Nos. 142 and 144 Commercial Road, Peckham, for Messrs. Kirby Brothers. Mr. W. F. POTTER, architect.

F. DAWES, Peckham Rye (*accepted*)	£175 0 0

For work required to be executed at Woodbery Down Chapel, Seven Sisters Road, N. Messrs. W. BRADBEAR & Co., architects, Canonbury Station, N.

General estimate.

Crowe	£1,304 0 0
Pearse	970 0 0
Simpson & Cove	762 0 0
Stapleton	705 0 0
Richards	691 0 0
Campbell, Smith & Co.	684 0 0
Wilson	660 10 0
Britton	650 0 0
Buckeridge	649 0 0
Holliday & Greenwood	565 0 0
Woolaston	549 12 0
Bradford	548 0 0
Groves	517 0 0
Stewart	494 0 0
Kelsey	363 14 0
Dudley	305 0 0

External painting.

Crowe	£495 0 0
Campbell, Smith & Co.	379 0 0
Richards	356 0 0
Groves	319 0 0
Kelsey	302 5 6
Wilson	300 0 0
Simpson & Cove	267 0 0
Holliday & Greenwood	260 0 0
Buckeridge	246 0 0
Bradford	240 0 0
Stapleton	237 0 0
Britton	160 0 0
Pearse	130 0 0
Dudley	125 0 0
Stewart	54 15 0

KINGSTON-ON-THAMES.

For erection of female infirmary and new mortuary at the workhouse. Mr. W. H. HOPE, architect and surveyor.

Whitehead & Co., Limited	£30,680 0 0
Gough & Co.	29,156 0 0
B. E. Nightingale	28,755 0 0
Turtle & Appleton	27,350 0 0
C. J. Saunders	27,000 0 0
Goddard & Sons	26,070 0 0
Martin Wells & Co.	25,866 0 0
Pattinson & Sons	25,863 0 0
Stephens, Bastow & Co., Limited	25,798 0 0
Merredew & Wort	24,900 0 0
Shelbourne & Co.	23,950 14 7

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The work of exterior painting at the following schools will be executed between June 3, 1899, and July 1, 1899 :—

Bath Street.

W. Bunce	£550 0 0
F. Britton	307 17 7
E. Lawrance & Sons	269 0 0
L. H. & R. Roberts	260 0 0
W. H. Wagstaff & Sons	259 0 0
McCormick & Sons	247 0 0
Johnson & Co.	190 0 0
BRISTOW & EATWELL (*accepted*)	151 0 0

Portman Place.

A. E. Symes	189 0 0
J. T. Robey	188 0 0
A. W. Derby	135 0 0
J. Kybett	127 0 0
S. H. Corfield	109 0 0
G. BARKER (*accepted*)	103 0 0

Manchester Street.

J. Willmott & Sons	279 0 0
R. S. Buckeridge	240 0 0
T. Cruwys	212 10 0
Stevens Bros.	168 0 0
W. Hornett	155 0 0
W. Brown	152 3 0
Spencer, Santo & Co., Limited	152 0 0
T. Nicholson	140 0 0
W. CHAPPELL (*accepted*)	140 0 0

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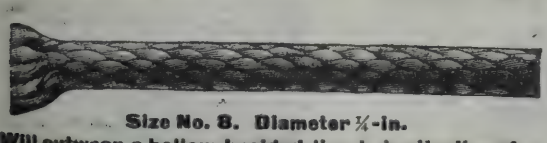
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LONDON SCHOOL BOARD—*continued.*

Rutland Street.

Unsigned	£181	0	0
J. Kybett	168	0	0
Johnson & Co.	142	0	0
G. Barker	139	10	0
A. W. Derby	128	0	0
S. H. CORFIELD (*accepted*)	123	0	0

Pocock Street.

T. L. Green	£197	0	0
H. Somerford & Son	161	0	0
Edwards & Medway	160	0	0
Lathey Bros.	156	0	0
B. E. Nightingale	154	0	0
Holliday & Greenwood	153	0	0
E. Triggs	143	0	0
E. Flood	136	0	0
MAXWELL BROS., LIMITED (*accepted*)	122	0	0

Weston Street.

T. L. Green	£219	0	0
Edwards & Medway	189	0	0
A. White & Co.	179	0	0
B. E. Nightingale	166	0	0
E. Triggs	155	0	0
E. B. TUCKER (*accepted*)	149	0	0

British Street.

W. Hornett	160	0	0
J. R. Robey	145	5	0
J. Kybett	142	0	0
Unsigned	138	5	0
E. Triggs	136	0	0
G. WALES (*accepted*)	129	0	0

Plough Road.

C. Gurling	227	0	0
R. S. Ronald	191	0	0
E. P. Bulled & Co.	170	0	0
W. Johnson & Co., Limited	165	0	0
T. Gregory & Co.	153	16	0
E. Parsons & Co.	148	10	0
O. Craske	140	0	0
Heinemann & Co.	131	14	0
F. Chidley	130	0	0
E. B. TUCKER (*accepted*)	128	9	6

LONDON SCHOOL BOARD—*continued.*

Hanbury Street.

H. Wall & Co.	£62	10	0
Collis Willmott	60	0	0
G. Barker	56	0	0
J. Haydon	50	5	0
A. W. DERBY (*accepted*)	49	0	0

Malmesbury Road.

A. E. Symes	215	0	0
J. T. Robey	152	0	0
Unsigned	133	0	0
A. W. Derby	125	0	0
S. H. CORFIELD (*accepted*)	109	0	0

Lucas Street.

Martin, Wells & Co.	221	10	0
S. Musgrove	168	15	0
W. Banks	149	15	6
A. White & Co.	145	0	0
E. Proctor	135	0	0
C. G. Jones	127	0	0
C. S. JONES (*accepted*)	110	0	0

Powis Street.

Martin, Wells & Co.	£191	15	0
Thomas & Edge	132	0	0
W. Banks	124	19	6
C. Foreman	124	0	0
J. H. Hodgin	124	0	0
E. PROCTOR (*accepted*)	80	0	0

Union Street.

Martin, Wells & Co.	221	10	0
J. H. Hodgin	156	0	0
Thomas & Edge	150	0	0
W. Banks	148	14	6
C. Foreman	134	0	0
E. PROCTOR (*accepted*)	120	0	0

Ruby Street.

W. Hammond	£290	0	0
H. & G. Mallett	200	0	0
J. Garrett & Son	197	0	0
H. Line	185	0	0
Rice & Son	179	0	0
G. Kemp	175	0	0
G. F. MORGAN & Co. (*accepted*)	134	0	0

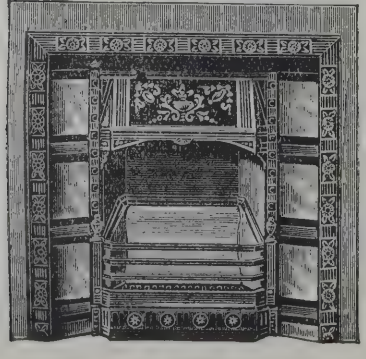
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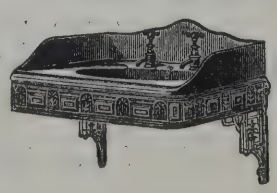
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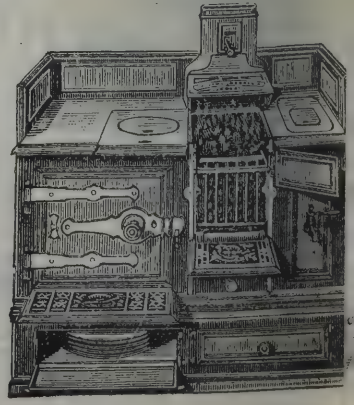


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London Fields.

F. Britton	£324	4	4
E. Lawrance & Sons	259	0	0
Barrett & Power	177	0	0
W. Shurmur	169	0	0
Collis Willmott	160	0	0
G. Wales	152	12	6
W. Silk & Son	149	0	0
J. HAYDON (*accepted*)	125	8	6

Wellington Street.

Marchant & Hirst	175	0	0
W. Shurmur	144	0	0
W. Silk & Son	132	0	0
GARDNER & HAZELL (*accepted*)	87	0	0

Gloucester Road.

G. Gurling	405	0	0
H. Line	331	0	0
J. Garrett & Son	328	0	0
J. & C. Bowyer	322	0	0
W. Hammond	300	0	0
G. Kemp	290	0	0
Holliday & Greenwood	239	0	0
G. F. MORGAN & CO. (*accepted*)	213	0	0

NEW MILLS.

For erection of four shops in High Street and Spring Bank.

J. HUDSON & SONS, Lowleighton (*accepted*)	£2,175	17	6

OXFORD.

For proposed additions to St. John's College. Mr. E. P. WARREN, architect, Westminster, S.W. Mr. J. B. LOFTING, surveyor, Westminster, S.W.

Thompson & Co.	£7,330	0	0
Stephens, Bastow & Co., Limited	6,698	0	0
Parnell & Sons	6,456	0	0
Simpson & Co.	6,117	0	0
Holloway Bros.	6,098	0	0
Sim & Co.	5,977	0	0
Bensfield & Loxley	5,910	0	0

SOUTH SHIELDS.

For alterations to business premises, for Messrs. Redmayne & Walker, Ocean Road. Mr. HENRY GRIEVES, architect, Albany Chambers, South Shields.

W. J. Robertson	£263	7	1
A. Ross	255	0	0
S. Sheriff	220	0	0
M. HALL, junr., South Shields (*accepted*)	210	0	0

Marble work.

J. ANGOVE (*accepted*)	74	10	0

Tilers' work.

H. WALKER & SON (*accepted*)	47	18	6

WALES.

For erection of the mixed department in connection with the Clive Road school, Barry Island. Mr. G. A. BIRKENHEAD, architect, St. Mary Street, Cardiff.

James & Son	£3,480	0	0
D. Davies	3,345	0	0
A. Richards	3,130	0	0
G. Rutter	3,116	1	4
T. Evans	3,080	4	0
Price & Sons	3,058	0	0
F. Couzens	2,998	0	0
J. Prout	2,975	0	0
JONES BROS, Barry Dock (*accepted*)	2,894	0	0
Richards & Evans	2,840	0	0
T. Davies	2,700	0	0
W. Britton (*withdrawn*)	2,692	0	0

For erection of a Board school and master's residence at Johnstown, Ruabon. Messrs. J. MORISON & SON, architects, King Street, Wrexham.

J. Gethin	£3,913	0	0
Davies Bros.	3,884	15	0
J. T. Jones	3,862	0	0
JENKINS & JONES, Johnstown, near Ruabon (*aecepted*)	3,795	0	0

For enlarging and repairing Ship Inn, Penmaenbach, near Conway. Mr. RICHARD DAVIES, architect, Bangor.

W. Hughes	£1,166	10	0
T. P. Thomas	1,120	0	0
E. Thorp & Son	995	10	0
ROBERTS & EVANS, Conway (*accepted*)	764	16	0

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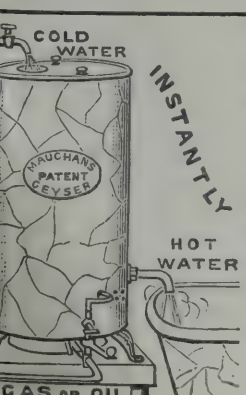
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WALES—*continued.*

For erection of four villas, Griffith's Town, Pontypool. Mr. B. J. FRANCIS, architect, Abergavenny. Quantities by architect.

Lewis & Bradford	£2,103 10 0
J. Morgan	1,939 0 0
E. Francis	1,750 0 0
Jones Bros.	1,592 10 0
Sier & Denman	1,540 0 0
F. C. PARFITT, Newport, Mon. (*accepted*)	1,524 0 0

WARE.

For kerbing, channelling, levelling and making good the roadway and footpath in Trinity Road. Mr. J. GODDARD, surveyor.

W. Glenny	£246 0 0
T. Hunt	185 0 0
J. Ketteringham	184 10 0
W. Lawrence, Ware (*accepted*)	178 10 0

WATH-UPON-DEARNE.

For erection of a chapel. Mr. W. G. SMITHSON, architect, 13 Bond Street, Leeds.

Accepted tenders.

C. Broadbent, Broomhill, Barnsley, mason	£670 0 0
N. Mell, Hoyland, Barnsley, joiner	342 0 0
J. W. Vine, Leeds, plumber	93 8 2
W. Atkinson, Leeds, slater	50 18 0

Note.—Plasterer and painter not let.

WREXHAM.

For erection of four houses in Empress Road.

J. Johnson	£685 0 0
T. Jones	677 0 0
J. Sillery	628 7 6
R. Carden	607 17 0
W. OWEN, Ruabon Road, Wrexham (*accepted*)	600 0 0

Received too late for Classification.

CARDIFF.

For alterations and additions to Nos. 8 and 9 High Street, for Mr. S. Hall. Mr. S. ROONEY, architect. Quantities by Mr. S. ROONEY, jun.

W. THOMAS & CO., Cardiff (*accepted*) . . £1,000 0 0

CARDIFF—*continued.*

For erection of Kemeys Arms Hotel, Rhoose, for Mr. John Weaver. Mr. S. ROONEY, architect. Quantities by Mr. S. ROONEY, jun.

J. T. HAMPSON, Cardiff (*accepted*) . . . £2,350 0 0

For cottage and bakehouse at Castleton, for Mr. M. Baker. Mr. S. ROONEY, architect. Quantities by architect.

FURSEY & HARRIS, Castleton (*accepted*) . . £448 0 0

For new granary, &c., at Pool Farm, for Mr. T. R. Thompson. Mr. S. ROONEY, architect. Quantities by Mr. S. ROONEY, jun.

J. T. HAMPSON, Cardiff (*accepted*) . . . £350 0 0

For pair of cottages at Tyrwinch, St. Mellons, for Mr. W. Williams. Mr. S. ROONEY, architect. Quantities by architect.

FURSEY & HARRIS, Castleton (*accepted*) . . £490 0 0

For rebuilding No. 15 High Street, Cardiff, for Mr. E. B. Reece. Mr. S. ROONEY, architect. Quantities by Mr. S. ROONEY, jun.

H. GIBBON, Cardiff (*accepted*) £1,200 0 0

For lodge at Erwr Delyn, for Mr. T. R. Thompson. Mr. S. ROONEY, architect. Quantities by Mr. S. ROONEY, jun.

W. REES, Dynas Powis (*accepted*) . . . £475 0 0

LONDON.

For rebuilding nine houses for shops and workshops, Sidney Street, Whitechapel, E., for Mr. Charles Martin. Mr. E. H. ABBOTT, architect, 6 Warwick Court, Holborn, W.C. Quantities by Mr. A. Johnson, Imperial Buildings, Ludgate Circus, E.C.

A. Fordham	£6,990 0 0
S. Salt	6,938 0 0
Wells & Son	6,517 0 0
H. Wall & Co.	5,811 0 0
Balaam Bros	5,700 0 0
A. E. Symes	5,686 0 0
Thos. Grant	5,500 0 0
R. & E. Evans	5,498 0 0

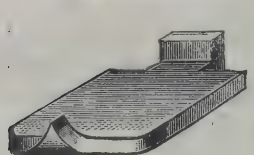
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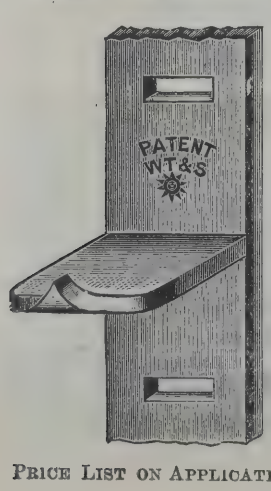
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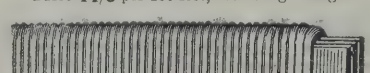
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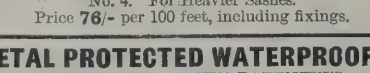
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F " " " ½ "	9/6	H " " " 1½ "	16/6
		K " " " 3 "	35/6

Supplied in Coils of 6 yards and 3 and 6 doz. yards.

TONKS' PATENT "VYVEX" STEEL-LINED BUTTS.

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MADE IN OVER 30 SIZES.

Ordinary Suites, T 1708 per pair.

3 × 2¼	2/6	5 × 3½	7/
3½ × 2½	3/-	5½ × 3¾	9/
4 × 3	4/-	6 × 4	13/
4½ × 3¼	5/3		

ILLUSTRATIONS.

CATHEDRAL SERIES.—ROCHESTER: GENERAL VIEW FROM CASTLE. CORNER OF NAVE AND NORTH TRANSEPT.

SHIPLAKE COURT, HENLEY-ON-THAMES.

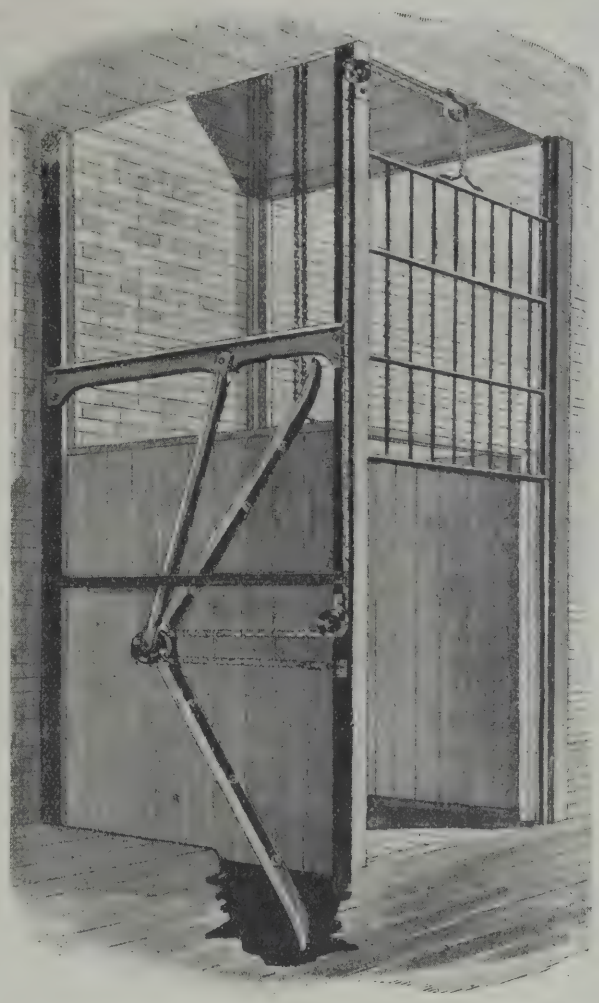
ST. JOHN'S FOUNDATION SCHOOLS, LEATHERHEAD.

SAFETY GATES FOR HOISTS.

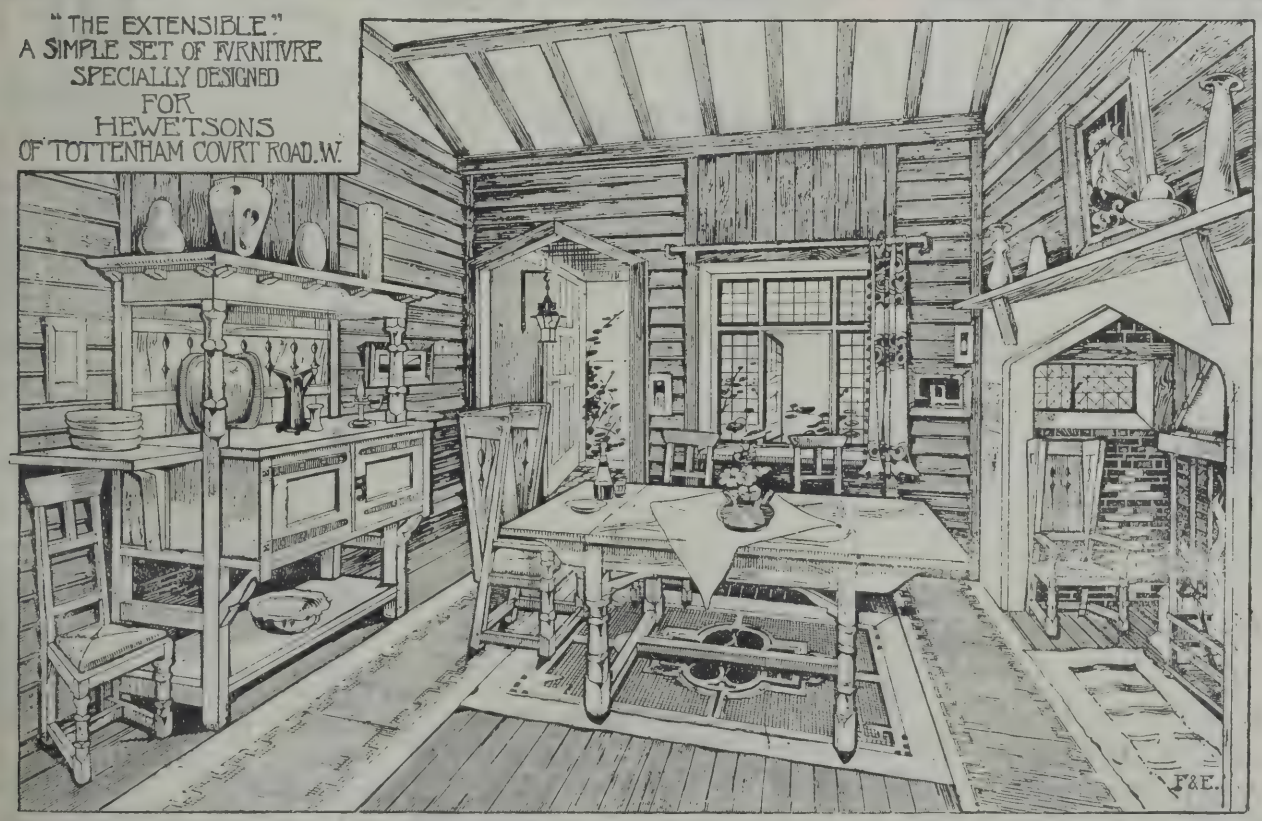
THAT the individual should bear any ill results arising from his own carelessness would appear at first sight an obvious conclusion, more particularly when actual carelessness, as differing from want of thought, brings about a catastrophe. But recent legislation has improved upon, or at any rate altered, this economic law, and employers are now made to suffer financially for the results of accidents which are entirely owing to the carelessness of their workpeople.

This being so, any means that may be devised that will not only minimise the risk, but prevent carelessness from bringing its attendant penalty, should be welcomed by all who employ labour; and the numerous accidents that occur owing to the improper use of hoists by workmen who not only have no business near, but who also are warned against the danger, makes the system of automatically closing the safety gates introduced by Mr. John Botterill, of Kirkstall Road, Leeds, a most valuable one. By its use accidents pure and simple are entirely prevented, as well as those brought about by the causes we have mentioned.

As will be seen by the accompanying illustration, the gates work in conjunction with the hoist automatically. The chain attached to the top of the gate passes through pulleys and over an arm which, when the hoist is not approaching or leaving a landing, is flush with the frame of the lift well; but when the cage is nearly in position for loading or unloading the arm is taken into a guide which is so designed (see illustration) that the gate travels at twice the rate of the cage, so that the gate remains as a guard until the cage is almost level with the floor. The opening and closing of the gates is regulated by the speed of the cage, and they are of such a height as to prevent the



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possibility of any person being caught between the gate and cage, or looking over the top of them, a frequent cause of injury. Opening perpendicularly, there is no fear of being drawn into or thrown down the well, as may happen with doors opening inwards or outwards, and in addition there is a saving of floor space.

When there are two openings to the cage on one floor the apparatus will operate on both gates at the same time if desired, and by a simple attachment the cage will open or pass any gate at the will of the attendant. This automatic safety apparatus, which embodies five patents, has already been applied to over 500 hoists, many of which have been adopted after satisfactory trials, and has also been approved by H.M. factory inspectors and the fire insurance companies.

SUN FIRE INSURANCE OFFICE.

THE directors of the Sun Fire Insurance Office are again in a position to place an eminently satisfactory report and balance-sheet before their shareholders. From it we gather that the premiums received, less re-insurances, amount to 1,029,595*l.* 3*s.* 11*d.*, being an increase of 17,254*l.* 15*s.* 6*d.* as compared with those of the preceding year. The total of the sums insured during the year, after deduction of the amounts re-insured, exceeds 430,000,000*l.*, being an increase of about 6,000,000*l.* on the corresponding figures for the year 1897. The losses paid and outstanding amount to 614,842*l.* 17*s.* 8*d.*, being at the rate of 59·71 per cent. on the premiums received. The expenses of management (including commission to agents and working charges of all kinds) amount to 357,743*l.* 0*s.* 10*d.*, being at the rate of 34·75 per cent. The income from investments during the year has amounted to 79,234*l.* 0*s.* 3*d.* After providing for the usual reserve of 40 per cent. of the premiums to cover liabilities under current policies, a balance of 129,341*l.* 7*s.* 5*d.* remains, which has been transferred to the credit of the profit and loss account, leaving a credit balance of 55,231*l.* 18*s.* 1*d.*, which, by the operations of the year, has been increased to 181,185*l.* 11*s.* 9*d.* Out of this an interim dividend at the rate of 4*s.* per share, absorbing 48,000*l.*, was paid in January last, and the directors have declared a further dividend of 4*s.* 6*d.* per share, payable on July 11, which will absorb a further sum of 54,000*l.*, leaving 79,185*l.* 11*s.* 9*d.* to be carried forward.

TRADE NOTES.

THE Eye and Ear Infirmary, Portsmouth, is being warmed and ventilated by means of Shorland's patent Manchester grates, the same being supplied by Messrs. E. H. Shorland & Brother, of Manchester.

KATE'S HILL BOARD SCHOOLS, Dudley, now in course of erection, are being ventilated by means of Mackay's patent ventilators and fresh-air inlets (Cousland & Mackay, 150 Hope Street, Glasgow, sole makers).

WE have received from Messrs. Lumby, Son & Wood, of West Grove Works, Halifax, a price list of their "Pioneer Perfect Boilers," with a list of the churches, chapels, schools and public and private buildings where they have been fitted, and a number of testimonials, all of which express the most complete satisfaction with the efficacy of these boilers.

MESSRS. FAUDEL PHILLIPS & SONS, of Newgate Street, have obtained the order to light with acetylene gas Lord Pirbright's Hall, Brookwood, Surrey, which was opened on Tuesday by Princess Christian. The machine to be used for making acetylene gas is the Thornton-Scarth Automatic Lighting Syndicate's well-known "Thorscar," and about forty lights are employed.

IT is satisfactory to learn that London hospitals are now being fitted up with the most efficient means for the protection of the buildings and the escape of the inmates in case of fire. Among the most recently fitted is the Hospital for Sick Children, Great Ormond Street, W.C., with three Merryweather chute fire-escapes, affording rapid and safe means of egress from a building in case of an emergency. These escapes have been in use at a large number of hospitals for many years, and have proved invaluable in their application to life-saving. The Middlesex Hospital has also just been supplied with six "London Brigade" hand-pumps, by the same firm.

MR. C. F. DIXON, of 29 Ebbertson Terrace, Leeds, has sent us a set of price-sheets of his patent automatic flushing-syphon, for which it is claimed that there are no working parts to get out of order, no air-holes, vent-pipes or small tubes which are liable to become choked and so prevent the working of the syphon, that the bore of the syphon is in no part contracted, consequently there is no impediment to the free passage of the liquid, and that the flushing action is commenced instantaneously; his automatic trough flushing-closet, which is supplied in white or glazed ware; his automatic flushing latrine and various other sanitary fittings and appliances. The

LIGHTNING CONDUCTORS
IN
PATENT COPPER ROPE OR TAPE.
NEWALL'S CONDUCTORS
Are the most reliable, most effective, and cheapest offered to the public.
Sole Manufacturers of Vyle's Patent (Easily Tested) Lightning Conductors.
Fixed complete by experienced workmen and their efficiency tested by competent electricians.
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VYLE'S PATENT NEW AND EASY METHOD OF TESTING
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SILENCE.
EASE OF CONTROL
SMOOTHEST RUNNING
ESTIMATES ON APPLICATION.
"JANUS" WORKS, QUEEN'S ROAD BATTERSEA.
LIVERPOOL and MANCHESTER — W. SPROWS, Norton Street, Greengate, Manchester.
BIRMINGHAM—W. J. A. KERR, Prudential Building, Corporation Street.
GLASGOW—J. MONKHOUSE CARTMELL, 70 Great Clyde Street.
NEWCASTLE-ON-TYNE—Messrs. HIND BROS., 48 Grainger Street.

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heet devoted to sanitary ironwork gives diagrams and prices f penstocks, flap-valves, wall brackets, top boxes, disc-valves, ack-pressure valves, sluice-valves, manhole covers, &c.

BUILDING AND BUILDERS.

OUNDATION-STONES of a new Primitive Methodist church ave been laid at Cullercoats.

THE corner-stone of the chapel to be erected in connection ith the new Archiepiscopal palace adjoining Canterbury athedral, was laid on the 27th ult. by the Archbishop of anterbury in the presence of a numerous company.

A SCHEME for building a new Congregational church at winton, Yorkshire, at a cost of 1,700*l.*, is being vigorously ushed forward, and the Charity Commissioners have consented the sale of the old chapel, which has been used for years by ie Salvation Army.

AT the mining village of Denaby Main, Miss Montagu, of Ielton Hall, laid the foundation-stone of a new church, which to cost about 3,500*l.*, and will accommodate 500 persons. he building will be of local stone, with pitch-pine roof and red les. Mr. Fowler, of Durham, is the architect.

THE Bishop of Stepney has laid the foundation-stone of the ew St. John's National School, Bethnal Green. When finished, ie new school, which is to cost 8,000*l.*, will accommodate 672 ildren, and the central hall is being built according to the ondon County Council requirements, so that it may be used r entertainments and as a centre for the social work of the istrict.

THE standing joint committee of Dumbartonshire have st completed the erection of new police offices for the llage of Duntocher, situated on the Chapel Road there. The ilding, which is of white freestone, is two storeys in height. n the ground floor is the charge-room, with cells to the rear, hile adequate provision is made for the quarters of the sident officers.

THE plans committee of the Leeds Corporation, of which r. E. W. Batley is chairman, are determined to put an end "jerry"-building in the city. At a meeting recently held ey passed a resolution requiring all mortar used for building rposes to be of a minimum quality of one part of lime to two arts of good engine ashes or clean river sand. This decision on the part of the committee is the outcome of a report by Mr. Fairley (the city analyist), which document showed that numerous samples of mortar recently analysed by him had been very inferior stuff indeed. In future, whenever one of the building inspectors finds mortar being used by contractors which is of a doubtful strength he will submit a sample to Mr. Fairley.

A NEW deep-water dock is to be constructed on the river Thames at a cost of two millions sterling, and the north bank of the river at Dagenham, Essex, has been selected as a suitable spot for it. The vast scheme will be financed by one of London's actual millionaires, a gentleman of high repute in commercial circles, and the works are to be carried out without delay. The new docks are specially designed to facilitate the rapid loading and discharging of steamers by the adoption of every known labour-saving appliance. Sir Benjamin Baker and Mr. P. W. Meik have supervised the plans, and a contract has been placed with the firm of Sir John Jackson, Limited. It is estimated that the construction of the docks will take three years, and that by that time Dagenham will possess one of the finest and best equipped docks in the world.

IT has been decided to erect a new church in place of the present mission-room at Pentre, near Buckley. A convenient site has been given by Mrs. Lloyd (Sandycroft Farm) and Mrs. Drew, wife of the Rector of Buckley, has promised to build the church if the parishioners guarantee to find the furniture and inside fittings.

THE members of the general purposes committee of the Elland District Council were engaged on the 26th ult. in discussing important projects of improvements. A deputation, which had been to interview Mr. W. Lipscomb, Lord Savile's estate agent, with regard to the suggestion that the Town Hall Square be acquired, stated that he acquiesced in the proposition that public baths, a free library and markets be erected on the site, under certain conditions, and two of the Councillors were deputed to prepare the necessary plans. It is thought advisable to have a separate site for the electric-lighting plant which it is intended to erect.

AT a meeting held at the Bradford Stone Exchange on the 25th ult. the question of the formation of a society for the insurance of the various branches of the building trade in Yorkshire against accidents was considered It was reported that Leeds had not replied to the Bradford circular on the subject, but that a sympathetic reply had been received from

OWSON, TAYLOR & CO., Ltd., Engineers,
LONDON AND MANCHESTER.

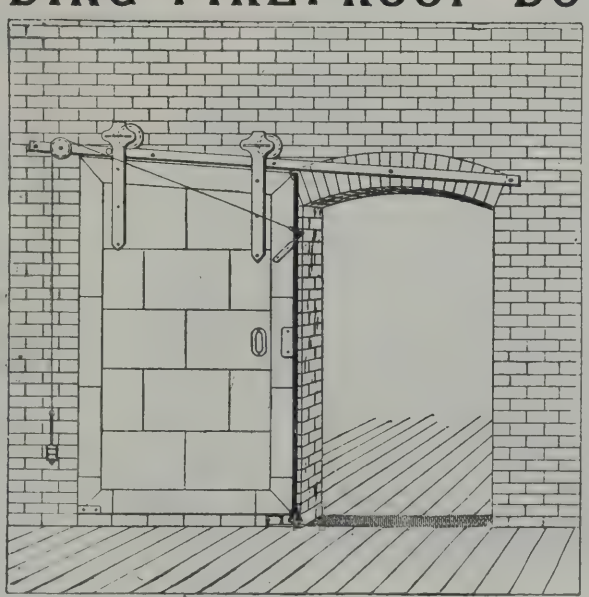
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RMOURED FIREPROOF DOORS

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HE ONLY SLIDING FIREPROOF DOOR ACCEPTED.

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Will not Warp or
wist out of Shape.



Proved in many actual Fires.

Special Doors and Fireproof Shutters carefully constructed.

FIRE AT THE WORKS OF THE ANAGLYPTA CO., DARWEN, LANCASHIRE.

e door we fitted in these works, although subjected to a heat intense enough to melt brass taps and fittings near it, withstood the heat perfectly, and can now be inspected at rks in Manchester. fit for duty. The metal sheets have expanded without becoming detached, whilst the wood is simply charred to a depth of about ⅛ of an inch."

FULL PARTICULARS AND ESTIMATES FREE.

Halifax. It was decided that the directorate of the Bradford Exchange should guarantee a fund sufficient to inaugurate a scheme of insurance for Bradford, and that further steps should be taken with a view to securing the co-operation of other populous centres in Yorkshire.

AT a meeting held at Salford Town Hall on the 19th ult. Colonel C. H. Luard, Inspector of the Local Government Board, held an inquiry with reference to an application of the Corporation for power to borrow 4,000*l.* for the purposes of erecting a public library. Mr. Evans explained, that the late Sir Percival Heywood had presented to the borough an acre of land, and had promised 2,000*l.* towards the cost of the new building. His son, Sir Arthur, had intimated his intention to keep the promise regarding the 2,000*l.* Mr. Alderman Mandley, as chairman of the museum, parks and libraries committee, said the scheme had been adopted after very careful consideration. The inhabitants, who were mostly colliers, would greatly benefit by the erection of such a building. Messrs. Worsley and Corney also gave evidence in support of the application. Mr. Worsley stated that the population of the district was 5,000, and the nearest library was fully a mile distant. The inquiry then closed.

ELECTRIC NOTES.

THE Leeds Corporation, with the view of developing their newly-acquired electric-lighting concern, think it well to tempt intending customers. They are going to supply current free of charge during June, July and August to those who become consumers within that period. It is hoped by this means to induce those who contemplate taking the new illuminant to have their premises wired and connected with the mains during the summer months, when the work can be done more conveniently than later in the year. Only one condition is imposed, and that is that the current shall be used with reasonable care.

AT a meeting of the electric-lighting committee of the Hull City Corporation on the 25th ult. Mr. J. T. Skinner, chairman of the committee, stated that during last year the consumers increased from 678 to 960, and there was on the year's working a net profit of 3,660*l.* He suggested a reduction of ½*d.* per unit on all units sold for lighting purposes only, and this met with unanimous approval.

VARIETIES.

A NEW tabernacle which has been erected in Station Road, Rayleigh, Essex, was opened on the 24th ult.

THE Bishop of London consecrated on Tuesday the new church of St. Simon, Saltram Crescent, Paddington, a district which has been formed out of the parishes of St. Jude's, Kensal Green, and St. John's, Kilburn.

ST. JAMES'S CHURCH, Hampstead Road, has just been re-opened after thorough internal decoration and repair. The sanctuary floor has been raised and laid with wooden blocks. The walls have been panelled with carved oak, and a baldachino has been erected over the altar, with two paintings of censing angels above. Outside the church a wrought-iron structure of artistic design has been placed.

AT Boat of Garten, Strathspey, the ceremony has been performed of laying the foundation-stone of a bridge across the Spey to take the place of the chain boat which has hitherto done service in connecting the Duthil and Kincardine sides of the river. The structure has been erected by the Badenoch district committee of the Inverness County Council, but a considerable portion of the cost has been subscribed to locally.

THE architect's plans and specifications for the magnificent new Hall of Records for New York have been issued. They require 2,000,000 dols. to be spent on the external building proper, and 2,500,000 dols. additional to complete the interior. The estimate for sculpture is 85,000 dols., and for mosaic work is 10,000 dols. No wood whatever will be used, the interior being entirely of coloured marble and the window frames of copper. The mayor, the Board of Comptrollers and the city engineers are in favour of adopting the architect's recommendations.

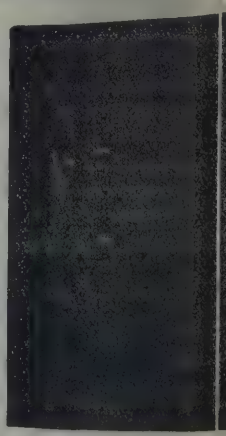
THE fire authorities of the Paris Exhibition have served upon the British Royal Commission an objection to the Indian building, on the ground that it is unsafe. The British Commissioners decline even to discuss the question at this hour, which, they say, is three months too late for any such objection to be raised. The hitch is considered somewhat serious, as either the construction of the Indian building will have to be altered or the fire authorities must give way.

THE English buildings in connection with the exhibition will include the reproduction of an old manor house in Sussex. This will be allotted as the residence of the President, H.R.H.

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REVERSIBLE SLIDING SAFE
SASH FRAMES.
WIND-PROOF. WATER-PROOF. DUST-PR
No Projecting Beads.
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Centre Hung.
Reversed Instantaneously.
Sashes Entirely Removed in One Minute.
No Rattling.

BOTH SASHES REVERSE, For Cleaning, Paintin
The Sash ONLY is Hung.
The Sash ONLY is Mova
STRONG, PRACTICAL, NEAT.
GUARANTEED 5 YE
The "A.A." Reversible Window
21 Buckingham Street, Strand, W.C.

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Prince of Wales. Whilst Mr. John Aird, who has the contract in hand, has undertaken to reproduce in every detail this interesting relic, it will be furnished in strict accordance with the fashion of the period.

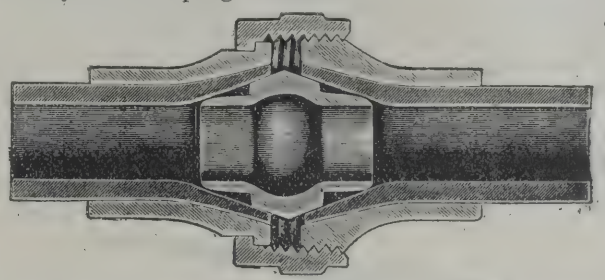
AN interesting old London house is doomed to immediate destruction. The nuns who for the past thirty-seven years have occupied Harley House, Marylebone Road, leave this week to take possession of their new mansion at Brondesbury. Before the arrival of these sisters in 1862 the building was occupied by the Queen of Oude, who brought with her from India some gold idols as travelling companions, to say nothing of a suite numbering some 300 persons, the majority of whom lived in tents in the gardens attached to the house. It is expected that a block will be at once erected on this site, which is immediately south of Harley Street.

THE programme for the present season which has just been issued by the management of the Crystal Palace is a most attractive one, comprising important cricket matches, cycle races, athletic tournaments and gymkhanas, the National Horse Show and pony shows. A new and original *al fresco* attraction will be the production of one of those entertainments long popular on the Continent, but comparatively unknown in England, namely, a "Revue," the title chosen for the Crystal Palace production being "The Dream of Whitaker's Almanack," of which the libretto is by Henry Beauchamp, with vocal music composed by Walter Slaughter, Florian Pascal and Walter Hedgcock. Two great ballets have been arranged by Signor Coppi (late of the Alhambra) and Madame Cavallazzi (of the Empire). M. Georges Jacobi will provide the orchestral melody, and conduct a special "Revue" band of picked musicians. In this ambitious production a number of well-known and popular favourites will appear. Then there are the beautiful electric fountains, such as afforded so much delight some years since at South Kensington. The terraces are to be illuminated, in addition to the North Tower Gardens, and on Thursdays and Bank holidays there will be the world-renowned firework displays. The Article Club Industrial Exhibition, which was opened by the Duke of Connaught on Tuesday, promises to be a great attraction. There is to be, in addition to the ordinary series of high-class concerts, a grand performance of Mendelssohn's "Elijah," in which the principal vocal solos will be undertaken by Madame Albani, Miss Clara Butt, Mr. Ben Davies and Mr. Santley, and Mr. August Manns will conduct the vast army of three thousand performers, Mr. Walter W. Hedgcock presiding at the organ. Floral and horticultural exhibitions, and exhibitions of animals and birds, will be held at frequent intervals. New dining-rooms and a smoking lounge and musical promenade have been provided. The much-needed improvements in the catering have been carried out, and the railway companies are offering special facilities to season ticket-holders in the matter of fares, and to every one in an improved service of trains.

THE ANDERSON PATENT PIPE COUPLING.

A SIMPLE and expeditious, and at the same time inexpensive method of coupling pipes of similar or dissimilar materials is that which has been placed on the market under the above appellation. This coupling consists of a combination of brass union and cone joint, with rings of asbestos, rubber, or any other suitable packing. By its use the expensive wiping of a joint is obviated, and a better and more reliable joint produced, with the additional advantage that it can be at any time opened for inspection or cleaning of the pipe, &c.

As the illustration shows, the joint is effected by the coupling members being slipped over the two lead pipes which it is desired to unite, and the ends of the pipes are expanded until they fit the coupling members.



The joint-piece with the packing rings is then introduced into the expanded ends of the lead pipe, after which the coupling members are firmly coupled together by means of the coupler or union, which draws the expanded ends of the lead pipes into such close contact with the packing rings and the bearing faces of the joint-piece that a very tight joint is secured.

For the connection of a lead pipe with one of iron or other non-expansible metal the invention is of considerable importance.

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AVE NOW THE FINEST PLANT IN THE UNITED KINGDOM FOR THE DUCTION OF HIGH-CLASS JOINERY, ALL FIRST-CLASS WORKMANSHIP.

IMATES GIVEN FOR SPECIAL JOINERY IN HARD & SOFT WOODS.

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Telegraphic Address, "JOINERY, BIRMINGHAM." National Telephone, 478 Birmingham.

al Price List of Plain, Cheap, English-made Joinery, prices of which will favourably compare with the goods of Foreign make.

Prices for Doors in not less than 200 lots.

	Each.	
ft. 4 in. × 2 ft. 4 in. Doors Square,	4/-	IF MOULDED 9d. Per side extra.
ft. 6 in. × 2 ft. 6 in. „ „	4/2	
ft. 4 in. × 2 ft. 4 in. „ „	4/4	
ft. 6 in. × 2 ft. 6 in. „ „	4/6	
ft. 8 in. × 2 ft. 8 in. „ „	4/10	

. G. Moulded on the solid both sides in above quantities and sizes, 3d. per door extra.

Prices for ¾ in. Sashes and Frames.
5d. per Foot Super extreme measure.

5 ft. 11 in. × 3 ft. 10 in.	5 ft. 5 in. × 3 ft. 4 in.
5 ft. 11 in. × 3 ft. 7 in.	5 ft. 5 in. × 2 ft. 10 in.
5 ft. 11 in. × 3 ft. 4 in.	5 ft. 2 in. × 3 ft. 1 in.
5 ft. 8 in. × 3 ft. 7 in.	4 ft. 11 in. × 2 ft. 10 in.
5 ft. 8 in. × 3 ft. 4 in.	

Sizes given are under head to under sill and between pulley stiles.
Fitted with Deal Sills and Iron Axle Pulleys.

NET PRICES AT WORKS, BIRMINGHAM.

LARGEST MANUFACTURERS OF WOOD CHIMNEYPIECES IN THE KINGDOM.

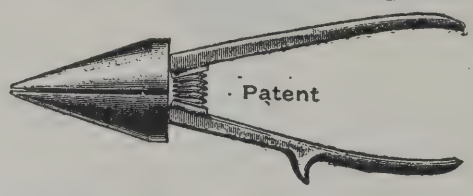
Established over 20 Years.

The non-expansible metal is screwed or fixed into a suitable combination of joint-piece and nipple provided with a washer. The joint is then formed between the inclined outer face of the nipple, the expanded end of the lead pipe, and the inclined inner face of the collar, the whole being made tight by a suitable union. By means of this connection all direct contact is avoided and destruction due to galvanic action obviated.

In addition to its uses for joining pipes, the Anderson coupling has wide applications, such as in the connection of sinks, boilers, beer taps, &c

The following advantages are claimed for the Anderson coupling :—Extreme simplicity, as the connection can be made by an ordinary labourer in a fraction of the time required by a skilled plumber to wipe a joint, whilst any man accustomed to the Anderson coupling can make a complete connection in a very few minutes. It is absolutely tight, and does not leak when subjected to a test pressure of 1,300 lbs to the square inch. It has been in ordinary use under a pressure of 120 lbs., and various other conditions in America, where it has given complete satisfaction It is not affected by temperature or by vibration, which loosens couplings having no washers. It is cheaper than a wiped soldered joint, than which it is stronger and better. In the case of the wiped joint the connection once broken must be rewiped, whereas the Anderson coupling can be disconnected and made up again indefinitely without trouble and without injury to the connection. Wherever block-tin is used, as in hotel and public-house fittings, the use of the Anderson coupling enables the connection to be made without trouble. It reduces the risk of destruction by fire of buildings in course of erection and ships during fitting through accidents caused by plumbers' fires, as no heating is required for the application of this coupling.

The second illustration depicts the Anderson expanding pliers, a very useful instrument intended to supersede the old-



fashioned and time-wasting wooden cone for expanding pipe-ends. By this simple means the object is attained neatly, expeditiously and uniformly, and will be found of the greate possible value in conjunction with the Anderson pate coupling. The British patent has been secured by th Anderson Patent Pipe Coupling Co., whose address is Clu House, Surrey Street, Strand, W.C.

FIRE TESTS.

THE British fire prevention committee is showing further in creased activity at its testing station, and a most importan series of investigations is again in hand. Among these test is one with a floor of steel joists and concrete filling, the con crete being of the aggregate lately allowed by the Londo County Council. Another floor under investigation is a soli timber floor; a third floor by the Columbian Fire Proofin Company, U.S.A., which is to be subjected to very high tem peratures. Various forms of doors of wood, armoured woo and iron will be under investigation, also silicate partitions an ceilings by Messrs. Anderson and Messrs. Broadbent, some patented partitions and plasters, some plain electro-glaze windows by the Luxfer Prism Syndicate, and lastly, some of th non-flammable materials. A set of ordinary partitions hav also been recently tested. Nearly all the great publi authorities are now represented at the committee's tests, and a the last test representatives attended from the leading insur ance companies by special invitation.

Owing to the numerous applications to visit the station, th executive has asked us to remind would-be visitors that th attendance is still strictly limited to the members by rotatio and a few special guests.

TRAINING OF BRIDGE ENGINEERS.*

IN this short talk I thought that the subject might be handled most advantageously by dividing it into two main divisions First, taking up the manner in which these bridge enterprises develop, following the business forward through the natural steps to the actual condition of the work. Second, starting from college, giving the preparation required and leading up

* From a paper by Mr. John Sterling Deans to the students of Lehigh University, U.S.

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hrough the several stages of construction and business to the nception of the work.

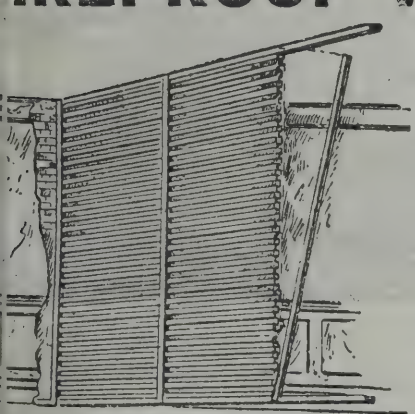
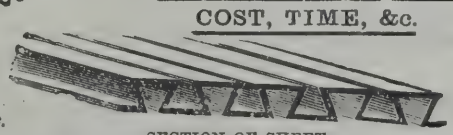
Considering the first, bridge enterprises emanate from the ecessities and the demands of better transit facilities. The agacious railway officer or municipal authority turns naturally o those bridge companies or consulting engineers of acknowedged standing, character and ability for advice. Here we ome to the most important attribute of an engineer—a staunch haracter. He must be absolutely beyond reproach if he xpects to be eminently successful in his noble profession. The nterests placed in his hands are too vast and important, inolving the success of great enterprises, the expenditure of vast ums, the marring or beautifying of city streets and parks and istas, and involving also the safety of hundreds of human lives; these interests surely can only be trusted to the highest haracters. No profession demands more. This is a sufficient eason why a long successful engineering life is so honourble, and why we honour the great names in the profession. The engineer must be able to withstand the strongest pressure, and be able at all times to reach correct conclusions and nake truthful reports—be able to turn down without hesitation ny work, however tempting otherwise, which involves the xpenditure of money or character of design, quality of material r workmanship, which his professional judgment condemns. Sharp practices once entered into, work slighted, or false eports made, are not forgotten, and the engineer or firm so cting is more surely spotted and condemned than the uncrupulous lawyer or quack doctor. The profession is to be ongratulated that instances of breach of trust and professional lishonesty are rare. The report of an experienced and able ngineer should and does carry with it the same grade of uthority as a judge's decision, and it becomes the basis of uture actions and decisions. If all its members work on this igh plane of professional honesty, there need be no fear of the ltimate position of the engineer in the community and of his lace in the learned professions.

Assuming, then, the wants of the railroad company, munipality or state, and that an engineer is competing for the ork, he must be prepared to support his claim to attention ot alone through his technical knowledge, but he must be ble to present his case lucidly in good English, in a clear, onvincing manner; he must be shrewd to discover the main eatures of the business propositions involved, and to take dvantage of every surrounding condition. Engineers are ften spoken of as narrow, and as only being able to talk "shop." If there is any truth in this assertion it may be traced to a lack of a general and broad education in those branches and studies outside of his work. Whenever possible, let no opportunity be neglected which tends to increase your general knowledge, and which will assist in laying a broad and thorough foundation for a general education. I well know the feelings of the average technical student and his belief that time spent on the classical studies, history, literature and languages is in a manner wasted, or at least unnecessary. In after years a lack of training in these very branches will be keenly felt by the engineer in his effort to attract attention to his designs and plans. It may be assumed that all students here will take an interest in their mathematics, physics, chemistry, construction and other purely scientific studies, and I would strongly recommend the closest attention also to the classical branches as well. A profession full of cultured as well as thoroughly trained engineers need have no fear of its standing in the world at large, and that fees of proper size will be expected and paid as cheerfully as to the lawyer or doctor.

Assuming that the engineer has been successful in securing the business in view, he is now in the position of adviser, and must do the best for his client. It is not to be assumed that he has now the opportunity of exploiting his purely theoretical knowledge, but he must adapt himself to the surrounding conditions. An engineer has no more right to needlessly expend his client's money than a doctor has to needlessly drug his patient.

Many enterprises have been wrecked by a lack of due regard to the surrounding conditions. A good engineer is preeminently one who most carefully considers these surroundings and the practical features of the work involved. If the general market is furnishing a reliable class or grade of material which has been abundantly proved in practice under trying conditions it would be folly to force a special material, demanding special processes at greatly increased cost upon your client, simply to satisfy your craving for a theoretical metal. It is unnecessary to specialise further; I only wish to impress upon you the importance of avoiding carrying theoretical considerations to an extreme. You may succeed in making a monument to yourself, and there are a number of such that might be instanced, but they are not such monuments as are to be desired by any engineer. I do not wish, however, to lessen the value of giving the most careful theoretical consideration to every problem; it is far better to err on the side of extra weight and expense, as

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was the case in the early days of bridge construction, when designing was more a matter of ingenuity and practical consideration alone, than a matter of theoretical skill. The successful engineer must combine the two.

Proceeding to the designing of the structures, the preparation of the stress diagram and the design of the general outlining of the structure, while calling for a high grade of ability and experience, demand, if possible, less experience than the detailing. This important work can only be left to the most painstaking and thoroughly trained engineers and draughtsmen. The requisite knowledge and experience cannot be imparted by books or lectures; it is only obtained by actual and prolonged experience over the draughting-table.

With the work designed and specifications written, it is ready for the construction in the mills and shops. Here the bridge engineer ceases to be the ruling factor; he should, however, maintain a close supervision of the construction, through a careful, intelligent inspection, during the various mill and shop stages, and final passing of finished parts; but in the rarest instances should he interfere with or dictate shop practice—it is the final result he is after, and he is not interested in the intermediate steps leading to this result. To check mill and shop results, full-size tests are often specified, mainly tests of eyebars; the result of these eyebar tests sufficing to satisfy the engineer that his structure is all right. This, however, has developed in many instances into a fad; it really adds but little knowledge as to the condition of the finished structure, composed of many members not eyebars. If general testing of various members is not done the testing of eyebars might be dispensed with.

With the work finished in the shop, there remains one more stage to the completed structure, a stage which has been neglected by the great majority of engineers, although it offers every inducement and opportunity for the exercise of every faculty of the well-trained mind, both in theory and practice. I refer to the erection of the structure at the site. The engineer, to properly take charge of this field erection, must be thoroughly trained in all of the previous steps—in the theoretical and practical education of an engineer. He must be familiar with the office to be performed by each member of the structure, the design and duty of each detail, and the method of shop construction, to the end that each part may be erected in such a manner as to develop the full value of the structure in all its parts. In carrying out this work the engineer must depend upon the skill and fidelity of the bridge erector.

These bridge erectors are little known and appreciated except by those who are brought into close contact with them. They are as essential to the success of the bridge enterprises as the skilled mechanic in the shop, and are composed of a body of hardy, active, fearless young men, leading a life which necessarily makes them rough; yet they are tender-hearted to a fault to those in trouble. They are men, in other words, you can depend upon to stand shoulder to shoulder with you in all your efforts, stand by you in storm as in sunshine, work for you day and night without rest, if necessary to make a connection safe, when threatened by storm or flood. I number among them many of my best friends. If in this stage of the work the bridge engineer is not able to command the support of the best bridge erectors, he is in a sorry plight indeed; no amount of theory or individual ability will offset this lack. It is a case of practical experiences and acquaintances and the ability to command the respect, interest and real devotion of this peculiar class of workmen. When you have once gained their confidence you have assistants who will accept any privation and danger willingly for your interests. It is not easy for all men to make even passing acquaintances, much less to accommodate themselves to those in "various walks of life" with whom they are necessarily brought in close contact. The successful engineer, however, must have this ability; if not natural, it should be cultivated at every opportunity. Start in early—you cannot begin too soon—in your visits to shops and important works in course of construction during your college course; become acquainted with not only the officers in charge, but meet the workmen, if possible. Do not make the terrible mistake of thinking it may detract from your own standing as an educated engineer to associate with intelligent workmen, to talk with them in detail of their individual work and to be interested in their remarks. Nine times out of ten they can give you valuable information, which will be of use to you in your practice of the profession. As has been previously intimated, the field erection of structures demands the exercise of all the faculties of the engineer, his theoretical knowledge, his practical business training and his ability to handle men; not only workmen, but the handling of inspectors and engineers.

It would be interesting if we had before us the original reason or idea for the selection of an engineering life by each of those present here to-day. In my own particular case I believe it was my fondness for outdoor life and the accidental associations with a field party of bright young engineers during

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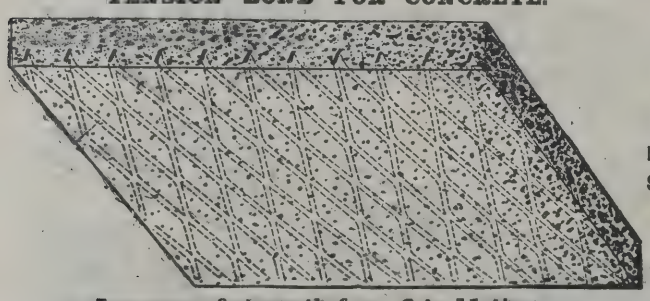
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the summer of my twelfth year that first inclined me toward the profession. I was told by friends that the profession was overcrowded, that the colleges were turning out engineers out of all proportion to the demand, &c. But a lack of work has not been one of my experiences up to this time, nor are there any prospects that it will be in the near future. There are many positions waiting for good men to-day. Do not be discouraged by any such idle, pessimistic talk. The United States has really just begun to develop as far as permanent important bridge structure is concerned; and, aside from this, as a result of the conclusion of the late brilliant war—which was, by the way, pre-eminently an engineer's war—new countries have come to us requiring development; and they incidentally brought us at a jump into a world's business instead of a mere home trade.

Now how shall the young engineer enter into the field and commence life in earnest? This first step from college is the beginning, and it is all important to take this first step and make these first associations carefully. I assume every man is taking advantage of his inestimable opportunities in being here; for every year we progress demands more in the matter of thorough theoretical training.

When taking this first step from college, it is most important to shun influential friends who have it in their power to place you in positions beyond your experience; remember it is just as important to progress step by step in the practical work in your profession as it is to follow your regular course in the university. In bridge engineering and construction there are several channels of entering the profession which open before the graduate, any of which may be followed to advantage. The course I shall outline to you, however, appears to me to be the best as indicated by my experience.

I would suggest as the first step a position in the erecting department of some well known bridge company or firm of erection contractors, and the taking up of the work in the same manner as you would in entering a machine shop to acquire familiarity with the use of tools. Start in the gang and learn everything connected with the erection, and further, learn as you gain in experience the power of handling men and the business involved in this important part of your work. It is not necessary to continue at this particular work after it is thoroughly understood; one of the seeming paradoxes of life is the fact that, after you thoroughly know how certain work should be done, it is no longer necessary for you to do it yourself. But you must know how first.

After finishing in the field, I would suggest association with an inspecting firm, one that actually and intelligently inspects; there are many so-called inspecting firms to which the name is a misnomer. In this position as inspector you will be expected to see that your specifications and plans are adhered to, and this will not be hard to do if you proceed about it in the right manner. Do not start in by thinking all reputable concerns and contracting engineers are dishonest—on the contrary, they all court intelligent, sensible inspection, and will assist you. A sly, detective manner is not necessary, or "a-know-it-all" air, both of which are sure to bring trouble. While inspecting there is excellent opportunity to study shop practice, &c., and everything gained here will be of great benefit to you in the next step which I would suggest—the draughting-room. The engineering profession may be called the exact profession; probably no other profession can lay claim to the title with the same warrant. The young engineer who has learned to be accurate has made a long step in advance. This is the first habit to be acquired in the draughting-room. A beautiful drawing is not essential; a correct one is an absolute necessity. A proper experience in detailing takes time; one drawing or many drawings might make simply a good draughtsman, but it requires many months of actual work at the draughting-table to make a good engineer. After this training the next is the designing-room, where the general outline and main features of the bridge are decided upon, and where stresses are figured and main features are determined. All of the training at college and the practical experience gained are needed here, and here the same and even greater accuracy and care must continue.

The four steps I have outlined very roughly compass what I would suggest as the training of a bridge engineer; it can possibly be obtained in ten years, certainly not sooner. Do not push yourself faster than you feel you are moving. Do not let a salary be your first consideration in these years of training; let the experience you are gaining have the greater weight. A proper salary will come later.

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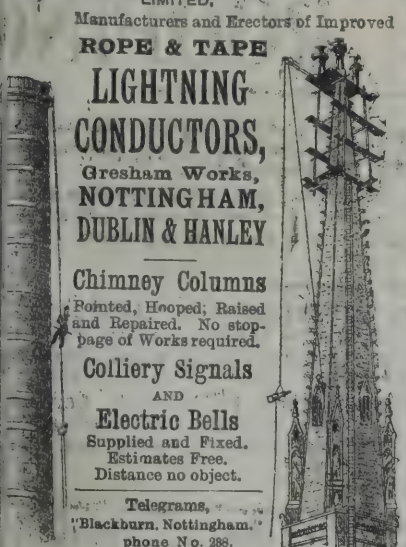


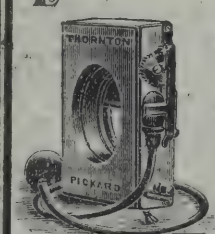
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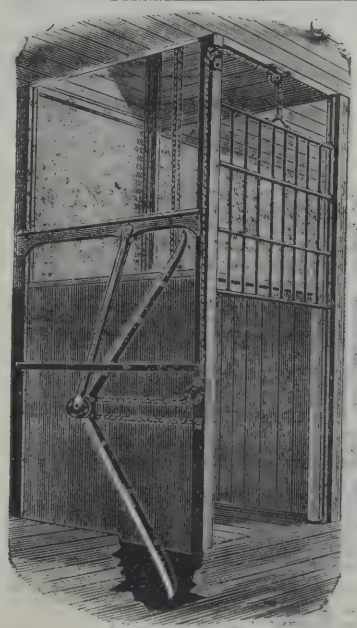
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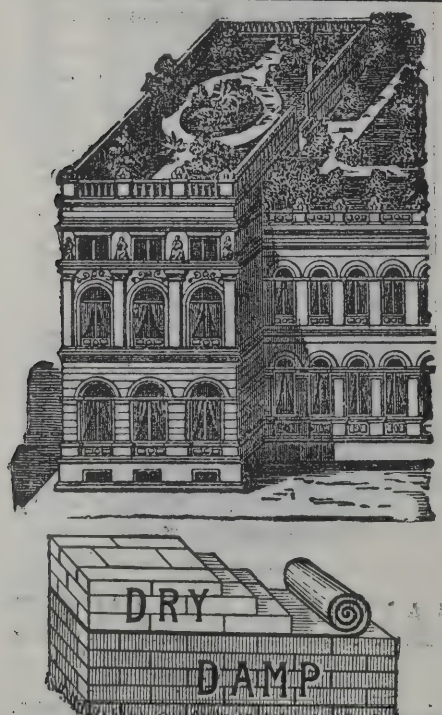
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local and through traffic. The latter traffic by the East Coast and Midland and Waverley routes received, as is well known, a great impetus from the construction of the Forth Bridge. That progress goes on augmenting from year to year. The reconstruction of the station has been a gigantic undertaking, and as it has taken shape its various stages have been noted from time to time. Mention has in this way been made of important works associated with the same object as that for which the station has been enlarged, viz. the doubling of the Mound, Haymarket and Calton Hill tunnels, and the quadrupling of the through lines from Abbeyhill to Corstorphine. There has also been chronicled the reconstruction of the Waverley Bridge, the making of two new carriage entrances to the station from that thoroughfare, and the erection and opening of the handsome new booking hall and offices for the east and south and west traffic. All this has taken time, necessarily so considering that the work has gone on contemporaneously with the daily conduct of a large and increasing traffic. The travelling public, however, have been very patient, and have borne the "light affliction" of the moment in view of the comfort and convenience which in the end the new station would afford. They will hear with pleasure the announcement that the works are now rapidly approaching completion. Operations have recently been seriously delayed by the joiners' strike, but should this soon come to an end it is expected that the whole station will be completed in the early autumn.

As reconstructed the Waverley Station will be the largest railway station in Great Britain. It covers 23 acres of ground, of which exactly one-half, or 11½ acres, are under roof. The two largest and most important stations in England at present with which it may be compared are Liverpool Street Station, London, which is to all intents and purposes two stations, and New Street Station, Birmingham, belonging to the London and North-Western Railway. Liverpool Street Station covers 22½ acres, or half an acre less than the Waverley. It has 6½ acres under roof, or 5½ acres less than the Waverley. New Street, Birmingham, covers 10¾ acres, or 12¼ acres less than Edinburgh. It has 8¾ acres under roof, or 2¾ less than the Waverley. A few leading figures, which are easily stated, show what a great place the Waverley Station has become. In it there are two main line platforms, two platforms for suburban trains, and fifteen dock platforms. These main line platforms are each 560 yards in length. The suburban platforms average 400 yards, and the docks 180 yards in length. The total length of all the platforms is 4,660 yards, or about 2¾ miles, and their area extends to 32,520 square yards. There are eight main lines through the station, and fifty-six dock roads and sidings. These are worked from four signal cabins by 228 points and 290 signals. In all, there are 538 signal and point levers. The signal cabin at the east end of the station is believed to be the largest yet constructed, containing as it does 260 levers. Owing to servitudes and other restrictions the extreme height of the roof could only be 42 feet above the level of the rails. The spans of the main girders of the roof vary from 50 to 80 feet, and these are placed at a uniform distance apart of 37 feet 6 inches. There are thirty-three spans of this width in the length for the station. The cost of the Waverley Station for works alone, exclusive of land, will amount to no less a sum than about 500,000*l*.

Comparing the new station with the old, it may be mentioned that the old Waverley covered an area of 18½ acres, of which 4¾ acres were under roof. Four and a half acres have accordingly been added to the total area of the new station and 6¾ acres to the area under roof. It had two main line platforms only, while the new station has eight, two suburban platforms and nine dock platforms. The main line platforms were 440 yards in length, the suburban platforms 260 yards, while the dock platforms averaged 130 yards in length. The total length of all the platforms was 2,550 yards, or rather less than a mile and a half, so that the platform accommodation has been added to by 2,110 yards, or about 1¼ mile. At Liverpool Street Station there are two main line platforms, two main lines through the station, sixteen dock platforms and thirty-three dock roads and sidings; while at New Street, Birmingham, there are eight main line platforms and twelve main lines through the station, five dock platforms and seventeen dock roads and sidings. At Liverpool Street the main line platforms average 250 yards in length and the docks 220 yards. The total length of platforms is 3,720 yards, and the total area of platforms 24,560 yards. The Waverley accordingly has 940 yards in length more of platform, and 7,960 more square yards of platform than the largest station in London. The total length of the platforms at New Street, Birmingham, is 2,470 yards, or 2,190 yards, about a mile and a quarter, less than the Waverley, while in area the platforms at New Street measure 21,400 square yards, or 11,120 square yards less than Edinburgh. Both at New Street and Liverpool Street the signal arrangements, like those at the Waverley, are very elaborate. Liverpool Street has three signal cabins, containing 424 signal and point levers, which

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ork 153 points and 211 signals. New Street, Birmingham, as six signal cabins, containing 584 signal and point levers, hich work 142 points and 197 signals. In respect of the umber of points and levers the Waverley is also an easy first, ough the New Street Station, Birmingham, seems to have ore levers for working its points and signals.

The number of people who use the Waverley Station in the ourse of the year is enormous. In an interview which he ave to a representative of one of the railway papers last year Ir. Conacher estimated the number at 13,000,000 per annum, nd that is now believed to be below the mark. That would ive roundly an average of over 37,000 a day. Last spring oliday there were no fewer than 36,599 bookings from the Waverley alone, and that figure did not include season and aders' tickets, all who booked at the suburban and Hay-arket stations, and all the people who used the station with ckets from other places in Scotland and England. Then ere has to be taken into account the number of people who me to the station to see friends arrive and depart; so that r the traffic which has developed here a very large building as required. On a busy day last summer the gross total of ains of all kinds and light engines dealt with in the enty-four hours going out and into the Waverley Station as no fewer than 1,196. Of these 391 loaded pas-nger trains went out from or came into the east nd of the station, and 258 went out from or came to the west end—making a total of 649 trains. The rest were npty trains which had to be handled for shunting purposes, ods trains which passed through the station, mostly at night, nd engines going to and from the watering standards and rning tables. In Liverpool Street Station the corresponding gures were 1,070 trains. Taking the actual number of loaded ains, 649, and giving an average of 100 persons in each, that ould mean a total of 64,900 people carried out from and into e Waverley per day in the summer months. If the average raised to 150 per train, that brings up the total to about o,000, which is nearer the mark in the busy season than the her. The figures relating to the cab traffic at the Waverley ation are also interesting. On August 1, 1896, according to tual count, 1,160 cabs drove up with people between 8 30 A M. nd 10.30 A.M.—580 per hour, or 9 a minute. As many as 14 minute have been dealt with on busy days. The new entrance nd exit roads and the ample space in front of the booking alls alone make this possible.

The plans for the reconstruction of the Waverley Station were by Messrs. Blyth & Westland, C.E., George Street, Edinburgh, under whose supervision the work has been carried out.

CRICHTON CHURCH.

THE ancient collegiate church of Crichton, now the parish church, stands six miles south of Dalkeith, its high square tower being a familiar landmark to the traveller by the Waverley route, who to the south looks down on Borthwick Keep and Church, and turning to the north surveys the famous castle of Crichton, with the church in the background. During the past twelve months Crichton Church has been undergoing extensive alterations and improvements—in fact, a thorough restoration—and it was reopened last week. The church has a most interesting history. It was founded on December 26, 1449, by Sir William Crichtoun, Chancellor of Scotland, "out of thankfulness and gratitude to Almighty God for all the manifold deliverances He had vouchsafed to him." There were altogether some thirty-eight of these churches in Scotland at the Reformation, and they had a regular staff (or college) of officials, that of Crichton (or Crichtoun, as it was formerly spelt) consisting of a provost with nine prebends and two singing boys, who would take part in the daily service. An old record puts it that these churches were maintained chiefly so "that prayers could be said and masses sung for the souls of the founder and his relations and benefactors." Little is known of the fate of the church at the Reformation, but about seventy or eighty years after it is recorded that "divine worship has been conducted in it for some time owing to the ruinous condition of the parish church," and in 1641 it was declared by Act of Parliament to be "the parish church for all time coming."

It would seem that at first the chancel was used for the place of worship, but some time previous to 1790 they used the transepts, but again changed to the chancel. The nave was never built. With galleries on three sides and the pulpit on the fourth side, worship continued to be regularly conducted till the beginning of May last year. All this changing from chancel to transepts and back again was not accomplished without serious injury to the fabric. Without any regard whatever to the amenity of the building, according to the caprice of the heritor, doors and windows were built up and new ones cut out in their place. Doubtless all this vandalism was perpetrated in the interests of church compactness and

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homely comfort; one could not help feeling in it the greasy domesticity of the Georgian era. But that was not the worst of it, as of late years the internal fittings had fallen into a deplorable condition. Thus, inside the chancel used for worship the floor was rotten, seats were giving way, walls were damp and green with mould; indeed, a more desolate and unwholesome place it would be hard to conceive. Besides, the transepts had been walled off from the chancel, and one of them was used for storing the grave-digger's tools, while the windows of both were built up with rubble.

The aim of the committee, consisting of the chief heritor and the minister of Crichton—acting with the advice of Messrs. Hardy & Wright, architects, Edinburgh—has been, in a word, to restore the church to its original condition. The first step was to clear out all modern innovations, leaving only the bare walls as they stood in all the strength that 4 feet 6 inches of solid masonry flanked with buttresses could give. The old doorways were restored—as good fortune had it, there was just sufficient of the old moulding to go upon in each case—while the modern doors were built up. So with the modern windows. One of the most interesting details in the restoration was the discovery, under the rubble that filled the transept window, of the springers of the tracery head, quite intact, so that all that was required was to fill in the outline thus suggested. An old porch at the east window was removed and the window restored to its original size, 21 feet high, 10 feet broad, and stone mullions and tracery work were, of course, put in place of the old wooden frame. One small window remained intact, as if specially to serve as a model for the others, one of which had been transformed into a doorway. The porch on the north side was removed to allow of this window being reconverted, and during this progress the foundations of the old sacristy were discovered. On these a vestry has been built. A new floor, asphalted beneath and ventilated, has been put in, while comfortable pews have taken the place of the old high-backed, narrow seats.

By the generosity of friends several of the windows have been suitably decorated. The family of the late Mr. Crawford, minister of the parish, have dedicated the south-east chancel window to his memory, filling it with figures of Moses, the law-giver, and John the Baptist, the forerunner. The large east window has been choicely filled by the gift of Mrs. Reid, widow of the late Mr. James Reid, Stirling, who had a connection with the district. The subject is the agony in Gethsemane. On the four panels are shown the crowd crossing the brook Kedron, Christ kneeling in prayer, the Angel strengthening Him, and the three disciples asleep. Under the east window has been placed an oak screen, gifted by Mrs. Callander, which also adds to the value of the furnishings.

The church of Crichton was the only one of the twenty-three parishes in the Dalkeith Presbytery without a musical instrument, and so to complete the restoration an organ, the workmanship of Messrs. Joseph Brook & Co., Glasgow, has also been procured, and this, it is expected, will prove a very fine instrument.

Altogether the restoration work on the part of the tradesmen and others employed has been efficiently carried out, and the result must be most pleasing to the heritors, the parishioners and to the ministers of the parish. The cost in all will be something like 2,000*l.*, of which 1,200*l.* goes to the restoration proper.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

10201. John Merrick, for "Improvements in machinery for use in the manufacture of roofing tiles and the like."

10227. John Henry Edwards, for "Improvements in or relating to window-fasteners."

10364. Robert Brigham, for "Improvements in and relating to appliances for the prevention of blow-downs in chimneys."

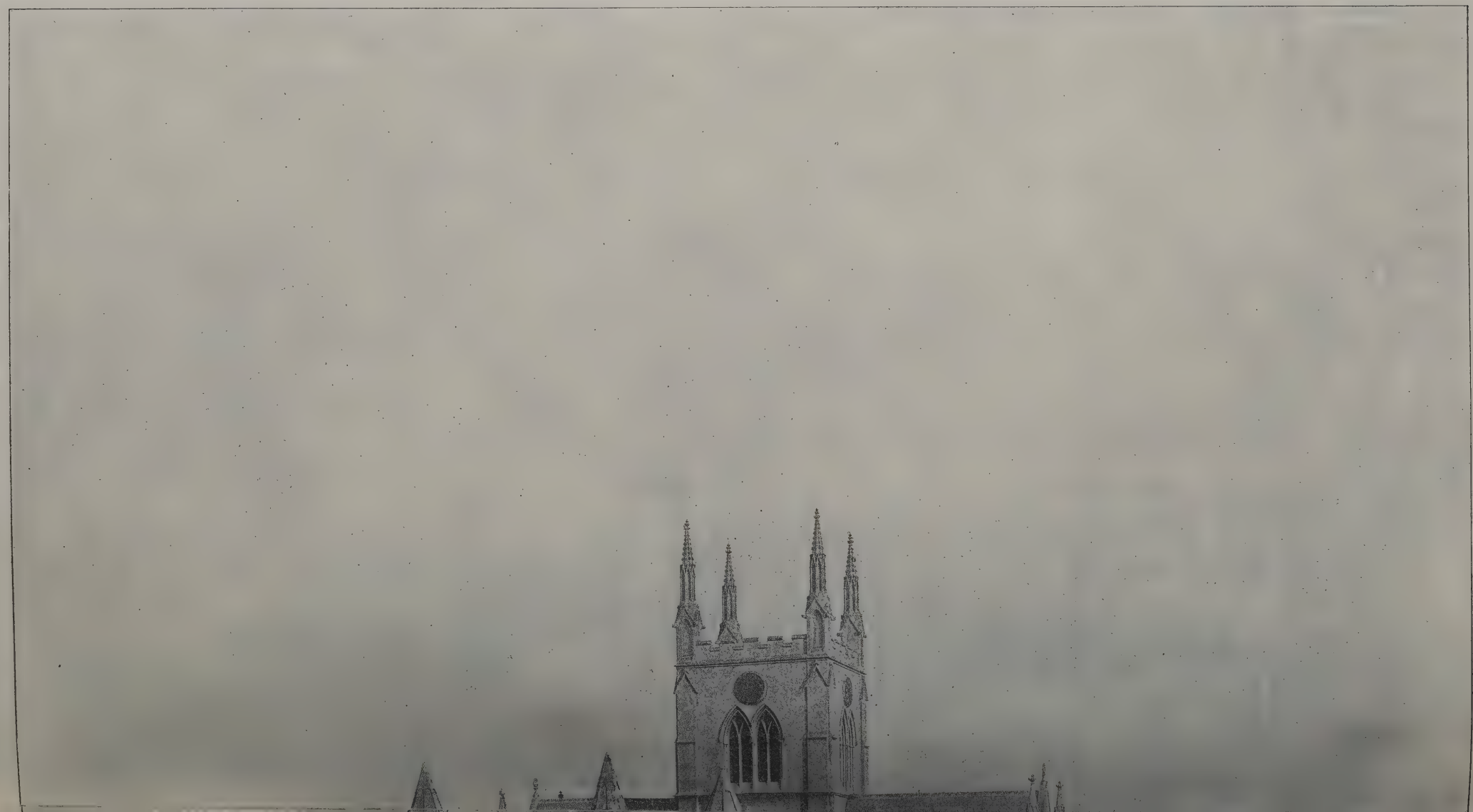
10367. John Grinhaff, for "Improvements in chimney-pots, cowls and the like, for preventing down-draughts."

10452. Alexander John Williamson, for "Improvements in or relating to chimneys."

10475. William Tarrant, for "Improvements in continuous firing kilns for burning bricks, tiles and the like."

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CATHEDRAL SERIES. No. 230.—ROCHESTER: GENERAL VIEW FROM CASTLE.





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CATHEDRAL SERIES. No. 231.—ROCHESTER: CORNER OF NAVE AND NORTH TRANSEPT.



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S. JOHN'S FOUNDATION SCHOOLS, LEATHERHEAD.

R. CREESE HARRISON, Architect

The Architect.

THE WEEK.

THE Metropolitan Asylums Board have decided to expend 400*l.* on the construction of models of the North-Eastern Hospital and the Brook Hospital, from drawings and particulars to be supplied by the respective architects, for the Paris Exhibition of 1900. It would be desirable if some other authorities would give evidence of their activity in building by sending models of their works. At the last meeting on Saturday plans were approved for the erection at Brentwood of a school for children who were suffering from various forms of ophthalmia. The building is expected to cost at least 106,600*l.* A more important work will be the new Southern Hospital, which is to contain 720 ordinary and 80 infirmary beds. The estimated cost is 227,454*l.* Both sets of drawings have yet to receive the sanction of the Local Government Board.

THE annual meeting of the British Association of Waterworks Engineers was opened on Monday at Burlington House. The president, Mr. WATTS, said that during the present session of Parliament about sixty Bills had been promoted for the extension of hydraulic works, the estimates of which would amount to several millions sterling, whilst the capital of existing works was 48½ millions. Probably at no time in the history of waterworks have such gigantic and valuable schemes been before the country. Mr. WATTS considered the future outlook for water engineers was good, for there was sure to be a demand for competent men. Year by year the population was increasing, and the average rate of consumption was advancing on account of the more refined habits of the people. Sources of water were becoming more scarce and difficult to obtain, and the genius of the water engineer would be taxed to find water for the wants of the rising generation. The roofing space of large towns was capable of collecting quantities of water for many other purposes than domestic supply if they had the means of storing it. By this means large supplies of water could be utilised that were not at present available. When every inch of rainfall provided 22,615 gallons per acre something should be done to save so large a supply. The flat roofs of some of the Lancashire cotton mills provided fair supplies of water in case of fire, and the plan, he thought, might be extended with advantage. Mr. WATTS might also have pointed out the dog in the manger policy which inspires several of the provincial municipalities. Larger supplies than are required are monopolised. But as long as the selection of catchment basins is not overlooked by Government authorities, and private Bills confer extraordinary rights, it must be expected that the necessities of smaller towns will be sacrificed to those which are larger and wealthier.

THE position of sub-contractors' men in relation to contractors is a subject which might well engage the attention of builders' associations. There is no doubt that the men who are directly employed by the contractor very often impede the men who are indirectly employed. But a case which was heard before Mr. ADSHEAD ELLIOTT as arbitrator in Manchester on Tuesday suggests that it would be well to have definite notions about the position of sub-contractors' men in other ways. The applicant was a bricksetter's labourer, and was engaged on some works for which Messrs. ROBERT NEILL & SONS, who are leading builders in Lancashire, were the contractors. The man assisted Messrs. NEILL'S men in removing columns, and in the course of the work he was injured. The question was, by whom was he employed? The foreman for Messrs. NEILL admitted that on the day in question he asked the sub-contractor to lend him some men, but when the accident occurred the labourer was not employed by his authority. Messrs. NEILL defended the action on the ground that if they were compelled to pay compensation to sub-contractors' men who meddled with their work after working hours the liability would be onerous. The arbitrator said that the only man who could possibly bring the applicant into the employment of the firm was the foreman. But he denied that he had obtained the aid of the man after 4 o'clock, and the accident occurred after 5.30. The application was therefore dismissed. In one sense the result is unsatisfactory, for, with a firm whose works are so well organised as those of Messrs. NEILL, how could a man be allowed to "meddle" with any of the operations without the knowledge of some official? The removal and setting up of columns cannot be considered a pastime. The men engaged in it are exposed to contingencies, and on that account men alone who have a definite position should be employed. A conciliation board would do well to take up the subject and consider it in all its varieties.

IT was stated at a late meeting in Northampton that since 1882 the sum of 43,827*l.* was expended on the restoration of Peterborough Cathedral, while no less than 28,504*l.* was disbursed for special purposes during the same period. The dean and chapter and restoration committee desire to complete the works before the end of the century, but to attain that end they must be provided with 6,500*l.* Earl SPENCER, who presided at the meeting, said that in the restoration of the northern gable, 1,836 out of 2,000 stones taken down had been replaced in their original position, and only 170 stones which were entirely decayed had been replaced, and of 220 stones in the great arch only seven required replacing. His lordship should have known that the numerical test is not a satisfactory one in building, and much of the money expended on restoration was employed to make up for the deficiencies of Norman jerry-building. The Earl was, therefore, not justified when he said that if the architects of the present day thought they could improve on the work and designs and decorations of the great men, those giants who designed our churches in Norman times, they would find that they were not right, and that the work which they substituted for the old work would not stand the test of time. Lord SPENCER could easily have ascertained that architects are too much disposed to show reverence for the work of their predecessors. But when massive columns are found to be little more than hollow shams, the public safety demands that they should be strengthened at all cost. Everyone would agree with his Lordship when he spoke of the splendid design of Peterborough Cathedral, but it is a fallacy to suppose that architecture consists simply in producing buildings that will look well on paper.

THE picture on which the late Sir EDWARD BURNE-JONES was engaged at the time of his death will be lent by the executors for the Liverpool Autumn Exhibition. Although unfinished, the artist had worked on it for fourteen years. It is 21 feet in length. The curator, Mr. DYALL, has visited the Royal Academy with a view to obtaining works for the Autumn Exhibition, and he expresses the opinion that in the Academy is a large number of very beautiful works, and the general average maintains in a high degree the great position to which English art has attained and compares favourably with the productions of other countries. The curator believes that this opinion of British art will be fully endorsed at the ensuing Autumn Exhibition, when many of the best works of the season, which have been promised as contributions, will show that artists of very great ability are actively working, and with much success, to do honour to art and to carry on its best traditions.

WE have published an illustration of the Cricket Pavilion for the Berks County Club at Elm Park, Reading. It was designed by Mr. G. W. WEBB. Through the influence of the then chairman, the late Mr. C. T. MURDOCH, M.P., the debt on the pavilion has been cleared off. In order to show their gratitude the club have erected an alabaster tablet as his memorial. It bears the following inscription:—"This pavilion was completed as a memorial to the late Mr. CHARLES TOWNSHEND MURDOCH, M.P. for Reading, the first chairman of the Berkshire County Cricket Club, whose premature death on July 7, 1898, has deprived the club of one of its most active and energetic supporters. This tablet was unveiled by H.R.H. PRINCE CHRISTIAN, K.G., president, on May 22, 1899." The original drawing which we reproduced was presented to the Prince. It is now proposed to make an effort for the purchase of the cricket ground. A sum of between five and six thousand pounds will be required.

THE COMACINI.*

IT is a truism to say that the simplest building must have a designer. He may not be called an architect, and he may not have prepared elaborate plans, but he must have had an idea of what was to be accomplished before the works were commenced. As a rule, however, his existence is ignored. The descriptions of new buildings which occasionally appear in newspapers rarely recognise the services of the designers. The writers do not, we suppose, mean to be offensive. They are simply following a long course of precedents. As every one knows, there are many important buildings of which the architects are unknown. As a consequence an architectural history on a biographical basis, which, after all, is the only proper mode of treatment, is an impossibility. We might easily suppose from the pages of the numerous histories that buildings were organisms which grew and developed, became sublime or insignificant, by some power inherent in them. Some theorists have declared their belief that the Mediæval builders were so humble in spirit they concealed their identity from religious motives, and it has been also supposed that many of the Roman architects are unknown because they were slaves. In our time it is often said that the names of the true designers of buildings are enveloped in darkness because, if they do not designate slaves, they at least signify servitude.

Architects generally accept their ignoring as a matter of course, and make the best of it. But it is still an injustice. Painters and sculptors can turn their works into "livelong monuments;" but the mightier buildings rarely serve as memorials of their architects, and, even when they are meritorious, bring as little renown as "this season's patterns" or the articles in journals. There are "Old Mortalities" who endeavour to rescue memories of those who laboured in several fields of activity, but in architecture so many strata have to be passed through before the deciphering can be commenced, the most eager investigator is afraid to commence operations.

It is, therefore, with feelings of indebtedness and admiration that an architect must begin the study of "The Cathedral Builders," by the excellent writer known as "LEADER SCOTT," who has already thrown light on much which was obscure in the history of Italian art. What has been undertaken is not merely the history of church architecture in Europe during several centuries, for that has been attempted repeatedly, but the still harder task of rehabilitating a school of architecture the existence of which was hardly suspected until our time. The author has become the champion of the builders of Como, and maintains that "all the different Italian styles, whose names are legion—being Lombard-Byzantine at Ravenna and Venice, Romanesque at Pisa and Lucca, Lombard-Gothic at Milan, Norman-Saracen in Sicily and the south—are nothing more than the different developments in differing climates and ages of the art of one powerful guild of sculptor-builders, who nursed the seed of Roman art on the borderland of the falling Roman Empire and spread the growth in far-off countries. . . . It was the Comacine masters who carried the classic germs and planted them in foreign soils; it was the brethren of the *Libera Muratori* who, from their headquarters at Como, were sent by GREGORY THE GREAT to England with Saint AUGUSTINE to build churches for his converts; by GREGORY II. to Germany, with BONIFACE on a similar mission; and were by CHARLEMAGNE taken to France to build his church at Aix-la-Chapelle, the prototype of French Gothic." Every student of architecture knows that the regularity which prevailed in the art for a long period has been ascribed by some writers to the masonic, and by others to the monastic, organisation. But that Como should be the primal source from whence what was characteristic in several styles, or that the development began there, was not imagined, although THOMAS HOPE must have had some glimmering of the theory on the subject. Since the existence was discovered of several generations of the family who lived in Como, and were known as the Cosmati, much interest was taken in them; but the general conclusion was that they were craftsmen who inherited and acquired peculiar skill, and resembled other families who were connected with building. Professor GIUSEPPE MEZZARIO was apparently the first who endeavoured to explain the importance of the Como masters, and his researches have been utilised by the author of "The Cathedral Builders."

In a case of the kind there are two classes of evidence, viz. documentary and architectural. Are there any trustworthy records existing which reveal the employment of the Comacine masters? With a subject so long neglected—for MEZZARIO's book appeared only in 1893—it is not to be expected that documentary evidence should be complete. In Italy and elsewhere there may be many entries in archives which confirm the theory of the importance of the artists. Some are mentioned in the volume, which are of remarkable interest. MURATORI, for instance, discovered an edict dated A.D. 643, and signed by King ROTHARIS, one of the Longobards, relating to the employment of a Magister Comacinus, as if that were the ordinary term to designate an architect, master of works or contractor. The following translation is given of two of the clauses :—

> If the Comacine Master, with his *colleganti* (colleagues), shall have contracted to restore or build the house of any person whatsoever, the contract for payment being made, and it chances that some one shall die by the fall of the said house, or any material or stones from it, the owner of the said house shall not be cited by the *Magister Comacinus* or his brethren to compensate them for homicide or injury; because, having for their own gain contracted for the payment of the building, they must sustain the risks and injuries thereof.
>
> If any person has engaged or hired one or more of the Comacine Masters to design a work (*conduxerit ad operam dictandam*) or to daily assist his workmen in building a palace or a house, and it should happen that by reason of the house some Comacine should be killed, the owner of the house is not considered responsible; but if a pole or a stone shall kill or injure any extraneous person, the Master Builder shall not bear the blame, but the person who hired him shall make compensation.

Supposing it is said that Comacine was a generic designation, just as provincial names are still applied to various classes of Paris labourers, regardless of their origin, yet the word still shows that in the seventh century there was a popular belief in the connection between Como and building, and which was founded on facts of some kind. According to our author, the chief reason was "that when Rome lay a heap of ruins under the barbarians, *the Collegium*, or *a Collegium*, fled to independent Como; and there in after centuries they were employed by the Longobards, and ended in again becoming a powerful guild." They are assumed to have been the successors of the Roman architects and builders, and the predecessors of the Mediæval guilds. CESARE CANTU considers they were the original Free Masons.

Como was not a mere refuge which offered safety from its obscurity. PLINY the Younger possessed a villa there, and restored a temple under the direction of MUSTIO, who was, it is said, a local architect. CATULLUS the poet was also a resident on the hills. The district possessed privileges under the Romans, such as exemption from certain taxes and from military service, which were confirmed by OTHO in A.D. 962. But although we are disposed to admit that Como was too delightful a region to become the scene of cruelties against refugees of any importance, it is only by allowing imagination unrestricted freedom that we can agree with the author when she says :—"We need not, then, consider it improbable, if in the dark centuries when the Roman empire was dying out, and its glorious temples and streets falling into ruin under the successive inroads of half-savage despoilers; when the arts and sciences were falling into disuse or being enslaved; and when no place was safe from persecution and warfare, the Guild of Architects should fly for safety to almost the only free spot in Italy; and here, though they could no longer practise their craft, they preserved the legendary knowledge and precepts which, as history implies, came down to them through VITRUVIUS from older sources, some say from SOLOMON's builders themselves." If LEADER SCOTT knew how easily architects lose power when they are without employment, there would be less readiness to believe they could form themselves into a brotherhood to meditate over ancient traditions and to make

* *The Cathedral Builders: The Story of a great Masonic Guild.* By Leader Scott, with eighty-three illustrations. (London: Sampson Low, Marston & Co., Limited.)

arrangements for enlightening posterity. The probability is that in the worst days of Italy there was no cessation of building work. The clergy believed in the necessity of churches, and although the buildings might be overthrown by the invaders they were likely to be rebuilt when the danger was over. The Longobards were as eligible as the natives to be members of the Christian Church, and if they desired buildings to worship in they would soon be gratified.

Mr. Ruskin at one time made Lombard architecture appear in such a favourable light that muscular Christians fancied it was the variety which best expressed their peculiar combination of physical and mental powers. The serpents, dragons, and gryphons were not tamed or stingless things like those of the later Romans, but could tear each other or any other being that was in their way. The style was taken to be a warrior's architecture, and the ornament was supposed to be produced by hands which had wielded weapons effectively. When, therefore, Leader Scott says, "What are called Lombard buildings could not have been the work of the Longobards themselves," the grounds of architectural criticism are shaken. Are the early Lombard churches the work of rough soldiers who were awkward in handling tools, and were less accustomed than barbarian artists to carving figures, or do they present the characteristics of an age of decadence and dim recollections of Vitruvius and the ancients? If architecture is comparable to a chain, there are unquestionably some links missing which should connect Lombard with Roman characteristics. This is admitted in "The Cathedral Builders" when it is said:—"These Comacine artists began with the only style of art they had been educated up to, and, though retaining old traditions, they had fallen out of practice during a century or two, while invaders ravaged their country, and had to begin again with low art, little skill, and unused imagination. But with the new impulse given to art their skill increased, they gained a wider range of imagination, greater breadth of design, going on century by century, from the first solid, heavy, little structures, to the airy lightness of the florid Romanesque—the marriage of East and West." To award credit to those to whom it is due is an obligation; but, apart from that, there is not much importance in determining whether the later architecture of Europe was derived from a worn-out classicism or from a defective interpretation of classic forms. In either case the beginning was only a germ, which afterwards was developed in a way which could not have been anticipated. Roman architecture under the most favourable conditions never gave signs of such changes as we see in following the course of the Lombardic, Romanesque and Gothic styles. Is it not therefore more likely that the new impulse began with a race that was open to change and was under no allegiance to precedents?

The difference between Roman and Lombard sculptured ornament is so remarkable, we are not surprised our author endeavours to explain it as an unavoidable ecclesiological necessity. If the Longobard carving shows a desire to excite terror, which is supposed to be the source of the sublime, we are to conclude it was not from any vanity in the sculptors, but from the desire to express for the benefit of the unlettered masses "a mystical religion represented to their minds in signs and parables," and to display "a sign of an older Bible lore among the Hebrews and other ancient peoples." The spirit of Christian, or rather Roman, symbolism, it seems to us, was suggested by the decoration of the Catacombs, in which we have none of the terrible forms we encounter in the Lombard churches. The same spirit animates the miscellany of figures in the Loggia of the Vatican at a much later period. There is as much variety as we find among Lombard work, and the combinations are often odd, but there is no suggestion of the war of races. Pompeii exhibits a similar avoidance of painful subjects. The Comacini masters must have sadly deteriorated when they revelled in "lines of sculptured stones, a queer mixture of angels, demons, saints and monsters, that seems a nightmare dream of Mediæval superstitions." The manner of introducing bands of such monstrosities between courses of ashlar across façades is by itself enough to indicate the distance between Lombards and Romans.

The origins of architectural styles are too obscure for any inquirer to display dogmatism. It is mainly opposing conjecture to conjecture. As there are people who can see "Helen's beauty on a brow of Egypt," so we suppose there are others who will see Rome in all the transformations of buildings during a thousand years. It is true that after so much has been manifested in form and ornament, we are still in the nineteenth century drawing inspiration from the work of the ancient *Magistri*; but the question is, Was the copying commenced directly or indirectly? "C'est le premier pas qui coûte." But if we allow the existence of the Comacini at one time, was it inevitable that they should monopolise the buildings for an indefinite period? In the early Middle Ages there was scope for the display of ability, and the Church, which allowed all classes to compete for its appointments, would hardly insist on hereditary architects. But Leader Scott will allow nobody but her protégés to obtain commissions. A charitable man in A.D. 805 arranged for the bestowal of a dole of bread and wine in Lucca, and he describes himself as "Natalis, homo transpadanus, magister castarius." The simple words gave rise to this commentary:—"Here we see the Comacine Master settled as leading architect in Lucca, far from his native land beyond the Po, and so flourishing that he can dispense large charities." It is a pleasing interpretation, and we confess we prefer the commentary to the original text, for we all like to be flourishing and benevolent; but is it warranted? The sentence suggests the literary skill of the book; deficiencies in the evidence are compensated for in the most agreeable fashion, until we at least believe the Comacini were amongst the greatest of the world's benefactors.

Both England and Ireland were, we are informed, no less their debtors than Pavia, Pisa and Lucca. The Norman buildings show some kinship with the Lombardic; but is it not going too far to suggest that Rahere, when he resolved to build St. Bartholomew's in Smithfield, brought Comacines with him from Rome? The Rev. W. Miles Barnes, the author's brother, who has contributed a chapter on "The Origin of Saxon Architecture," is no less liberal in his interpretations. Pope Gregory's instructions to use after purification any pagan temples which might exist in Britain is taken to mean that "Mellitus had with him architects who were qualified to carry out the necessary repairs." Because Paulinus was described as *Magister* we are told that "he may have graduated in the Comacine school of architecture." Augustine is also supposed to have been accompanied by several architects and builders when he landed on the Kentish coast, and "the Comacines who settled with Augustine in the royal city of Canterbury must have established according to their custom a lodge and a *schola* in that city."

The Irish round towers have given rise to so many theories, no one will be surprised to find them brought forward as evidence of the ubiquitous Comacines. There are towers in Italy near churches which are supposed to be their work. Is it not therefore likely, it is asked, that some Pope should have counselled the Irish missionaries to take back with them to Ireland enough members of the guild to erect similar structures? It is also maintained that Irish crosses bear all the marks of Comacine work. Hitherto it was supposed the ornamentation was derived from Celtic jewellery, but as the archæologists of the British Museum are doubtful whether any of the goldsmith's work bearing the title was the work of Celtic fingers, who can tell from whence came the models of the crosses? If Italian masons came to Ireland, would not the earlier churches have more claim to be considered architectural works?

After Thackeray had entranced his auditors with his lively description of Dick Steele as a boy, he startled them by saying that he was without any sort of authority for all he had said. That method has to be followed in many works which relate to the lives of men. Two and two can be put together, but the result must appear not as four, but as forty or four hundred. There is no use in objecting to the operation. A writer like Thackeray, who was taught in Steele's school, although he professed to have seen the flogging-block only as an amateur, and had lived in spirit in Queen Anne's time, was likely to have guessed rightly about many incidents, although his conclusions would not be accepted in the law courts. Facts which are without connection are not left isolated even in science. Leader

SCOTT has undoubtedly accumulated many facts from mouldy manuscripts., as well as from records in stone. Every architect who has given any care to Italian buildings has observed some of them, but they are accepted as puzzles which would take too much time to solve, and are neglected. In "The Cathedral Builders" they are brought together with infinite patience and skill, and we have no right to grumble if the connecting material appears to resemble what is ancient and genuine. It is a case of restoration, and any one who cannot detect what is modern must have a very slight acquaintance with the history of art. We have, as in duty bound, humbly pointed to some of the parts where the Historic Muse assumes an especially learned air and professes to enlighten us about professional practice in Italy and elsewhere, but we dare not deny the attractiveness of the posing. The book will be pleasant reading during the holidays, and, besides opening out new lines of thought, it will suggest some of the deficiencies of the various histories of the art. The numerous illustrations of churches, which are all of large size and selected with judgment, are almost enough to demonstrate some of the most important characteristics of ecclesiastical art in Italy.

AN IRISH COLLEGE OF SCIENCE.

By A CORRESPONDENT.

IN 1844 a remarkable volume appeared which was entitled "The Industrial Resources of Ireland." The author, Dr. ROBERT KANE, was one of LIEBIG's pupils, and he had gathered the information found in his book for courses of lectures which he delivered before the Dublin Society. He demonstrated that if Ireland was surrounded by a brazen wall, as was suggested by the great Bishop BERKELEY, the inhabitants would be able to survive although deprived of foreign supplies. But for that purpose it was necessary to be competent to use the materials with which nature enriched the island. It was notorious, according to the author, that in Ireland there was a deficiency of technical knowledge, and Dr. KANE aptly introduced a reference to a speech by one of the Belgian Ministers, who advocated the necessity of an organisation for technical instruction in his country, as otherwise it was feared that Belgium would become degraded to the level of Ireland. The book was written with the best intentions, but it would have been better if it had never appeared. Dr. KANE was a laboratory student, and being fresh from Germany, he believed in theories. If he were acquainted with industries he must have known that many of the most successful producers would have found a difficulty in enunciating a theory of what they did. Let an order be given for most kinds of work, and it could be then carried out in Ireland. But at the time a new school of men was arising, who, if wanting in experience, made up for the deficiency in self-confidence. The late Lord PLAYFAIR was one representative, and when a mere boy had the hardihood to appear before English agriculturists as a teacher. Dr. KANE was another, and although he never aided industry by discoveries or inventions, it was supposed that if he cared he could at any time turn the Irish bogs into gold mines. The only result of his teaching was to make many people believe that without the possession of certificates from men like himself it was impossible for any one to understand materials or to turn them to account. In other words, it was an anticipation of the Science and Art Department and its system of amateurism. But the consequences for Irishmen were serious, for it was taken for granted that they were incapable to undertake industrial operations of importance.

As the book was accepted as a revelation by the Government of the day they decided on establishing a college of science or museum of industry in Dublin. The lease of one of the stately old houses in Stephen's Green was purchased in 1846, and the building was converted into classrooms, laboratories, a library, offices, &c. Dr. KANE was placed at the head of the institution, and one of the new eras of prosperity which are continually recurring in Ireland was supposed to have commenced. It cannot be said that the numerous professors, although able and eager, have done much towards developing the industrial resources of Ireland. They have delivered courses of lectures, completed elaborate experiments, awarded prizes, presented reports to Parliament, and what not, but it is acknowledged that the need of adequate or rather official instruction is more marked than ever. Englishmen and Scotchmen go over to Dublin and bring back with them the prizes of the College of Science. The competition is apparently not excessive, for according to the official returns some of the classes are attended by not more than a couple of students.

The indifference on the part of young Irishmen is not so culpable as it may appear at first sight. In the acquisition of knowledge for its own sake time is worthily employed, but for the majority something more is needed. It is expected to have a money value, and especially in a country where riches are not abundantly diffused. When it is known that manufacturers are seeking for assistants in colleges, schools or institutes, an impetus is given to study. In England and Scotland an announcement of the good fortune of former students is more persuasive than the most grandiloquent prospectus of a school or college. But in Ireland that class of intelligence is not forthcoming. The manufactories and commercial establishments which in Great Britain offer opportunities for skilled assistants are now absent from Ireland. KANE aided in their extinction. Belfast is supposed to be an exception, but even there the demand for practical science or art is not urgent. If in the forties Ireland was so far behind the rest of Europe that the dread of resembling it made the Belgian Chambers become unusually liberal in passing votes for education, the distance which separates it from continental countries has increased. It has stood still while the greater part of Europe was endeavouring to advance regardless of fatigue. Outsiders may be struck by the contrast, but to Irish traders the position is not unsatisfactory. They can obtain foreign goods which may be sold as native products at more moderate prices than before. One industry after another has succumbed before foreign competition. A few weeks since the distillers formed themselves into a defence association, because they found the Germanic Irish whisky was coming into favour. It could be bought at half a crown a dozen, and retailed at the same price as the Irish liquor, for which the grocers were expected to pay twelve times the amount. Publicans could accordingly make a fortune by the aid of foreign chemistry in a short time, and be able to devote their days to the patriotic duty of serving their country in Parliament and elsewhere. What is now occurring with intoxicants is no more than a repetition of the experience in other affairs. Irishmen, from their want of technical knowledge, are not competent to manufacture whiskey at a few pence per bottle, but foreign science has come to their aid, and so long as the stuff is bought from him at a price far beyond its value the shopkeeper is indifferent about the source from whence it came.

There are, however, a great many people who are not distributors in the political-economical sense, and are therefore envious when they see foreign manufactures everywhere in Ireland. Some of them, no doubt, suffer from the new invasion, and in consequence are unable to realise that an equivalent benefit is obtained by those who are in harmony with the new arrangements. They sought for the primary cause, and at last discovered it to be the incommodious College of Science. Judging by the class-lists that building appears to be too large, but suppose a great part of the population were resolved to discover how to distil whiskey at half a crown a dozen, where were the aspiring chemists to be accommodated? Moreover, in the present building pure science alone is said to form the curriculum, and as without adulterations profits are insignificant, the place was considered to be no longer in keeping with the spirit of the times. Accordingly an application was made to the Government to erect a new and more extensive college where practical operations on a large scale could be carried out.

It was not difficult to convince the Government about the existing College of Science being a failure. That was inevitable. The college was founded in a panic, and without any consultation with the representatives of Irish industries. The object of it was to compel manufacturers and others to employ immature students as experts. Experience was to succumb to paper certificates. The Govern-

ment accordingly resolved two years ago to meet the rising disaffection, and gain time by appointing a special committee to report about "what new buildings are required; whether they can be added to the existing college, or whether an entirely new site should be obtained; and, if the latter, where it should be, and what should be done with the existing college." Captain Abney, of the Science and Art Department, was appointed chairman, and the other members were a Commissioner of Valuation and a Treasury Remembrancer, forming as incongruous a combination as could be found in the records of official committees. The report has just appeared.

The instructions were not explicit—they rarely are in such inquiries—and the committee were soon made to feel they were in a false position. For to determine what buildings are required it was necessary to ascertain the purposes they are to subserve. Captain Abney, as a photographer, could not well consider anything which was without existence, the Valuer was in the same predicament, and although we do not know what a Remembrancer is, we suppose he also has some connection with realities. The hapless committee, therefore, turned for advice to various notabilities. They all differed about what was to be done, for their notions were as indefinite as the committee, but they were willing to see money expended liberally on buildings. Monsignor Molloy was of opinion that not only a Science College, but a new class of schools should be established in the larger towns, and afterwards in the smaller towns. He considered the intermediate schools should be first erected in order to provide students for the central college. In the latter he would begin by the equipment of a department of electrical engineering; he would allow the collection of physical apparatus to be used by teachers who were outsiders, and have a laboratory in which any qualified person could pursue investigations. But however large was the outlay, he considered the college would be unsuccessful "unless it is placed under a governing body known to the people of the country, in touch with the people and having the confidence of the people." That signified, of course, independence of Captain Abney and the Science and Art Department. Mr. T. P. Gill, "Hon. Sec. of the Recess Committee," another mysterious office, put forth a sum in proportion, viz. If in Stuttgart 100,000*l.* was expended on a polytechnic, and 120,000*l.* in Darmstadt and 450,000*l.* in Berlin, what should be the cost of the Dublin College of Science? On what lines the college was to be designed, and where set up, he declined to suggest; but he, too, was convinced that the Science and Art Department, "in undertaking the construction of this necessary college, will be but beginning a work which it will be the privilege of an Irish authority to finish, and securing for that Irish authority a building grant which will be absolutely essential to the carrying out of its mission."

That signifies that Home Rule will be granted soon after the commencement of the college, and that England will have the pleasure of paying for building experiments which are directed from the Parliament House in College Green. Professor G. F. Fitzgerald said "until the lines of technical education in Ireland have been laid down, it is impossible to decide upon the lines that will be suitable for the college," but he implored the committee to avoid following German examples. Professor M. F. Fitzgerald, as an opponent of centralisation, preferred colleges in Belfast and Cork, but if there must be one in Dublin "its management should pass out of the hands of the Science and Art Department, because that department was not organised or adapted to carry on the business of technical education, and should not, therefore, be called on to do so." The Dublin Chamber of Commerce also resolved "that the proposed new buildings in connection with the Science and Art Department should be under Irish control."

It was excusable for the committee to become bewildered amidst such a medley of opinions. All they could do was to report that for the proposed College of Science a site might be found by removing workshops and stores which stand on Government property near the Science and Art Museum and the Natural History Museum in Dublin, and by purchasing adjoining property in Upper Merrion Street. But they admit their incompetence to suggest the kind of building which is required. The following extract expresses their doubts:—

> Returning to the question, "What new buildings are required?" the difficulty which we feel in dealing with it is of a twofold kind. In the first place, it is doubtful whether we are expected to go into details which assume some professional knowledge, or whether we may content ourselves with a general expression of our opinion that the new college should be up to date in all particulars, and should suffice to provide for any developments which are likely to take place in the field of technical instruction. After much consideration we have arrived at the conclusion that, having regard to the constitution of the committee, we are not under the necessity of dealing with the question from the professional standpoint; while we feel that the expression of our opinion in the sense we have just stated will be quite sufficient for the purpose of a reply to the question. This course, moreover, recommends itself to us, because, by adopting it, we shall avoid the further difficulty, viz. that any plan or hint at a plan for the construction of the building, even though it should be only suggested for consideration, might at the outset provoke local opposition to the scheme, which it is desirable to avoid. The approval of a plan should, we think, be left open for consideration by a committee whose constitution would render the adoption of one best suited to the needs of the country more easy than would be the case if it were submitted as a cut-and-dry proposal by a committee whose qualifications for the task might be questioned.

We must applaud the committee for declining to assume any possession of professional knowledge. But the acknowledgment that a hint of a plan is sufficient to jeopardise the project reveals how indefinite are the proposals. The reason is that now, as half a century back, the authorities have gone to work in a wrong way. The Science Director, the Commissioner of Valuation and the Treasury Remembrancer are, we presume, useful servants of the State, but what can they know about Irish industries? Even if we allow their competence to be judges and to elicit information at an inquiry, they cannot have that personal knowledge which is needful in determining on a system of education. What should have been done was to obtain the opinion of representatives who are every day engaged in the industries of Ireland which have survived, or those which could be restored, and ascertain why in the industrial struggle they are not equal to British or foreign competitors. "There is nothing like leather" exactly describes the ideas of professors and specialists; each has his pet science which he would make paramount over all others. But what is needed is the discovery of the means which will compensate for evils that in a great measure are to be attributed to the teaching of professors who were never under the necessity of testing their theories by the simple formula, "Will they pay?"

SOME ESSEX CHURCHES.*

WHEN asked to read a paper upon "Essex Churches" I felt the task of condensing a subject so full of interest within the limit of a short paper would be a difficult one, so thought it better to confine my remarks to those in the neighbourhood of Colchester, much as I should like to have enlarged upon the interesting chapel of Great Peter on the Wall at Bradwell, and St. Andrew's at Ashingdon, the latter being the oldest church now existing in Essex, it being a good type of Anglo-Saxon work, with its walls 8 feet thick, having been built by Canute about the year 1010, at which time there was an immense revival of religious life all over Europe, in anticipation of the end of the world; so strong indeed was this belief that in all legal documents of the period the words, "The end of the world being near," were used as the concluding sentence.

Colchester is well known amongst archæologists as the ancient Camulodunum, the earliest Roman settlement of importance. History tells us that this ancient town played an important part in the days of Boadicea.

The town walls, evidently of Roman construction, are considered to be the best specimen left that we have in England, for while the masonry was not so perfect as in York, its full extent round the town was more intact. The Balkerne Gate is a good specimen of Roman work.

It is not my intention to dwell upon the fine old Norman castle of which Colchester is so justly proud, as my paper is on ecclesiastical buildings only, but I should strongly recommend

* A paper read before the Society of Architects, by Mr. G. Gard-Pye, on Thursday, May 25.

any member of the Society when in the neighbourhood to visit this old building, containing as it does some interesting herring-bone work, and old Norman fireplaces in a good state of preservation. A good number of the churches in Essex—and more so round Colchester—are of Norman origin, being restored or rebuilt later on in the Decorated and Perpendicular periods, more in the latter than the former.

St. Botolph's Priory, through being unfortunately between the fires of the besiegers and the besieged during the siege of Colchester in 1648, was reduced to its present ruinous state, and consisted of nave, central tower, transept and choir. This is a remarkable instance of the use made of Roman materials for building, and singularly enough these materials were used for the ornamental part, as can be seen in the west front. The bricks used were of the fourth century, and some even earlier. When the Royal Archæological Society visited this building in 1877 several members pointed out some bricks that were as early as the first century, being only 1 inch in thickness.

The west doorway is a good specimen of a Norman arch, with its zigzag or chevron, and billet mouldings, with a rude hood mould formed of tiles and the interlacing arches from which it is said the Gothic arch of later years took its form, but I think this is theory only.

The gateway is all that is left of the once large and handsome abbey, now known as St. John's Abbey Gate, dating from the time of Henry II., and has been very truthfully restored some years back by Major-General Montagu, Royal Engineers. Fortunately for him one of the pinnacles was discovered buried in a wall, and from this clue he was enabled to add the others.

In the priests' doorway in the ruins of St. Nicholas Church, at Colchester, you again see the introduction of Roman bricks re-used from some old building that had been pulled down. These ruins have given place to a new church that was designed by the late Sir Gilbert Scott.

A very interesting specimen of a Saxon doorway is in the tower of Holy Trinity Church, Colchester. Here we have another example of the introduction of Roman brick, and the primitive idea of ornament in the rude formation of the shaft, with cap and base, with the hood mould, and as a sign of the religious revival, the formation of the Cross in the key of the arch.

Ardleigh Church is a specimen of an ordinary Essex church, Perpendicular in style, with its tower, nave, aisles and chancel. The porch contains some fine work in flint and ashlar work.

I should like to add here that the churches of East Anglia are different from those in the West of England, though there is much Perpendicular in each, the style being largely ruled by the materials at the disposal of the builders. Here there was little stone to be obtained, and they had to use flint, with facings of fine stone, which is the characteristic treatment of the district.

Great Bromley Church is another good specimen of an Essex Perpendicular church. The nave roof is very elaborate, having double hammer-beams, richly carved and picked out in vermilion. This church stands in the beautiful vale of Dedham, was the subject of one of Constable's paintings, and was built by a father and his son whose marks still remain in the tower.

In this church, on the south side of the chancel, is an oven with flue complete, for the baking of sacred wafers, the only instance, I believe, in England of an oven in a church. The stairs to the rood loft still remain.

The north porch, the view shown, has a narthex or room over, used either for storing parish documents or as a library to store those books given to the parish, as in those days books were scarce, and such a gift was in consequence valuable. When these rooms had a fireplace in them and a window opening into the church they were usually used as watching rooms and chambers.

Lawford Church has an interesting group of chancel windows of an earlier period than are mostly to be found in this part of Essex. Internally are some elaborate stone carvings. It is of this church, but I will not vouch for the truth of it, that an amusing tale is told. It was many years ago the custom for the rector to wait until the squire of the hall adjoining had arrived before he began the service. One Sunday, being later than usual, the rector began with the usual opening sentence, "When the wicked man." The old clerk jumped up and said, "Please, sir, he baint come yet."

Higham. A specimen of a priest-door and chancel window.

Another fine Perpendicular church is at East Bergholt, with unfinished tower. The bells hang in a cage in the churchyard. There are several brasses and tombs in this church, and window to the memory of the painter Constable, who was born in this village, and here painted many of his pictures.

The north porch of Boxford Church is one of the oldest wooden porches in England unrestored. The south porch is stone, which must have been brought from some distance, as there are no quarries anywhere near. The ceiling is very handsomely groined. There is a good specimen of a Late Pe pendicular door richly carved and moulded, and also a ver handsome screen of stone in this church.

I ought to mention that this and the last two churches ar strictly speaking, not in Essex, but in Suffolk, but as they a just on the border of the two counties, and interesting, I hav included them.

Little Oakley Church contains a curious feature of a pries door being pierced in a buttress.

Great Bentley has a good specimen of a Norman door wit its zigzag and rose mouldings. There are several other Norma features in this church, including five windows. The staircas to the rood still exists.

Fingringhoe has a Perpendicular porch built in rubb work, finished with flint and stone in the parapet. In th spandrils are the Archangel Michael and the dragon, evident symbolical of heaven and hell, as the church is dedicated St. Andrew and not to St. Michael, as these figures would lea one to suppose. This church was considerably damaged b the earthquake in 1884 and has since been restored. Ther are some interesting frescoes, including one of St. Christophe carrying Christ over the river of the waters of life, and an ol oak chest richly carved.

Langenhoe Church was entirely destroyed in the earthqua of 1884, and has since been rebuilt.

Brightlingsea Church contains good specimens of Perpen dicular work, although it is clear that from the buttress leve with the chancel, which is of earlier date that the rest, that it a fourteenth-century church changed at the end of the fifteenth a regards the aisles, with battlements and the tower added. Th late Professor Freeman describes this tower as being one of th finest of its kind in existence.

Frating Church has an old oak porch with an open roof.

Berechurch is a curious old church prettily situated in park. It is difficult to account for the large window that ha been inserted.

The church at Copford was undoubtedly of Norman origin having a vaulted roof, but the destroying hand of time obliged the substitution of a wooden roof, which by archæologists i acknowledged to be a beautiful piece of work, and much admired by the late Sir Gilbert Scott. The walls, which ar very thick, were mostly built of Roman brick. The noted features of this church are its frescoes. In the apse Christ i represented seated on a throne with a rainbow behind, and clouds under His feet, His right hand in the attitude o benediction, and His left resting on a book, the wounds being visible in the hands and feet; below are angels, and in th background the towers of New Jerusalem. On each side stand four apostles under canopies. Excepting the chapel i Canterbury Cathedral, the late Sir Gilbert Scott said in hi whole experience he had never seen anything to compare with it. The south porch to the same church is considered by Si Gilbert Scott to be the most beautiful specimen of a Decorated wooden porch in the country. The door leading from the porch to the church was covered with the skin of a man who had been caught in the act of sacrilege.*

Close by are the famous towers of Layer Marney, with it terra-cotta work, but as it is a domestic building it is out of my province in this paper to describe it fully, but it is well worth of a visit should any member of the Society be in th neighbourhood.

Marks Tey is a thirteenth-century church, curious in it having the upper portion of tower of wood.

Great Tey Church is very interesting, with its Norma tower heightened at a later period. The plan of this churc was cruciform, the nave and chancel being rebuilt in the Earl English and Decorated periods.

The old wooden porch to Aldham Church is of th Decorated style, mentioned and illustrated by the late J. H Parker in his "Glossary of Gothic Architecture."

Bures Church, like that of Little Oakley, has the buttress the chancel pierced for the priest-door, another good specime of East Anglia Perpendicular work. The south porch is a goo specimen of a treatment in brick, but of course is of later da than the church itself.

Mount Bures Church is another specimen of a Norma tower, but heightened, as you will see, a few centuries later.

Coggeshall has a fine Perpendicular church of large pr portions, the interior being richly carved. It is the large church in Essex.

Little Maplestead was originally attached to the Recepto of the Knights of St. John of Jerusalem, founded here in th time of Henry I. Though restored in 1854, it is still of speci interest as being one of the four remaining round churches England, built on the model of the Holy Sepulchre; the othe being the Temple Church, London; St. Sepulchre, Northam ton; and St. Sepulchre, Cambridge. The chancel is an aps

* Since writing this paper a friend has kindly forwarded to me copy of the supplement to the *Tablet* of the May 13, in which th church is very fully described and illustrated by Mr. Dudley Baxter, B.

The nave circular, with peristyle of six clustered columns. The western entrance has quatrefoil border. This church is said to have had the privilege of sanctuary.

I have now completed my paper, but before I conclude I should like to thank my friend, Mr. John Bettison, a retired naval officer, who takes a great interest in photography, and who has kindly prepared the slides from the photographs I took myself when in my articles some thirty years ago, before the hand of the restoring architect had touched most of them.

In those times tanning dry plates were in vogue, ten minutes being considered an average exposure, and when taking interiors it was no uncommon thing to leave one's camera exposed all day and call for it the next, but photography like other sciences has of late made rapid progress, and the student of to-day is now able to take his "snap-shot" and be off to pastures new on his "bike." I prefer the slower method, as it enables the student to study more fully the details that are of interest on the spot, take his own sketches, the exact contour of the mouldings by means of his strip of lead, and then compare them leisurely at home with his photo, thus leaving a more lasting impression on his mind and laying a better foundation for his architectural success as a church architect in the future.

COBHAM, KENT.

By W. F. POTTER.

KENT, the hop-garden of England, was selected for the first summer excursion of the Architectural Association on Saturday, June 3, and the place chosen was Cobham. Fortunately for those who attended, but unfortunately for those who did not attend, the number was limited to thirty, but somehow, as the stonecutter wrote over the grave of Old Moore in Bexley Churchyard, I made the "31th." The party, under the guidance of Mr. G. H. Fellowes Prynne, president, and Messrs. Aldwinckle and G. A. Lansdown, who acted as "showmen," alighted at Sole Street railway station, and after a pleasant walk through the hop gardens made their way to the old Leather Bottle inn, of Pickwick fame. Having partaken of luncheon and signed the visitors' book—which is an interesting document, by the way, containing sketches and signatures of all sorts and conditions of men, from Mr. J. L. Toole, Mr. Walter Crane and others, down to your humble servant—Cobham Church was first visited. It is dedicated to St. Mary Magdalene, and from an illustration of the piscina in Parker's "Glossary of Architecture" it is ascribed to A.D. 1490. This church is well known to all archæologists as containing the finest and most complete set of brasses in England, and for an account of them we would refer our readers to Mr. Waller's essay, "The Lords of Cobham," published in "Archæologia Cantiana," vol. xi. In the *Gentleman's Magazine* for March 1841 we observe:—"We have the gratification to notice a very laudable work of repair which has been executed upon the sepulchral memorials of one of our most distinguished baronial families, at the expense of a descendant and inheritor of their name, though not of their estates. We allude to those contained in the magnificent chancel of Cobham Church, which, since the fatal ruin of the family in the reign of James I., and the consequent transfer of their domains to the houses of Lennox and Darnley, have been entirely left to the devastating tooth of time. Those who are acquainted with sepulchral brasses generally are aware that this is the richest assemblage anywhere to be seen on one floor. They had suffered considerably from the decay of the ledger slabs of Purbeck marble within which they were set. These slabs (with one perfect exception) have now been entirely refaced with mastic, which has given them the appearance of new stones, and thereby the brasses, which were in many cases loose, have been immovably refixed. All the smaller pieces, which had become detached and were lying either in the parish chest or elsewhere in the church, have been restored to their places and the matrices of the lost pieces have been carefully indicated by a metallic colouring. The fine Elizabethan table monument in the centre of the chancel, which bears the effigies of George, Lord Cobham, and his lady, has also been considerably repaired; the loose portions of its superincumbent structure have been fixed; the Ionic pillars round the tomb, which were all broken, have been renewed, and the figures of the fourteen children, which were all displaced and mostly broken into shapeless limbs and torsos, have been very neatly and ingeniously restored." Cobham College was next visited; this was erected by John, third Baron Cobham, who was called "John the Founder" because he founded this ancient and picturesque college; it stands behind the church, with its curious high chimney-stacks, red tile roof, and ivy-covered walls yellow grey with extreme old age. It is not a college now but a hospital, sheltering numerous ancient pensioners. This Lord Cobham also greatly rebuilt and adorned Cobham Church; he built Cowling Castle not far off for the defence of the county, and joined with Sir Robert Knollys in the construction of Rochester Bridge. He is described as a liberal-minded, patriotic, and a brave and independent man, who was sent by King Edward III. as ambassador to Rome, and during a life of over ninety years he was constantly employed for the good of his country. (*Vide* Mr. Waller's "Lords of Cobham," aforesaid.)

At 4 P.M. the members walked to Cobham Hall, which is also mentioned in Parker's "Glossary," and is the seat of the Earl of Darnley. This is a large Tudor mansion planned in the form of a block letter H; the cross bar of the letter was, however, built for the Duke of Lennox from a design by Inigo Jones, partly on the remains of an earlier house. The interior of this portion of the mansion contains the Gilt Hall, which is used as a music-hall, and when it was visited by King George IV. he called it "the finest room in England." It is certainly of very lofty and good proportions; the lower walls are of polished white marble, relieved by sienna marble pilasters, the upper portions being ornamented with gilded scroll-work. At one end of the room is the organ, below which is raised a gallery for the music performers. Above the mantelpiece are representations of a shepherd, nymph, and a bas-relief of Aurora by Sir Richard Westmacott. The vestibule is filled with costly vases, and the picture gallery, 136 feet long by 24 feet wide, contains numerous masterpieces. King Charles I. and his bride, Queen Henrietta Maria, slept here on their way to London after their marriage at Canterbury. A few years later, in 1643, the Roundhead troopers were masters of Cobham Hall, which they thoroughly despoiled. For an account of the great Cobham family and the subsequent owners of Cobham Hall we must refer our readers to Hasted's "History of Kent." Having spent a pleasant hour in this mansion and park, with its fine specimens of rhododendrons, and which was to be thrown open to the public on the following day, the members returned to the Leather Bottle to tea, and by 6.15 P.M. train to London.

THE BRITISH SCHOOL AT ATHENS.

THE Athens correspondent of the *Times* telegraphs, under date May 25:—An interesting archæological discovery has just been made at Pilaf Tepe, in Thessaly, by Mr. Douglas Edmonds, a member of the British school at Athens. While excavating a tumulus commanding a position above Velestino, the ancient Pheræ, Mr. Edmonds brought to light a tomb in which, besides a few gold fillets and other objects, was a large well-preserved silver vase of Hellenistic date containing human remains. The British school has had an exceptionally successful season. The excavations at Naukratis, in the Egyptian Delta, resumed after thirteen years, have resulted in the definite discovery of the great Hellenium, or common sanctuary of Asiatic Greeks, described by Herodotus. In this were found a fine series of terra-cottas and many inscriptions. At Phylakopi Melos, where excavations have now been carried on for three seasons, there was found a complete Mycenæan palace with women's apartments detached. The streets and general plan of Mycenæan and pro-Mycenæan settlements have been greatly elucidated. Excavations are still proceeding.

The British school, in conjunction with the Cretan Exploration Fund, has also secured large concessions in Crete, where it is hoped work will be begun early next year.

THE BRITISH ASSOCIATION.

ARRANGEMENTS for the visit of the British Association to Dover this year are making good progress. The committees are actively at work, and in response to the appeal of the hospitality committees over 1,500*l.* has already been subscribed. In connection with the visit an instructive address was delivered by Sir John Evans on the Association's objects. The Bishop of Dover presided. The president of the Dover meeting will be Professor Michael Foster, and the presidents of the various sections are to be:—Mathematical and physical science, Professor J. H. Poynting; chemistry, Mr. Horace T. Brown; geology, Sir Archibald Geikie; zoology, Mr. Adam Sedgwick; geography, Sir John Murray; economical science, Mr. Henry Higgs; mechanical science, Sir William White; anthropology, Mr. C. H. Read; physiology, Mr. J. N. Langley; botany, Sir George King. Sir John Evans stated that there will be an exchange of visits between the British Association and the French Association holding its annual assembly at Boulogne. The Belgian Geological Society will visit Dover during the meeting.

The Ripon City Council are desirous to acquire Aldfield Spa, which yields sulphurous water, and have asked for plans and estimates of the cost of bringing the water to Ripon and the erection of the necessary baths and other buildings.

NOTES AND COMMENTS.

THE International Exhibition in Paris next year will interfere with the Salon, but there is no reason why the big display of pictures and statues should supersede the annual show which has become an institution. The subject has, however, presented many difficulties, and no little diplomacy was needed to secure an arrangement. What has been done will not please all artists, and the constant visitors will not look forward with satisfaction to the prospect of journeying to a region so remote from the Champs-Élysées as the site of the ancient abattoirs at Grenelle. It can be said in its favour that it stands near the military quartier, and the journey can be broken by a visit to the exhibition in the Champ-de-Mars. But it will require something more than a love of art to persuade the ordinary Parisian to go so far. It cannot be determined at present when the temporary Salon shall be opened. The buildings will also be required for exhibitions of horses and cattle. The representatives of the sections must arrive at an understanding about the dates, and compromises will have to take place. What is satisfactory is that many French artists need no longer despair about selling their works in 1900. The authorities of the two societies are willing to work amicably together to secure an interesting exhibition.

AMONG the subjects for speculation at the present time in Paris is whether MONTJARRET will conduct the President's cortège on the visit to the Longchamps race-course for the Grand Prix on Sunday. What the City Marshal is to those who are ruled from the Guildhall, that cavalier is and more. According to the current belief, he is an Englishman, like all who hold responsible positions in the equine world of France. But if a foreigner, he has, like the great NAPOLEON, become an idol to the Parisians. The late General BOULANGER'S horsemanship was considered to be undignified when compared with MONTJARRET'S, for the equerry appears in the saddle as august a being as a king on his throne. Unfortunately, MONTJARRET has met with an accident, and in the most unlikely place—a painter's studio. M. GEORGES BECKER having been commissioned to paint the departure of the Czar of Russia and his spouse from the Hôtel de Ville, there are introduced in his work all the foremost notabilities of France. But the most difficult of all to treat was MONTJARRET. The least failure to express the bewitching horsemanship of the state equestrian would at once be detected by every Paris *gamin*, and the picture it was feared must be relegated to obscurity. MONTJARRET resolved to come to M. BECKER'S aid. He condescended to mount the lay horse and to appear as when he was supreme at the historic event. But MONTJARRET is not familiar with the ways of wooden chargers. He tumbled in endeavouring to dismount, and the question is, Can the surgeons restore him to a condition which will enable him to represent the majesty of France in a style which LOUIS XIV. might envy?

IN 1850 the explorations of Mr. LOFTUS suggested the great interest of Susa as a place for archæological investigations. He was able to suggest that in the palace were a central hall with thirty-six columns, and three porticoes of twelve columns, but in the public estimation the architectural fragments were of less interest than the enamelled frieze which M. and Mme. DIEULAFOY unearthed, and which is to be seen in the Louvre. The French resolved to keep their hold on so productive a spot. An agreement was entered into which conferred the sole right of archæological search in every part of Persia to the French Government on condition that precious metal and stones and half of other relics are surrendered to the Persian Government.

A CORRESPONDENT of the *Times* considers that without interfering with the French an arrangement could be made with Persia. He says:—"The relics are packed and sent to Teheran, where the shares for each Government are made out. The Persian 'half of the discoveries' will be probably sold to the local dealers in antiquities, and science will be this much the poorer, for every relic excavated from the mound of Susa will supply most interesting *data*, and will carry us back to times that were contemporary with the first civilised occupation of ancient Egypt. Already the members of the Délégation have discovered the names of eleven kings of Susa, at present utterly unknown to history and also a new cruciform inscription which the Rev. PÈRE SCHEIL, the eminent Assyriologist, is at present deciphering. Some beautiful specimens of the Flint Age, in the shape of axe, spear and arrow heads, have also been discovered—and all this in two consecutive cold seasons." If a national museum existed anywhere in Persia it would be right to have as many as possible of the relics deposited in it, but when they are likely to be spread throughout the world and to be imitated nobody could object to negotiations by the British Government. But the Germans have probably anticipated us.

ILLUSTRATIONS.

CATHEDRAL SERIES.—ROCHESTER: THE CHOIR.

THE EMPIRE PALACE OF VARIETIES, MIDDLESBROUGH.—INTERIOR SHOWING HALF THE STAGE AND BOXES.—EXTERIOR.—INTERIOR SHOWING PROMENADE.

THE site selected for the building covers an area of upwards of 11,000 square feet, having frontages on three sides to Corporation Road, Pine and Dunning Streets, and a frontage to a right-of-way in the rear, thus being practically isolated. The main approach is from Corporation Road through a handsome hall, 34 feet by 19 feet and 18 feet in height, having a large recessed fireplace. At the left-hand side upon entering is the box office, adjoining which is the staircase to the stalls, whilst on the right is a broad staircase leading to the grand circle; in addition there are two emergency exits from the stalls into Dunning and Pine Streets, and an emergency exit staircase from the grand circle into the former thoroughfare. The pit entrance is from and on a level with Dunning Street, with an emergency exit opposite directly into Pine Street, whilst the gallery entrance is from the latter street, with an emergency exit into Dunning Street. The auditorium is nearly square, being 60 feet in width, 63 feet deep, and the average height to false ceiling 45 feet. The area comprises 120 orchestra stalls, 120 stalls, and a pit with a seating accommodation of about 450. Spacious saloon accommodation is provided. The grand circle has seating accommodation for 150 persons with ample lounges; immediately in the rear over the entrance hall is the principal saloon, 34 feet by 27 feet, approached by two short flights of steps, thus enabling a clear view of the stage to be obtained. A further saloon is also provided on the Dunning Street frontage. Both the entrance and exit staircases terminate in roomy lobbies, and there are communication staircases directly into the stalls from either side. Four private boxes flank the proscenium, and on the gallery level are two private boxes. The gallery itself has seating accommodation for 750 persons, and a suitable saloon is provided in the rear. The ceiling, proscenium, circle and box fronts are in specially designed and modelled plastic work, following, in a degree, the Spanish Renaissance treatment of the exterior. The ceiling is painted with allegorical subjects. The principal seats are of the tip-up pattern and upholstered in velvet, and the pit seats upholstered in leather. The stage and its accessories are roomy and will permit of spectacular productions of all kinds. Its dimensions are as follows:—Width from wall to wall, 70 feet; average depth, 35 feet; height to flies, 25 feet; height to grid, 55 feet; proscenium opening, 30 feet square. Six spacious dressing-rooms are provided entirely distinct from the stage and in a separate block, each room being fitted up in the most approved manner; the stage entrance is from Dunning Street, and the scenery entrance in the rear of the building.

Messrs. ERNEST RUNTZ & Co. are the architects.

The original picture of the building was exhibited in the Royal Academy in 1897.

PRIMITIVE METHODIST CHURCH, FINSBURY PARK, LONDON.

VICTORIA MANSIONS, SUMATRA ROAD, N.W.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

By the Author of "Ecclesiologia Germanica," &c.

(*Continued from page* 356.)

XXII.

Gournay—St. Germer—Beauvais.

ONE of the most delightful of my ecclesiological tours in France was that made a few years ago among the *crême-de-la-crême* of Northern Pointed architecture — the cathedrals and churches of the Isle of France, Picardy, the Soissonaise and French Flanders. Briefly, the route taken was as follows. Entering Normandy at Dieppe, I proceeded thence *viâ* Neuchâtel-en-Bray, Gournay and St. Germer to Beauvais. From there I went to Creil, making that railway centre the *point du départ* for Senlis, Compiegne and Noyon. Returning to Creil, I journeyed, partly on foot, partly by rail, to Paris, visiting in a leisurely fashion several of that noble line of village churches—St. Leu d'Esserent, Champagne, Pontoise and Auvers—with which the banks of the Oise are so plentifully studded. Arrived at Paris, I proceeded from the Gare du Nord to that of L'Est, and in a short time found myself at Meaux. Thence I proceeded to Rheims, returning home *viâ* Laon, Soissons, Cambrai, Lille and St. Omer, after a tour which had comprehended not a few of the most interesting and important of the buildings reared under the sway of St. Louis and Philip Augustus.

It was certainly a novel experience, the finding oneself dropped from the train at a quarter-past seven o'clock on a Sunday morning just as the bells from the picturesquely unfinished steeple of the church at Neuchâtel-en-Bray were calling folks to early mass.

Leaving town on the evening of a Saturday, I reached Dieppe at four o'clock on the next morning to find its streets untenanted save by sundry cats, who, from their dissipated appearance, had been holding festival all night. Entering Dieppe at this early hour the familiar sights and sounds were, of course, not in evidence.

The pier had not its complement of elegantly dressed and parasoled ladies telegraphing to their friends on board, and waving their handkerchiefs at the vessel as though they were lusting it at a distance. Neither did I hear the shrill cries of hawkers, nor the plaintive pipe of the vendor of goats' milk as he traversed the stony streets with his long-haired flock. But a certain solemnity invested the steamer's gliding into the smooth water of the harbour between the two great crucifixes at this July Sunday daybreak, when even the noises—without which the French can do nothing—in and about the Douane seemed set an octave lower than at other times. All the still-life of the place—not forgetting the smells, which were, if anything, more emphasised than usual—was, of course, just the same.

There were the great white cliffs, along whose summits glorious walks, with a cobalt sky above and a sapphire sea below, had in former years been taken. Upon the eastern range stood that melancholy votive church, looking, if possible, more wretched than ever, and reminding one of the church a Chinaman, taken away from his laborious studies of pagodas, might be expected to produce after two months' study of the plates in Winkle's "Cathedrals."

There, westwards, was the lace-like tower and quaint central slate cupola of St. Jacques, whose "peaceful gates" even at this early hour expanded to all. Further on and I arrived at St. Remi, in one of whose straight-backed, doored pews—having an hour or so to spare before a train could be got on to Neuchâtel—I ensconced myself; and here a ludicrous incident would force itself upon the memory.

One Sunday, a year previously, I had chanced to stroll into this quaintest of old Normandy churches just as High Mass was concluding.

While the "sortie" was being played upon the fine-looking organ at the west end of the church the *enfants du chœur* were,



St. Germer, near Gournay: South Side of Sainte Chapelle.

prior to dismissal, drawn up in double file in the centre of the spacious choir, and a very picturesque group they formed with the surroundings.

One of the urchins was being reproved by the *magister choralis* for some delinquency or other, so upon dismissal he in revenge "took a sight" at the learned gentleman, and with such an air of cool bravado, that the sacredness of the place forced me to endure that most unpleasant of sensations—suppressed laughter.

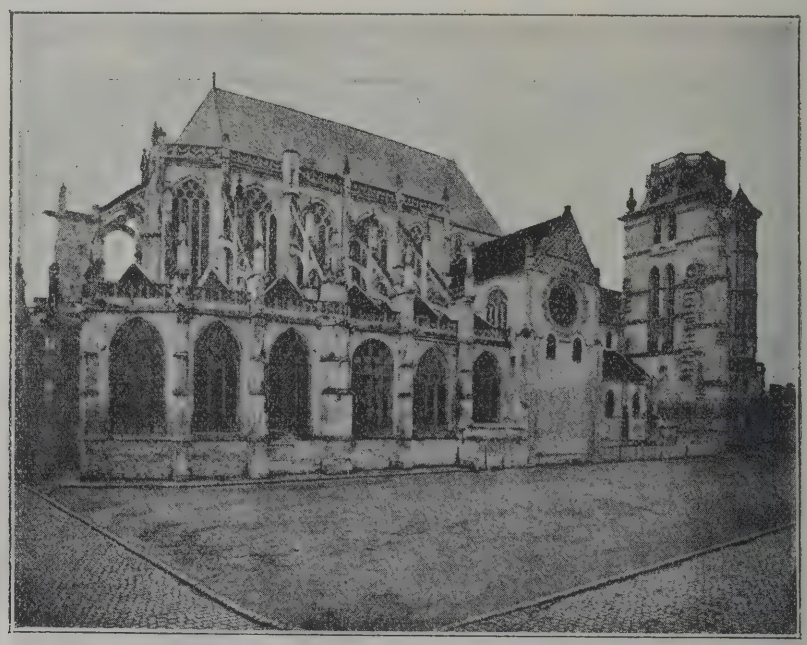
On the same occasion—the scarlet cassocked and albed flock having taken their departure—it was not a little diverting to observe the stony gaze with which some soldiers, waiting for the Messe du Midi, regarded the books handed to them by the sacristan much in the same manner as I have observed the godfathers and godmothers in "the humbler walks of life" do at baptisms among ourselves.

Repairing to the railway terminus, I took my ticket for Neuchâtel, *en route* for Gournay and Beauvais; and the train, after rushing through the pretty pastoral Pays du Bray, where orchards lined the rail almost without intermission, deposited me, as I have said above, at a quarter past seven on the platform of the station of Neuchâtel. During the ride thither it had been pleasant to hear called out once more in Norman-

French the names of the stations—Rouxmenil, Arques-la-Bataille, and so on, with a dwelling on the ultimate.

Breakfast having been partaken of, and some slight adjustments of the toilette effected, I strolled up the little town of Neuchâtel to its parish church, which occupies a commanding situation at the top of the principal street, down whose kennels water was rushing in copious streams. A tolerably well-attended Low Mass being then in progress, I was constrained to defer my inspection of the church's interior to a more favourable opportunity. However, in strolling about the roads surrounding the town, with their fringe of fruit-laden orchards, the intervening time passed pleasantly enough.

The eastern portion of the church at Neuchâtel is fine Early Pointed, but the "restorer" has perhaps done mischief more tragic than utter ruin. Inside, the choir has a noble arcade of thick cylindrical columns with stiff-leafed capitals, a simple triforium of trefoiled arcades, and a lofty clerestory with windows composed of two uncusped compartments apiece, and with tracery formed of three trefoils. M. Didron's stained-glass, which fills all these windows, is brilliant but ineffective at a distance, from the absence of that important factor, grisaille, to give proper definition to the full-length effigies therein depicted. Like many of the Burgundian examples I had seen, the apse of Neuchâtel church was destitute of procession path, but the



BEAUVAIS: NORTH-EAST VIEW OF ST. ETIENNE.

three tiers of windows lighting it give this portion of the building an air of great luminosity. The arches opening into what were originally north and south transepts appeared to be Transition, but the tower which they support is only just distinguishable externally, for when the present western steeple was built it seems to have been much tampered with, having been removed down to the clerestory and roofed over in the same line as the choir and the nave. This last is a wretched perpetration of the Late Flamboyant age, with thick clumsy pillars in feeble imitation of those in the choir, and with beggarly roofs to the aisles. But the western steeple is, despite its late date and in the unrestored condition in which I saw it five years ago, a picture. I remember particularly a lovely piece of reticulated tracery in the tympanum of the west door, to touch which would be madness. The tower proper is surmounted by another very low one of slate, capped with a spire having pinnacles at its base of the same material, the whole helping to compose a really delightful group on this clear August morning.

Looked at from a ritualistic point of view, the morning at Neuchâtel could not, on the whole, be pronounced a success, however interesting it may have been architecturally. Indeed, had I not been prepossessed by the aspect of its tower a year previously during the journey from Dieppe to Beauvais, I should not have broken it here on the present occasion, for both the music at the Parish Mass and the vestments of the officiating clergy were of the most wretched description. A High Celebration at St. Alban's, Holborn, St. Mary Magdalene's, Paddington, or St. Matthias, Stoke Newington, has created far more impression.

Neither Gournay nor the neighbouring St. Germer should be overlooked by the visitor to this delightful part of Normandy—the Pays du Bray. The former has a collegiate church dedicated to St. Hildevert, of much dignity and interest, but from whose exterior restoration has exiled much that was once picturesque. The thirteenth-century façade with its triplet of lancets has suffered grievously, but fortunately the two western towers with their quaint louvres and hipped gabled roofs have not been transformed, and I gladly recognised my old friends again from Cotman's illustration of them in Dawson Turner's "Normandy." The interior has a Romanesque arcade of great richness, reminding me very forcibly of our Anglo-Norman work, and the upper parts, especially the vaulting, are fine. The east end terminates square, being lighted by a large Geometrically traceried window.

During my inspection a baptism took place at the font in the south transept. The child, at whom an old woman seated near me made minatory gestures, rent the air with its cries; two young ladies, presumably acting as sponsors, were paying more attention to one another's hats than the ceremony; and upon the withdrawal of the party to the sacristy for registering purposes, the aforesaid old woman made signs to me indicative of a desire to administer a little wholesome correction on Mrs MacStinger's system to the offending infant.

The three great bells in one of St. Hildevert's towers was booming out on the drowsy atmosphere, summoning folks to Vespers when I once more sought the train. Resuming the journey to Beauvais, the next station passed was St. Germer-en-Fly, whence a pleasant walk through English-like country lanes brings you to the great quondam abbatial church of that saint, but which time forbad my revisiting on this occasion. The nave, transepts and choir are Transitional from Romanesque to Pointed, with a few later insertions, but the Sainte Chapelle, whose plan, disposition and general arrangement appear to be nearly identical with the destroyed one of St Germain des Près at Paris, belongs to the age of St. Louis. To the same architect, Pierre de Montereau, is due the existing Sainte Chapelle at Paris, which from its elevation upon an undercroft is invested with a more *élancée* air than this of St Germer. Montereau died in 1266, and there is every reason to believe that in this graceful creation of the Early Complete Gothic style at St. Germer we have another design by the same hand—for it was built before his death and is identical in many features with work known to be his. A low cloistered

passage, whose window tracery and foliaged ornament deserve careful study, connects the Sainte Chapelle with the circumambient aisle of the abbey church. In the chapel proper the trefoliation of the inner arches of the windows, the easternmost of which are filled with coeval stained-glass, while the side ones are simply diapered, forms a strikingly graceful feature. Here again the "restorer" has laid too heavy a hand.

It was a charming railway ride on that golden August Sunday evening from Gournay to Beauvais, and grandly the great grey mass of the "tall man on tiptoe," with its forest of flying buttresses, and the familiar outline of its south transept, rose up against the opal-tinted sky, as the train made almost the circuit of its little city.

Although two visits had been paid to Beauvais, it was still pleasurable on this Sunday evening not only to make the acquaintance of its hitherto unexplored byways, the gigantic apse bursting upon the view every now and again with electrical suddenness, but to remark the quiet manner in which the people were walking about enjoying the Sunday evening calm, and affording a marked contrast to the noisy vulgarity too often witnessed on the same occasion in the streets of an English cathedral city.

A strong popular delusion has elevated the naveless cathedral of Beauvais into its great attraction. This must



North Doorway, St. Etienne, Beauvais.

be protested against, not because it is not very wonderful and awe-inspiring—it is both—but because its worship leads people to overlook or only to half see and understand the extreme value of Beauvais' other church, St. Etienne, to which—the cathedral being closed for the night—I devoted my attention this Sunday evening.

It presents a Romanesque nave and transepts of great beauty; but upon these portions, as is too frequently the case in France, a coarse choir of the Flamboyant has been rudely engrafted.

Unfortunately its western façade—a graceful specimen of the lancet epoch—is difficult to be viewed from a distance. As the illustration shows, it has a grand arched doorway. Within the tympanum are sculptures of the Nativity, the Epiphany and the Coronation of the Virgin, besides four rows of angelic and other figures composing the mouldings of its arch.

The jambs and central pier have lost their effigies and shafts, and the whole work is much mutilated, yet of its kind this western portal of St. Etienne is the best and purest piece of work in Beauvais, as far as goodness of sculpture and detail can make a work good. A triplet of lancets surmounts the gable, and a heavy unfinished tower of the Flamboyant period terminating abruptly in a low balustraded octagon, decidedly Classical, flanks the façade on the north. Our general view of St. Etienne shows it from the north-east, whence the mass presents a singular but not unpicturesque grouping of parts. Nearest to us is the lofty choir, evidently a poor imitation of the Flamboyant portions of the cathedral, its tall clerestory windows, whose lights and tracery retain a considerable quantity of sixteenth-century glass, being mostly destitute of cusping or foliation. Next we have presented to us the Romanesque northern transept, in whose gable is that delicate trellis-work, so extolled by M. Viollet-le-Duc. Outside the label of the rose window lighting the façade of this transept is a band of figures, doubtless representing the Wheel of Fortune.

Above the roof-line of the transepts and nave is seen a low central tower, with small lancet windows; but since the addition of the much loftier Flamboyant choir, it appears now only to be a prolongation of that limb westward, the sixteenth-century architect, whoever he was, having carried the apices of his clerestory windows up to the level of those in the tower. It will be remembered that a somewhat similar instance of this absorption of Early into Late work confronted us in the church at Neuchâtel.

The nave of St. Etienne at Beauvais has a low clerestory of round-headed windows, and the buttresses of its aisles are good examples of Late Romanesque work; but the external gem of this church is the doorway in the northern aisle—a very ornate specimen of the Round-arched style, and of which I was unable to resist furnishing an illustration. Above the richly moulded doorways is a triplet of semicircular arcades whose wall surface is diapered with a pattern sunk in the stone and marked at regular intervals by red tiles inlaid, and I should think about two inches square. Presumably this is a restoration; but at any rate, as a specimen of externally applied natural polychromy it is particularly grateful and refreshing to the eye. There is no service in French churches as a rule on Sunday evening, but on this occasion at St. Etienne a very pretty procession *aux cierges*, in connection with some guild or other, contributed not only to the "setting off" of the rich Romanesque architecture of the nave, but served to make the evening pass very agreeably and, I trust, profitably.

(*To be continued.*)

SUTTON PLACE, SURREY.*

THE earliest mention of Sutton to which interest attaches is that King Edward the Confessor had a hunting lodge near. Mr. Frederic Harrison is of opinion that the site of this was in what is now called Manor field, where some remains of an ancient structure have been found. It was, no doubt, as a memorial of this connection that the founder of Sutton Place dedicated his family chapel to St. Edward.

According to Domesday Book the manor of Sudtone was of the yearly value of 8*l.*, supported 16 villeins and bondmen, possessed a mill of 5*s.* yearly rental, a wood that supported 25 swine, &c. Several hides and carucates as usual.

William I. bestowed Sutton upon Robert Malet, whose father, William Malet, had been one of the Conqueror's favourite knights. At the fateful battle of Hastings William Malet was one of the knights (six in number, I think) who were told off to defend the consecrated banner of the Norman army, and after the battle he had charge of the sepulture of Harold at Waltham Abbey. His son, Robert, did not remain in undisturbed possession of Sutton. At the death of William Rufus he supported the claims of Robert of Normandy to the throne of England, and on the accession of Henry I. his manor was consequently forfeited to the Crown. This was the beginning of a very unsettled era of about four centuries for the Manor of Sutton, which, during that period, seems to have brought ill luck to its possessors. "From the Conquest to Bosworth field," says Mr. Harrison, "it was forfeited to the Crown more than ten times. At least ten times the owner or his heir is either beheaded, attainted, or killed in civil war." It was held, amongst others, by William, Earl of Warren; Lord Basset; Roger Bigod, Earl of Norfolk; Edmund, of Woodstock; Roger Mortimer, Earl of March; Joan, the Fair

* A paper read by Mr. Jonathan Downes at the visit of members of the Upper Norwood Athenæum.

Maid of Kent; and Earl Somerset, son of "old John of Gaunt, time-honoured Lancaster."

It is only natural to find that the estate had not improved since the Domesday survey under these conditions. In 1353 it was valued in inquisition when the Fair Maid of Kent inherited, and, apart from the land itself, the only structures standing thereon are scheduled thus:—

	£	s.	d.
No. 1.—A ruinous messuage after reprisals at .	0	0	0
No. 2.—A dovecote entirely ruined, as appears on view of same	0	0	0

Margaret, Countess of Richmond, mother of Henry VII., was the next possessor, and from her it descended to the Crown. Henry VIII., by letters patent dated May 17, 1521, granted Sutton Manor and its appurtenances to Sir Richard Weston, Knight, to hold by fealty with rents, issues and profits and right of free warren within the forest. By further letters patent of May 25, 1530, the king granted to Sir Richard licenses to impark 600 acres land and pasture, 50 acres wood, and 400 acres heath and furze. From the grant of 1521 to the present time—now nearly four centuries—the manor has been held by Sir Richard Weston's descendants and collaterals; since 1782 by Westons from an allied branch of the same family. The family of Westons, although not of noble rank nor one of the great houses, was an ancient county family of Lincolnshire since, at any rate, the time of Henry I., and probably earlier. Although ordinary history does not say much of Sir Richard Weston, the State papers of the time, says Mr. Harrison, are full of his name, and the list of offices held by him would fill pages. He was a gentleman of the Privy Chamber, appointed thereto by reason of his staid demeanour and discreet behaviour, and was also "Soldier, Seaman, Ambassador, Governor, Treasurer, Privy Councillor, Judge of the Court of Wards and of the Star Chamber."

His younger brother, Sir William Weston, was also a man of some distinction. In succession to his uncle, named John, who was Prior from 1477 to 1485, he had the sad distinction of being the last Prior of the House of Knights Hospitallers of St. John of Jerusalem at Clerkenwell. This distinction was conferred upon him in recognition of the active part he took in the heroic defence of Rhodes by the great Crusader, Sir Villier de Lisle Adam, from June to December 1522, against the siege conducted by Solyman the Magnificent, which was at last crowned with success. It was at this time that Sir Wm. Weston commanded the first ironclad recorded in history. She was called the *Great Carrack*, and was sheathed with metal so as to be perfectly cannon-proof. It is said that he died of grief on May 7, 1540, the date of passing the Act for the Dissolution of Religious Houses. He was buried with great state at the church of St. James, Clerkenwell. At the demolition of this church in 1788, his tomb was desecrated and destroyed; and Pennant, the antiquary, who saw and measured the skeleton, reports it to be that of a well-grown man 5 feet 11 inches in stature. His portrait still exists in the Royal collection of pictures at Windsor Castle. But to return to the elder brother, Sir Richard Weston, the builder of Sutton Place. He was born about 1485-86; married Anne, daughter of Oliver Sands, of Shere, by whom he had a son Francis, born 1511, whose sad fate we shall shortly hear.

I cannot, had I skill and knowledge necessary, attempt within the limits of this paper anything like a detailed description of the beautiful manor-house we have seen to-day. With one exception it stands to-day as it left the hands of Sir Richard's architect. When finished the quadrangle was completed by a northern wing, the centre of which was a gatehouse tower having two octagonal turrets at the angles—a somewhat similar design to the gate-tower at Hampton Court and Layer Marney, which, with Christ Church, Oxford, and Trinity College, Cambridge, were contemporary with Sutton Place. It is probable that this wing was damaged by the fire which took place on August 7, 1560, three days after Queen Elizabeth slept here; at all events, Brayley records that the entrance-gate had become ruinous and dilapidated, and was pulled down in 1786 by J. Webb-Weston. Mr. Harrison says this house is "almost contemporary with the exquisite chateaux of the age of Francis still preserved on 'the Loire.'" He calls it "a Cinque-Cento conception in an English Gothic frame, the single extant production of a peculiar and suggestive type of Renascence Gothic."

It is one of the few English buildings made of terra-cotta and brick without any dressing of stone. From its building till to-day it has remained in the hands of the same family—a family debarred for the greater portion of the period that has elapsed, by its adherence to the old faith, from taking any active part in the world of affairs.

To these conditions is no doubt due the fact that the house is unchanged in its aspect. It displays—I quote Mr. Harrison again—"not a record of the caprice, the ambition, the decay or the bad taste of successive generations. No Elizabethan architect has added a Classical porch. No Jacobean magnate has thrown out a ponderous wing with fantastic gables and profusion of scrolls. No Georgian squire has turned it into a miniature Blenheim, or consulted his comfort by adding a square barrack."

Another distinction of Sutton Place is that it is "one of the earliest mansion houses built only as a peaceful dwelling and entirely without any thought of defence."

Among Sir Richard's many offices we are told that from his character as a discreet reputable man of good standing he held during his busy life many wardships. In 1519 one of his wards was Wm. Lytton of Knebworth. Another was Anne, daughter of Sir Christopher Pickering, whom he married to his son Francis, about 1530, and the issue of this marriage was one son, Henry, who succeeded his grandfather Sir Richard—the first Sir Richard I would now call him.

Young Sir Francis—for he was knighted at the coronation of Anne Boleyn—seems to have been a gay, gallant young courtier, active and alert in all manly sports and pastimes, and I am afraid we shall find that he was somewhat fond of gambling.

Mr. Harrison has found a record that on one occasion he won from the king at one sitting, by play with dice, 46*l.*, which is equal to 550*l.* at the present day.

This intimacy between Sir Francis and the king is also shown by the fact that the king's wedding present to the young bridegroom is set down in the Court accounts as 6*l.* 13*s.* 6*d.* or 80*l.* of our money. It would be interesting to know what form this present took, whether cash or piece of plate. But this season of pleasant disport in the sunshine of the royal presence did not long continue. It had a sudden and tragic close. When in 1536 Anne Boleyn was charged with conducting intrigues with several young courtiers, Sir Francis Weston was unfortunately one of the persons implicated.

How far the unhappy queen was really guilty it is hard to say, but there seems little doubt that she displayed great freedom of manner to the young gallants with whom she was fond of flirting. For instance, it is said that when Weston avowed his love she boxed his ears, which does not exactly seem to our minds a queenly method of repulsing a dishonourable proposal. This is, perhaps, the episode alluded to in the following letter to Cromwell, the king's secretary, from Sir Wm. Kingston, in whose custody the queen was placed:—

"Sir,—Syns the makynge of thys letter the queen spake of Weston. Had spoke to hym because he dyd love hyr kynswoman, Mrs. Skelton and not hys wyf, and he made answer to hyr, he loved one in ye house better than them bothe. And that? It is yourself. And then she defyd hym as she said to me.—WILLIAM KINGSTON."

Whether rightly or wrongly, Sir Francis was found guilty, and the last act of which we hear is that before his execution he draws out a bill of his debts. A facsimile of this bill is given in the "Annals of an Old Manor House," and it appears that a great proportion of these debts are what we euphemistically style debts of honour. To the "kynges majesty," for instance, he owes some 70*l.* One wonders whether the "kynge" exacted the payment of this debt from the bereaved father. The total of indebtedness would equal more than 12,000*l.* of our money. At the foot of the bill Sir Francis writes this message of farewell:—

"Father, mother and wyf, I shall humbly desyre you for the salvacyon of my soule to discharge thys byle, and for to forgive me of all the offences I have done to you. And in especyle to my wyf which I desyre for the love of God to forgive me and to pray for me for I beleve prayers will do me good. Goddys blessing have my children and meyne. By me a great offender to God.—FRANCIS WESTON."

On Wednesday, May 17, 1536, Sir Francis Weston was beheaded on Tower Hill, and Anne Boleyn on Tower Green two days later.

Mr. Harrison somewhat cynically epitomises him as "merely a butterfly crushed between the fierce millstones of ambitious intrigue."

There is mention of this tragedy to be found in the quaint old French verse of Chapelet's "Lettres d' Henri VIII.," of which a reprint was published in Paris in 1835.

The following is an attempt at translation into English of an early period:—

Poor Weston who was young of age,
Issue of anciant high lineage,
Well mannered and in grace surpassing.
In lists, dance, leaping, all oer-pacing.
In tennis play he did excel
All players in this land that dwel.
Not one dared plead in his behest
Save mother with grief opprest,
Who to the Kynge herself addresst;
His wyfe also offering full entirely
Rent and goods for his liberty.
But the Kynge still wold him execute,
No sentence framed by process wold commute.
And if for hym money had puissance,
Of crowns 'cent. mil' would need advance.

Sir Richard's life must have been grievously overshadowed this tragic event, and he did not survive his son many rs. He died on August 7, 1542, and was buried at Holy nity Church, Guildford. His tomb and those of his dendants who were interred in the same vault were destroyed he rebuilding of the church, which is now an ugly red-brick lding utterly deficient in architectural features.

From Sir Richard's will we find that he left plate valued at *l. 2s. 6d.*, equal to 2,000*l.* at the present time, sixty horses, head of cattle, 400 sheep, and the house well stocked h arms and armour, carpets and hangings. [These I uld say by way of parenthesis are not the present pieces of estry we have seen to-day, which belong to Mr. W. iney Harrison. The originals, if not decayed and worn out, y have been removed when the family ceased to reside at tton.]

We must remember he had fought for Mary, the wife of ilip, and it was probably a feeling of loyalty to her memory well as attachment to the faith of his fathers which restrained from active service on this momentous occasion. He s not seem to have forfeited the favour of the queen, or if had he soon regained it, for we find she paid a second visit st fire in 1560) three years later evidenced by the letter still served in the State records to Sir Henry Unton, the French abassador, which ends —"Given under our signet at Sutton, r Guilford, 11th November, 1591." Sir Henry died on ril 11, 1592, and was buried at Holy Trinity, Guildford, with grandfather. He was succeeded by his son, the second Sir hard, of whom I have only to say that he was born in 1564, rried on May 27, 1583, Jane, the daughter of John Dister, Bergholt, Essex, and died in 1613, having lived the quiet entful life of an English country gentleman of the period. ere is more to say of his successor, though he cultivated the s of peace rather than of war. This was a third Sir Richard, of the second, born in 1591. He spent much of his early in Flanders, where he could be educated in the Roman tholic faith without fear of interruption, and he devoted ch of his thought to the agriculture and the system waterways so superior in those countries at that time.

Aubrey says of him, "That worthy Knight, Sir Richard ston, conveyed the water from Stoke river, near Guildford, his Manour of Sutton, whereby he floated six score acres of und which aforetime was most of it dry. The same Sir hard brought the first clover grass about 1645 out of Brabant l Flanders, at which time he also brought over the conrance of locks, turnpikes, and tumbling bayes for rivers. He an the making of the New River."

Aubrey means the new channel of the Wey, not, of course, Hugh Myddelton's New River. This Sir Richard certainly ained high rank as a pioneer of English agriculture, and to e devoted himself with such absorption that he recked not the civil war raging between king and Parliament. In the y year (1645) that the battle of Naseby was fought he olished a remarkable book on agriculture, of which it is said he "Encyclopædia Britannica" article on the subject, that marks the dawn of the vast improvements since effected in gland."

Under the commonwealth he continued his favourite purs, and although he was looked upon as one of a Royalist ily, and though his estates were for a time sequestrated, he ceeded, by the help of a friend whose political opinions were he opposite colour, in getting the Long Parliament to pass n Act for rendering the Wey navigable from the Thames to ldford." The Bill was brought into the House of Commons December 20, 1650, and passed into law on June 20, 1651.

This good Sir Richard, the farmer, was married early in to Grace, the daughter of John Harper, of Cheshunt, and her he had fourteen sons and several daughters. In 1652 in his turn joined the great majority, and was laid to rest in family vault at Guildford.

There is little to say about his descendants, but it may be resting to trace the descent of the estate to its present ner.

Sir Richard was succeeded by his son John, who, in common his descendants, does not seem to have been knighted, and died in 1690 and was buried at Guildford. His only son, hard Weston, succeeded and died at Kingston in 1701. John ston, only son of the above, married Elizabeth, sister of mas Viscount Gage, by whom he had a daughter, who ceeded to the estate on his decease, June 4, 1730. She died narried—the last direct descendant of Sir Richard, the der of the family—on June 10, 1782, and devised the estate manor of Sutton to John Webb, of Sarnsfield, co. Here-l, on condition of assuming the name and arms of Weston. grandson, John Joseph Webbe-Weston, was an officer in Austrian Hussars, and his eldest daughter, Mary Anne ston, married Thomas Salvin, of Croxdale, in Durham. eir son, Mr. F. H. Salvin, is the present owner.

I cannot conclude without saying a word with regard to Frederic Harrison, who, in the preface of his annals, tells ow whilst pacing up and down the courtyard in the summer evenings the feeling grew upon him it were a pity should the old house pass away unchronicled, and thus he took up the labour of love, which has resulted in such a masterly record by pen and pencil of all the charms of the old mansion, that the book is as unique in its beauty as the old house itself.

I can only say that the pleasure I enjoyed in reading this book was far greater than the profitable knowledge (and that was great) which I gleaned from it.

The opening words of this preface are so apposite to the aims and objects of our Society, and to this occasion, that I will quote them :—

"One by one the old buildings of our country are perishing by accident, neglect or wanton destruction; their memory passes away and their place knows them no more."

Let us, then, endeavour to seek out such old houses and pen our little record of them.

In conclusion we may be thankful that Sutton Place has been spared till our time, and may we not utter the pious aspiration that it may long be spared to be the delight and admiration of future generations?

THE LATE MR. JOHN SMART, R.S.A.

A WIDE circle of artistic and other friends will hear with deep regret, says the *Scotsman*, the announcement of the death of Mr. John Smart, R.S.A., at the age of sixty-one, which took place on the 1st inst. at his house, Brunswick Street. It was in the end of last year that his friends noticed a great change in the appearance of this popular member of the Academy. Some malignant, internal disease had evidently laid its hand on him, and the once stalwart frame became bent and shrunken. Medical science could do little for him except to alleviate his sufferings. He gradually got worse, but in his weary hours art, which was the love of his life, has been his solace, and until he had to keep his bed entirely he has occupied himself by painting in water-colour and in doing a little etching.

Mr. Smart was born in Smith's Place, Leith Walk, on October 16, 1838, and had been identified with Edinburgh all his life. His father was an engraver and lithographer; his mother was a sister of the late Charles Morton, W.S., Crown agent. Educated at the Leith High School, he afterwards became an apprentice in his father's workshop; his art studies were commenced as a designer and engraver in the schools of the Board of Manufactures, and he studied painting in 1860 under the well-known landscapist of that day, Mr. Horatio MacCulloch, R.S.A. It was in that year that Mr. Smart first exhibited at the Royal Scottish Academy, his picture being entitled "Peeps through the Trees;" and from that day to this his name has never been out of the Academy catalogue. Having studied under such a master it was only natural that Mr. Smart should devote himself to landscape work. His tastes also all lay that way. To this department of art he accordingly applied himself diligently; his pictures, by their improving quality, soon began to attract the attention of critics and of the public, and in a few years he found himself one of the rising landscape artists of the day, with his works in great demand. In 1871 he was elected an Associate of the Academy; six years later he was appointed a full member, and by the public there were few names of Academicians better known than his. Mr. Smart had an intense love for his native country, and delighted to paint its beauties. Shortly after he embarked in earnest on his career as an artist he had a spell of painting in Wales, and in the exhibitions of 1863, 1864 and 1865 there were several landscapes of Welsh scenery from his brush. But for the most part it was Scotland's hills and dales that he depicted. He was not insensible to the gentle charm of Lowland scenery, but he made his name by painting the Highlands. The rugged grandeur of Highland scenery and the patriotic associations of the North strongly appealed to him. He loved the moor and the loch, the mountain and the quiet valley, and he painted them under their ever-changing weather aspects, and under the effects associated with morning, noon and eve, with great fidelity and power. Many of his pictures were wholly painted in the open air; all were directly studied from nature, and it may be feared that constant exposure in all weathers has told at last even on his robust frame. Like the master under whom he studied, Mr. Smart was no mere copyist of natural scenes. He freely used the artistic gifts of selection and arrangement. His pictures show a fine eye for pictorial effect; they are genuinely Scottish in aspect, and in each will be found some motive or sentiment to give them touch of human interest. His colour was fresh, natural and vivid in tone, and if he had not the dash and power of the brush which some of the younger men now cultivate, his execution was always agreeable and careful. Many will recall such pictures from his easel as "The Graves of Our Ain Folk" (1874), "The Gloom of Glen Ogle" (1880), "The Land of the Macgregor," "The Last Rest of the Clansmen" (1883), "Where Silence Reigns," for which he was

awarded a gold medal at the Edinburgh International Exhibition of 1886; and that charming composition which he had in the Academy last year, "A Dream of Strathearn," in connection with the painting of which he made between forty and fifty different studies. His diploma picture, which hangs in the National Gallery, was entitled "Far from the Busy World," and is like many other of his works a very pleasing epitome of Highland scenery. Perthshire, Inverness-shire and Argyleshire were his favourite sketching grounds. In recent years he painted a good deal at Lake Menteith and in Strathearn, many of the beauties of which he transferred to his canvas. A year ago he went to the Ayrshire coast, and almost for the first time painted the sea, and with much success. Works of this nature were exhibited this year in the Royal Scottish Academy's exhibition. Mr. Smart was one of the original members of the Royal Scottish Water-Colour Society, and as a water-colourist he produced numerous beautiful landscape drawings, which by many were as much admired as his oil-paintings. In water-colour he painted a few years ago most of the golfing greens of Scotland, and his drawings were afterwards etched. He exhibited regularly at the Glasgow Institute and at the Royal Academy, where his landscapes invariably had good places assigned to them. This year he adventured one of his Strathearn pictures all the way to France, and it cheered him in his illness to hear of the cordial reception it received at the Salon. As a matter of fact, Mr. Smart has not in the last decade shown better work than he has done within the past two years, and it is all the more to be regretted that he has been cut off while still painting at the top of his strength.

Mr. Smart was a good all-round man and citizen, with an individuality all his own, who took a great interest in many things besides art and the Royal Scottish Academy. He was a keen politician of Unionist sympathies, he kept himself in touch with municipal affairs, he was well read in Scottish history and in modern literature, he was a fervent admirer of Burns, most of whose poems he knew by heart; he was an ex-president of the Edinburgh Burns Club, he could turn a verse himself with great felicity; he loved music, could play the bagpipes, and sing a good song. Of that social and semi-literary fraternity called "The Monks of St. Giles" he was a member, and in their privately printed publications several of his songs and ballads appear. He was also a member of the Pen and Pencil and Scottish Arts Clubs, where his presence was always welcome. In the matter of outdoor recreation, Mr. Smart could play a fair game at golf, he enjoyed angling, and, as a member of "The Nest," he contributed an angling song and an illustration to a publication of the Edinburgh Angling Club. It might also be mentioned that in the early days of the Volunteer movement he was a gunner, and afterwards held a captain's commission in the Artists' Company of the Edinburgh City Artillery Corps.

One conspicuous feature in Mr. Smart's life was his untiring industry. He was a prolific worker, and whether in art or in social life what his hand found to do he did it with his might. There is no doubt he will be greatly missed by his old friends, and that his death is a distinct loss to the Academy, in the management of which he ever took the liveliest interest. He is survived by a widow, five sons and two daughters.

EXPLORATIONS IN CRETE.

THE special correspondent of the *Times*, writing from Canea on May 23, says:—It is proposed to establish a fund for the purpose of carrying out excavations in Crete under the joint direction of Mr. Arthur Evans and Mr. D. G. Hogarth, director of the British School at Athens. The undertaking has received the sanction of Prince George, who has consented to become patron of the fund. Several sites of typical historical importance have been reserved for British exploration, including Knossos, Praesos, Lyttos, the caves of Psychro (Dicte), Kamáras and Paxos, and the prehistoric fortresses of Kalamavka and Zakros, situated in the south-eastern corner of the island nearest to Egypt. It is intended to begin operations at Knossos and Praesos. The objects found will be placed in the Candia Museum, which, it is hoped, will be transferred to the ancient Venetian Armoury. A considerable sum will be required in order to prepare the building for their reception. The headquarters of the fund will be at Candia, where a house has been already secured. Important discoveries are anticipated throwing light upon the derivation of European culture from Egypt, the history of "Mycenæan" civilisation, and the early beginning of Greek art and social life. Within the last few days a large Mycenæan sepulchral chamber has been discovered by Mr. Evans at Mileto, near Candia, containing two earthenware chests adorned with decorative designs, and a score of fine painted vases, some of which present entirely novel types. The chests, which contained human bones, were extracted with some difficulty, and, together with the vases, have been placed in the Candia Museum.

EDINBURGH ARCHITECTURAL ASSOCIATI

MEMBERS of this Association visited Arbroath on S day on the occasion of their annual excursion. president, Mr. James Bruce, W.S., the past president, Thomas Ross, and the secretary, accompanied by about t members, proceeded by train to Elliot Junction, and walk Kelly Castle, now the country residence of Lord Pr M'Grady, who was unfortunately absent in London. The p increased by the presence of Mr. T. S. Robertson, arch the Procurator-Fiscal of Dundee, and others, was receive Mrs. M'Grady and her sons, and proceeded to examine castle, which is situated about two and a half miles Arbroath on the River Elliot. The oldest portions, built a 1442 by Sir William Ochterlony, have been much added to altered, and the building now is a picturesque and comfor house of red stone, having a fine walled-in garden with hedges 4½ feet thick. Luncheon was kindly provided by Provost M'Grady, and the President asked Mrs. M'Gra be good enough to convey to him the thanks of the Associ for permitting the visit and for his hospitality. Under leadership of Mr. T. S. Robertson the party then visited, b kind permission of Mr. Allan Fraser's trustees, Hospital the original of the Monkbarns of "The Antiquary." parish church and the abbey were next examined. The known abbey was founded in 1178, and the latest additions formed early in the fifteenth century. The Rev. W. I accompanied the members from the abbey to his church o Vigeans, built on the site of a Norman church, and rest twenty-seven years ago by Mr. R. Rowand Anderson, L Mrs. Duke kindly provided refreshments, and after Dr. I and the hostess had been thanked, the party returned to to

ESSEX ARCHÆOLOGICAL SOCIETY.

THE first excursion of the season in connection with Society took place on the 27th ult. The party me Witham station, and before the close of the day numb quite seventy. Among those present were Mr. G. Lowndes, president; the Rev. J. W. Kenworthy, the Rev. Curtis, Dr. Laver, Dr. Carr, Dr. McAndrew, Messrs. Chancellor, E. A. Fitch, I. C. Gould, W. J. Muckley, M Christy, E. Durrant, E. J. Harry, G. F. Beaumont, secretary, and others. The ladies were also well represen and there was a cycling contingent numbering about twe Although there was a keen wind a very enjoyable day spent. The first point of interest visited was Cressing Tem the site of one of the commanderies of the Knights Temp but of which only part of the moat remains. Some magnifi old barns, the date of which was assigned to the fifte century, stand on this site. Cressing Church was ente and Mr. Chancellor sketched its chief characteris Cressing, he observed, was said to have belonged Earl Harold, afterwards King Harold, together with With About 1150 King Stephen gave the manor, with the advow of the Church, to the Knights Templars. The church wa Norman origin. A move was next made to White No Church, details concerning this Norman structure being g by the Rev. A. F. Curtis, vicar. Mr. Curtis mentioned some people thought the chancel dated back to Saxon ti Mr. W. J. Muckley very kindly allowed the company to go White Notley Hall, and inspect his collection of flint im ments, Roman pottery, armour and other antiquarian obj The house was extremely interesting, and contained a l number of pictures, many of which were painted by Muckley himself, while two were by Constable. Mr. Muck in his paper, expressed the opinion that the place had occupied continuously from prehistoric times, judging by relics brought to light in excavating. Luncheon was partaken of, and in the village, near the inn, an cage was found, in a very good state of preserva Near by were some posts, supposed to have been as stocks. At Fairstead Church the company received by Dr. Manning, the vicar, who was former curate of Springfield, where he also had a school. Dr. Mani pointed out that a noticeable feature of the church was the large number of Roman bricks and tiles used in its construc and he ventured the opinion that on the site of the pre rectory a Roman villa once stood, and that the materials this were used in the building of the church. In his view tower was of Saxon origin, but Mr. Chancellor subsequ expressed the conviction that the tower, the nave, and pa the chancel were Norman. The south-east corner bea remarkable inscription—a "bidding prayer" for King Jam and in the tower of the church there is a pre-Reformation At Terling also the church was inspected. Near by, in a house, some fine panelling was seen, together with an overm of original oak. The last place visited was Faulkbourn, its church of Norman origin. This church stands in t grounds of Faulkbourn Hall, the residence of Mr. Christo W. Parker, who entertained the members to tea, and all

em to inspect several of the principal apartments and climb t the top of one of the towers, whence a splendid view is tained. Attention was drawn to the fact that the hall was irely built of brick, not a fragment of stone having been ed. Mr. Chancellor said he had made a careful examination the mansion, and could find nothing older than about 1580, hough a residence existed there before that date. He hoped t the Hall would remain for many generations in its present ner's family, and this sentiment was heartily re-echoed. veral new members were elected. Mr. and Mrs. Parker re heartily thanked for their hospitality, and thanks were o accorded to those who had read papers.

GLASGOW INSTITUTE OF ARCHITECTS.

A GENERAL meeting of this Institute was held on the 25th ult. in the rooms, Pitt Street, Mr. David Barclay, sident, in the chair. Attending—Messrs. A. M'Gibbon, m Thomson, Crawford, Watson, Paterson and Balfour; also ending—Mr. C. J. MacLean, writer, secretary. The Presi- nt gave a summary of the business transacted by the Council ing the past quarter, and the meeting was gratified to learn t the Corporation's committee on building regulations had eded to the suggestion of the Institute, that a conference uld be held between that committee and the representatives he Institute while the clauses of the proposed new Bill were ng considered and before they had been passed by the rporation. A committee of the Institute had had a meeting h the Corporation committee, who considered it desirable t they should be favoured with the views of the Institute n the existing building regulations and any alterations, endments or conditions which the Institute might suggest, ecially as to the question of the height of buildings. As to new matters which the Corporation might propose to deal h in the Bill their committee had promised to show these in ft to the Institute. The secretary reported that the Royal titute had decided to support the principle of Lord Russell's on Secret Commissions, now before Parliament, and had ured him of their hearty co-operation and their sympathy h the objects of the Bill, and that the action they had taken this matter generally was very similar to that which had n taken by the Council of the Glasgow Institute. It was reported that the Royal Institute had agreed to their ual dinner in 1901 being held in Glasgow early in October hat year before the close of the exhibition, and it was olved that a local committee be formed to make suitable ngements for the occasion. The Institute agreed to take rge of the examinations for this district of the Royal titute, which will be held in Glasgow during June, provided fficient number of candidates come forward for examination.

TESSERÆ.

Botticelli's "Assumption."

THE history of this painting, which was purchased for the National Gallery in 1882, is remarkable. It was executed, aps about 1472, for Matteo Palmieri, and placed in the ily chapel in S. Pietro Maggiore, Florence. Palmieri was an of distinction and learning, who rendered important omatic and other services to the Republic. A profound logian and an earnest student of Dante's works, he com- d a poem somewhat on the model of the "Divina Com- dia," in which he supposes himself conducted by the næan Sibyl through the Elysian fields to Heaven, the "City ife." After his death and honourable burial in or after 5, this poem, which had not been circulated previously, me suspected by invidious critics of containing some rthodox views as to the nature of angels. This was brought e notice of the Church authorities, and, pending inquisition, picture, which was supposed to reflect in some way the nised doctrine in the poem, was covered, and the chapel in ch it stood closed to public worship. Finally, after some e of time, the book was declared innocuous and the chapel reopened. Meanwhile, however, the question of Palmieri's sy had been so violently debated in Florence that the y spread through Europe, giving rise by degrees to curate and extravagant reports which were variously re- ted by ecclesiastical writers, some of whom stated that mieri had been burnt alive for heresy, others that his body been disinterred and burnt, together with his poem. ari, in his "Life of Botticelli," accurately describes the picture, ing that the painter, no less than Palmieri, was included by malevolent in the charge of heresy. The painting bears lence of intentional injury, the faces of the donor and his having been scored through: an attempt to restore them subsequently made. At some uncertain period it was oved to the Villa Palmieri, the country seat of the family, near Florence. On the death of the last heir, within this century, the picture fell into the hands of a Florentine dealer, and still later became the property of the eleventh Duke of Hamilton.

Francis Bird.

In the reign of Queen Anne and for some years afterwards, sculpture was in a manner monopolised by Francis Bird. The public works by his hand, which inspire nobody with a curiosity about the artist, are not good testimonials in his favour. He was born in Piccadilly in 1667, and sent at eleven years of age to Brussels, where he learnt the rudiments of his art from one Cozins, who had been in England. From Flanders he went to Rome, and studied under Le Gros. At nineteen, scarcely remembering his own language, he came home, and worked first for Gibbons, then for Cibber. He took another short journey to Italy, probably on foot, and at his return set up for himself. The performance that raised his reputation was the monument of Dr. Busby, the famous master of Westminster School. The latter had never permitted his picture to be drawn. The moment he was dead his friends had a cast in plaster taken from his face, and thence a drawing in crayons, from which White engraved his print and Bird carved his image. His other principal works were:—The Conversion of St. Paul, in the pediment of that cathedral. Any statuary was good enough for an ornament at that height, and a great statuary had been too good. The bas-reliefs under the portico. The statue of Queen Anne, and the four figures round the pedestal, which formerly stood before the same church, and of which the existing figure is a copy. The author of the Abregé, speaking of English artists, says:—"With regard to sculpture, the marble groans, so to speak, under the chisels of those who have executed the group of Queen Anne placed in front of St. Paul's, and the tombs of the Abbey of Westminster." This author had not seen the works of Rysbrach and Roubiliac; and for the satire on the group of Queen Anne we may pardon the sculptor who occasioned it, as it gave rise to another satire, those admirable lines of Dr. Garth. The statue of Cardinal Wolsey, at Christ Church. The brazen figure of Henry VI., at Eton College—a wretched performance. A magnificent monument in Fulham Church, for Viscount Mordaunt. Bird received 250*l.* for his part of the sculpture. The sumptuous monument of the Duke of Newcastle in Westminster Abbey, erected by the Countess of Oxford, his daughter. The recumbent figure is not the worst of Bird's works. The sculptor died in 1731.

Margate.

Mr. Ruskin, like other people, is hard upon Margate:—"If we enumerate the English ports one by one, from Berwick to Whitehaven round the island, there will hardly be found another so utterly devoid of all picturesque or romantic interest as Margate," and he is much surprised that Turner was so fond of painting it; "he repeated Ramsgate, Deal, Dover and Margate I know not how often." ("Harbours of England," p. 39.) To a simple mind the accessibility is reason enough; and when "Turnerian topography" is allowed for, and the fact that sea and sky are very commonly the chief features in our painter's work, there seems nothing to be surprised at. In fact, this Margate (in the "Harbours of England") is a study of rough waves and stormy clouds, helped out by a gleam of chalk cliff. But the real Margate is not so "devoid," as Mr. Ruskin declares, and there is more to be seen there than terraces and bathing-boxes—which last, by-the-by, have an historical connection with the town, for in Margate, about the year 1790, bathing-boxes made their first appearance on any shore. A "gate" is, properly, not an obstacle in a passage, but the passage itself, the going-place. "Gait," manner of going, is a modification of the same word; the Scotch word (variously spelt) means way, road—"I gaed a waefu' gate yestreen;" "Gang your ain gate." The "ghauts" which allow you to come down to the edge of a Hindoo river are doubtless the same things, in fact and in etymology, as the "gates" in the Kentish chalk cliff, and such places must always have been notable points in topography. Mergate (the old form) one would say at first sight must certainly mean "Sea-gate;" but a small river or brook is sometimes called "Mere," and there used to be one running to the sea, perhaps in a network of little channels, through the shallow valley which is still called The Brooks, near the South-Eastern Railway station. This rivulet has disappeared, sucked up probably by the town water-works. But Mergate, or Margate, was formerly but the name of the harbour or roadstead; the village was St. John, so marked on the map of Kent in Holland's Camden ("Britannia," 2nd edition, 1637); a village with one foot on sea and one on land, possessing a fine large church, even then of a venerable antiquity, the sepulchral brasses inlaying its floor already worn by the feet of many successive generations of mortals. It was when George III. was a handsome young king that the English people began to suspect sea air and sea bathing to be salubrious, and that it might not be a bad thing for Londoners to repair to the coast in summer-time. The fashion rose and flowed like

the tide itself, and has never since receded. Margate Bay, with its fine sands, so accessible from London, was the favourite resort, and sprang into fame and importance. Cecil Square, with the large Assembly Rooms resting on pillars, and several trim streets round it, were then built, and still retain a pleasant last-century flavour. The name Margate gradually superseded "St. John," but had not done so entirely in the year 1800.

Foreshortening in Reliefs.

Amateur judges often pronounce erroneously on the merits of "alti" or "bassi-rilievi" from not being acquainted with a very essential principle which should prevail in works of the kind. There should be no foreshortening of the limbs in relief, and there should be no attempt, by diminishing the size of objects, to give the effect of distance. Exceptions may be found, but the ancients, who are the best masters in all that relates to the practical in sculpture, seem to have made this a general rule. Sculpture professes to represent "form," and can only represent by form. Foreshortening form must make it monstrous. To represent an arm extended, with the fingers pointed directly in front of the spectator, in "basso-rilievo," the tips of the fingers must be made to spring from the shoulder; for, for want of space, the intervening portions of the limb, viz. the hand, wrist and arm, could not be represented. The ancient sculptors seem to have acted so entirely on the principle here laid down that they scarcely ever attempted to represent a front face in "basso-rilievo." The same principle precludes the representation of distance or of remote objects. It is not possible to give the effect of distance or space when the colour remains the same on all objects, and is equally bright in all parts of the work. Sculpture is to give form in "fact." Painting has only to give it in "appearance." The attempts to overcome these difficulties by the sculptors of the seventeenth and eighteenth centuries, though ingenious, could not be referred to as good specimens of sculpture. They are many of them admirable for qualities of design; but they are fully as much, or more, painters' than sculptors' compositions.

Interest of Archæology.

Archæology has been defined as the key which unlocks to our use the buried treasures of the past ages, and compared to the telescope as the medium through which far distant things are revealed to our knowledge. Archæology, if properly worked out, is a plain history of the human mind and its resources from the creation of the world to the present time, and as a popular science should go hand-in-hand with geology. Geology reveals the progress of natural causes; archæology discovers the history of whatever is produced by art—archæology exhibits in a wonderful manner the influence which an acquaintance, or the contrary, with the use of and value of metals, and even personal ornaments, have had in promoting or retarding the progress of civilisation throughout the universe. The origin of every wonderful science must be defined and its elements traced out by the archæologist. The archæologist must comprehend why many grand and obvious principles in the laws of nature have not been long since understood and turned to practical account. It is the observation of Madame de Staël that "the erudition derived from archæology is far more animated than that we acquire from books." In this view has Madame de Staël popularly shown how archæology affects history. Without its aid history is but fable, or what is worse than fable—theory. History may record the rise and progress of nations, but archæology establishes or contradicts their existence, and must be the evidence whether history be true or false. Archæology cannot take its proper position as a science until its value is acknowledged, its treasures arranged and its principles understood. In the process of procuring the most precious ore, much worthless matter has often to be carefully sifted and cast away before its sterling worth can be ascertained. So must the rubbish which encumbers the golden treasures of archæology be gradually cleared away by scientific labourers. In this, however, the great difficulty is to say what is, or what is not, deserving the name of rubbish. A single character or mark upon the merest fragment of a stone, or on a piece of clay, may be of infinite importance in forming a link wanting decidedly to connect a chain of convincing argument—that link in historical evidence can only be supplied by the study of archæology.

Correspondence

Treatment of Proposed Interior Decoration of St. Paul's Cathedral.

Sir,—The interior decorative treatment of St. Paul's Cathedral engages at present seriously public attention. The Press lately published numerous opinions by art lovers on the subject. I now humbly venture to add a few words in ho that the sister arts, architecture, sculpture and painting, correctly be employed to complete Wren's masterpiece. the mind of an artistic observer the following facts m present themselves, viz.:—(1) The interior of the present do (or funnel) in its dismal and gloomy darkness must prev during ten months of the year any decorations to be prop seen, and therefore it follows that the worshipper is t disabled by a natural depression of spirit to elevate his m to the light of a heavenly and glorious inspiration. (2) remove this serious obstacle I propose the follow remedy, viz. a flat spherical dome (tazza), receiving su cient reflective light through the present side windo immediately under the present dark dome, should be s stituted, forming a light and solid sheet-metal elliptic s or flat dome (thanks to modern constructive science), base being the present chief cornice below the old dark do this construction has no lateral pressure on side walls, and its strength, lightness and easy construction involves no g expense, while the artistic and aerial treatment of its wh surface effectually removes the disturbing incubus now oppressive to the beholder. I sincerely trust and wish that impartial enlightened authority, free from prejudice and influence of personal private interest, will arrive at the de mination of doing right, and thus secure to themselves thanks of the present and future generations.—I am, sir, y obedient servant, Frederick San

Flanged Bent Safes.

Sir,—As the matter is at present the subject of legal p ceedings (to which neither Mr. Charles Lee nor his firm ar party) we are debarred from entering into any detail.

One would suppose from Mr. Lee's letter that there some sort of similarity between the safes which he descri and those in question. There is not. The safes to which refers, made by Messrs. Hobbs, Hart & Co., have all corners at the top and at the bottom jointed; the construct being similar to that of a coffee canister—that is to say, vertical corners are bent and the top and bottom are jointed the shell thus formed—instead of being bent solid according our method.

If Mr. Charles Lee has desired by his letter to give t public the impression that the safes of his firm are similar those made under our patent, that is to say, with all corners bent solid instead of jointed—we must leave it to h to consider whether he is not giving an example of t "wriggling and resort to subterfuge" which he affects to plore.—We are, dear sir, yours faithfully,

Samuel Chatwood, M.I.Mech.E.,
Bolton: June 6, 1899. Bankers Engineer

GENERAL.

The Médée of Eugène Delacroix was sold last week in Pa for 40,500 francs. For a portrait of Columbus, attributed Sebastian del Piombo, 30,000 francs were paid.

Mr. C. E. Dance has been appointed surveyor to t Metropolitan Asylums Board at a salary of 500*l.* per annu with travelling expenses, office accommodation, and su assistance as the managers from time to time will de necessary.

A Portrait of the late William Huggins, the Liverp painter, by himself, has been presented to the Walker Gallery by Mr. John King.

Mr. W. L. Henderson, architect, of Aberdeen, died a days ago in his seventieth year. His firm, Henderson & S designed many Free churches, schools and parsonages.

The Subscriptions promised towards the contempla cathedral in Belfast do not amount to more than 17,000*l.* not one-tenth of the amount required.

The New Offices for the Tees Conservancy in Midd brough have been commenced. Messrs. Bottomley & W ham are the architects.

The Site of Christ Church, Birmingham, will soon be re for the builders of the new offices to commence operations.

The University of Chicago has set aside 5,000 dols t defray the expenses of explorations which are about to be u ducted under its auspices in Yucatan. A collection of hithe unknown ruins has been discovered lately some distance so east of the city of Merida, on the north coast, and a represen tive of the University paid a visit to the spot this winter. found the remains of what seemed to be an enormous tp dwelling, with buildings scattered around it over an are nearly a mile. The main edifice was built massively of st and the façades were literally covered with the most intri and beautiful carving.

THE
Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to rise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-Rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s.. by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ABERTILLERY.—June 12.—For rebuilding of two shops and business premises in Commercial Road. Messrs. Swash & Bain, architects, Midland Bank Chambers, Newport.

AMESBURY.—June 15.—For alterations and additions to the sick wards and laundry at the workhouse. Messrs. John Harding & Son, architects, High Street, Salisbury.

ASHBURTON.—June 15.—For erection of offices for the Ashburton School Board. Mr. H. M. Firth, clerk, Ashburton.

BASINGSTOKE.—June 21.—For erection of a joint isolation hospital. Mr. James Gibson, 3 New Street, Basingstoke.

BECKENHAM.—June 19.—For erection of a technical institute and public swimming-baths, including a covered bath 100 feet by 30 feet, an open-air bath 80 feet by 25 feet, 15 slipper baths, together with administrative laundry, boiler-house, &c., in Beckenham Road. Mr. F. Stevens, clerk to the District Council.

BRADFORD.—For erection of four houses at Ounsworth Street, Wakefield Road. Messrs. James Young & Co., architects, 62 Market Street.

BRADFORD.—June 15.—For erection of a store in Otley Road and Dover Street. Messrs. Rycroft & Firth, architects, Bank Buildings, Manchester Road, Bradford.

BRIDGWATER.—June 13.—For repairs and alteration of the town pound at the corner of Angel Crescent and Market Street. Mr. W. T. Baker, town clerk, King Square, Bridgwater.

BRIDLINGTON QUAY.—June 21.—For erection of dwelling-houses and a detached villa residence on the north side of Lansdowne Road and west side of Lansdowne Crescent. Mr. Samuel Dyer, architect, Bridlington Quay.

BRIGHTON.—June 30.—For construction of an underground convenience, with works connected therewith, around the base of the clock tower, Queen's Road, Brighton. Mr. Francis J. C. May, Town Hall, Brighton.

BRIGHTON.—July 27.—For alterations and additions to the public library, museum and art gallery on the Pavilion estate. Mr. Francis J. C. May, Town Hall, Brighton.

BROTHERTOFT.—June 12.—For enlargement of the Barley Sheaf school, at the Barley Sheaf, in the parish of Brothertoft. Mr. Jno. H. Tooley, 6 Bridge Street, Boston.

CANTERBURY.—June 16.—For alterations, additions, repairs, plastering and sanitary work to wards C2 male and female, and alterations to matron's quarters, at the Kent County Lunatic Asylum, Chartham Downs. Mr. W. J. Jennings, architect, 4 St. Margaret's Street, Canterbury.

CASTLETON.—June 12.—For erection of shops, stables and dwelling-house. Mr. Wm. Young, architect, Park Road, West Hartlepool.

CHESTER-LE-STREET.—June 12.—For erection of eight cottages at Daisy Hill. Mr. Black, Daisy Hill Branch Stores, Chester-le-Street.

CORNWALL.—June 19.—For erection of a fog-signal house, dwellings, &c., at Penlee Point, near Cawsand, Cornwall, for the Corporation of Trinity House, London, E.C. Mr. E. G. Verity, 31 Golden Square, London, W.

CORNWALL.—June 19.—For erection of six coastguard houses and an officer's house at Mullion. Mr. Alfred H. Jenkin, solicitor, 1 Alma Place, Redruth.

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CREWE.—June 14.—For erection of a chimney stack and buildings, including iron roof work and water-tank for the electricity works, Edleston Road. Messrs. Hopkinson & Talbot, architects, 29 Princess Street, Manchester.

CROYDON.—For erection of a private residence at South Croydon. Mr. W. Towell, architect, 21 Buckingham Street, Strand, W.C.

CROYDON.—June 13.—For erection of schools, with a central hall, for 1,220 children, in Ecclesbourne Road, Thornton Heath. Mr. H. Carter Pegg, architect, 6 Sudbury Road, Thornton Heath.

CROYDON.—June 20.—For repairs and painting at the public slaughter-houses, Pitlake. Mr. E. Mawdesley, town clerk, Town Hall, Croydon.

DURHAM.—June 10.—For alterations to premises, 25 Market Place. Mr. H. T. Gradon, architect, 22 Market Place, Durham.

DURHAM.—June 14.—For erection of a laundry at Blackhill. Mr. Geo. Thos. Wilson, architect, 121 Durham Road, Blackhill.

EDINBURGH.—June 26.—For extension of boiler-house, central station. Mr. Thomas Hunter, W.S., town clerk, City Chambers, Edinburgh.

FALMOUTH.—June 12.—For alterations to the Summerhill Hotel, Chapel Terrace. Mr. R. Billett, proprietor.

FAYGATE.—June 15.—For additions and alterations to the Beeches, Faygate, Sussex. Mr. William Buck, architect, Horsham.

FLEETWOOD.—June 16.—For erection of a museum at Rossall School. Messrs. Austin & Paley, architects, Castle Hill, Lancaster.

GLASGOW.—June 22.—For alterations to Polmadie old police buildings. Mr. John Lindsay, interim clerk, City Chambers, Glasgow.

GLOUCESTER.—June 12.—For erection of a cattle-shed and other works at the Field House Farm, Awre, and piggeries and boiling-house and other works at the New House Farm. Mr. Thomas Cadle, Lynwood, Denmark Road, Gloucester.

GRAYS.—June 12.—For erection of four pairs of semi-detached houses and other buildings at Grays, Essex. Mr. C. M. Shiner, architect, 3 Bond Court, Walbrook, London.

GUISBOROUGH.—June 14.—For erection of additional school accommodation at Skelton Green. Mr. W. Richardson, clerk to the School Board, Guisborough.

HALESWORTH.—June 13.—For erection of a new entra porch and cloakroom at the Wisset Board school. Mr. Art Pells, architect, Beccles.

HALIFAX.—June 20.—For erection of eleven houses Ovenden Wood. Messrs. Jackson & Fox, architects, 7 Raw Street, Halifax.

HALIFAX.—June 23.—For taking-down old cottages a erection of stabling and caretaker's house off Square Ro Mr. Joseph F. Walsh, architect, Lancashire and Yorksh Bank Chambers, Halifax.

HALIFAX.—June 28.—For erection of a detached v residence on the Greenroyd estate. Mr. Medley Hall, archit 29 Northgate, Halifax.

HALWELL.—June 19.—For erection of two cottages Halwell, Devon. Mr. W. F. Tollit, architect, Gate Hou Totnes.

HARRIETSHAM.—For erection of a master's house at National schools, Harrietsham, Kent. Mr. Hubert Benst architect, Maidstone.

HARRINGTON.—June 17.—For alterations and additions a dwelling-house, Church Road. Messrs. W. G. Scott & C architects, Victoria Buildings, Workington.

HARTLEY ROW.—June 12.—For erection of police cotta and cells at Hartley Row, Hants. Mr. W. J. Taylor, cou surveyor, The Castle, Winchester.

HERNE COMMON.—June 12.—For additions and alteratio at the union workhouse. Mr. J. E. Burch, clerk, 39 Cas Street, Canterbury.

HULL.—June 14.—For construction, on the north side the St. Andrew's Dock Extension, Hull, of a timber quay a shed, about 690 feet long, containing about 62,000 cubic feet timber, for the North-Eastern Railway Company. Mr. T. Newell, engineer, Dock Office, Hull.

IRELAND.—June 14.—For erection of school building Victoria Road, Lurgan. Messrs. Young & Mackenzie, arc tects, Donegall Square East, Belfast.

IRELAND.—June 15.—For rebuilding tower of Killa Cathedral. Mr. J. F. Fuller, architect, Brunswick Chambe Dublin.

IRELAND.—June 22.—For erection of a new coastgua station at Lawrence Cove, co. Cork. The plans and specifi tion can be seen at the office of the carpenter-in-char Queen's College, Cork.

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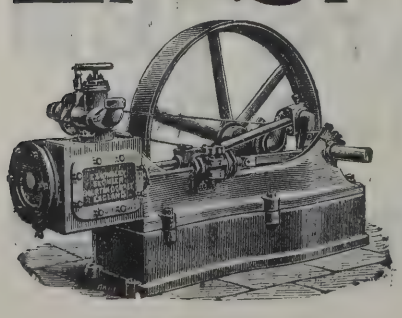
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[Mention this Journal.]

IRELAND.—June 27.—For erection of stationmasters' houses at their Bundoran and Belleek stations, for the Great Northern Railway (Ireland) Company. Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

ISLE OF THANET.—June 21.—For erection of cottage homes buildings at Manstone, and additions to the school at that place. Mr. Leonard Grant, architect, High Street, Sittingbourne.

KEIGHLEY.—June 14.—For erection of six separate water-closets and ash-places at Ebenezer Square and Wesley Place, Ingrow, and for erection of six trough closets and ash-place at The Walk, Low Bridge. Mr. William C. Haller, borough sanitary inspector, Municipal Offices, Keighley.

KELVEDON.—June 23.—For erection of four almshouses at Kelvedon, Essex. Messrs. Chancellor & Son, architects, Chelmsford.

KIDDERMINSTER.—June 13.—For erection of a lodge near the infectious hospital. Mr. Arthur Coomber, borough surveyor, Town Hall, Kidderminster.

LANCHESTER.—June 14.—For erection of the Tanfield infectious diseases hospital. Mr. G. T. Wilson, architect, 21 Durham Road, Blackhill.

LEWES.—June 17.—For pulling-down old premises and clearing the site adjoining the County Hall. Mr. F. J. Wood, county surveyor, County Hall, Lewes.

LEYTONSTONE.—June 14.—For erection of a water-tower at the workhouse. Mr. Sturdy, architect, 44 Finsbury Pavement, E.C.

LONDON.—June 14.—For erection of a timber diving platform and two rafts in the bathing pond at Parliament Hill, for the London County Council. Drawings and specifications at the Parks Department, 9 Spring Gardens, S.W.

LONDONDERRY.—June 13.—For extensions to shop and alterations at 12 Strand Road. Mr. W. E. Pinkerton, architect, Diamond, Londonderry.

LOSTWITHIEL.—June 22.—For erection of a United Methodist free church, with classrooms, and alterations to schoolroom. Mr. Sampson Hill, architect, Green Lane, Redruth.

LOUGHBOROUGH.—June 19.—For alterations and extensions to the Corn Exchange. Mr. A. H. Walker, borough surveyor, Town Offices, Loughborough.

MANSFIELD.—For alterations and additions to Co-operative Stores at East Kirkby. Mr. Lawrence Bright, architect, 9 St. Peter's Church Walk, Nottingham.

NANTWICH.—June 23.—For erection of a bridge over the Crewe Brook in Butterton's Lane. Mr. Joseph Bebbington, district surveyor, Willaston, Nantwich.

NEWBURY.—June 12.—For rebuilding the Cock Inn, Shaw, Mr. J. H. Money, architect, Newbury.

SCOTLAND.—June 13.—For erection of offices at Chelsea Croft, Luthermuir. The Hon. C. Forbes Trefusis, Fettercairn.

SCOTLAND.—June 13.—For alterations on the farm steading at Rosebrae, Elgin. Messrs. A. & W. Reid & Wittet, architects, Elgin.

SCOTLAND.—June 15.—For erection of the Clydebank burgh buildings, halls and baths, &c. Mr. James Miller, architect, 223 West George Street, Glasgow.

SCOTLAND.—June 19.—For erection of a hospital at Springvale, Ardrossan. Messrs. Fryers & Penman, architects, Largs.

SCOTLAND.—For erection of four-storey tenements at High Street, Dunbar, consisting of shops, dwelling-houses, and work shops. Messrs. Swanston & Legge, architects, Kirkaldy.

SEACOMBE.—June 12.—For erection of boundary walling, shelter, conveniences, &c., at the playground in St. Paul's Road, Seacombe, Cheshire. Mr. W. H. Travers, district engineer and surveyor, Public Offices, Egremont, Cheshire.

SHEFFIELD.—June 20.—For erection of infectious diseases hospital at Lodge Moor, comprising six pavilions for scarlet-fever patients, two isolation pavilions, one receiving pavilion, administrative buildings, nurses' and maids' homes, water-tower, &c., also for heating apparatus and for cooking apparatus, &c. Messrs. Flockton, Gibbs & Flockton, architects, 15 St. James's Row, Sheffield.

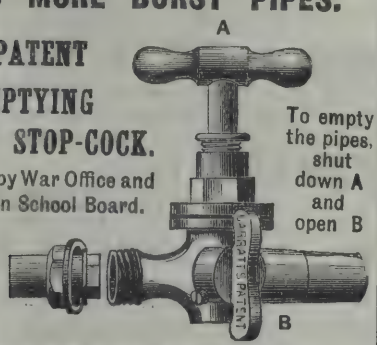
SHOTLEY BRIDGE.—June 14.—For putting in the foundations of a steel gasholder tank on the site of the works of the Shotley Bridge and Consett District Gas Company. Messrs. T. Newbigging & Son, engineers, 5 Norfolk Street, Manchester.

SOUTHALL.—June 19.—For erection of infirmary and probation cottages at the schools. Mr. A. Saxon Snell, architect, 22 Southampton Buildings, Chancery Lane, W.C.

SOWERBY BRIDGE.—June 16.—For erection of foundry, mechanics' and japanning shops and appurtenances in Victoria Road. Mr. A. Clement Williams, architect, 29 Southgate, Halifax.

ST. ALBANS.—June 27.—For erection of farm buildings and farm block, an isolation hospital, and six cottages on the

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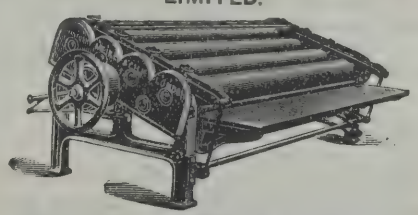
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asylum estate at Hill End. Mr. George T. Hine, architect, 35 Parliament Street, Westminster.

TOFT MONKS.—June 15.—For erection of three cottages at Toft Monks, Norfolk. Mr. Arthur Pells, architect, Beccles.

TRURO.—For erection of stands for the Australian Cricket Match, Truro, July 7 and 8. Mr. John Bray, hon. sec. Truro.

TUNBRIDGE WELLS.—June 19.—For erection of fifty-three four-roomed cottages and five blocks of tenements. Mr. W. C. Cripps, town clerk, Town Hall, Tunbridge Wells.

ULVERSTON.—June 14.—For raising the stone wall on the north side and part of the west side of the High Carley Hospital, providing and fixing a corrugated iron fence on the east and south sides of the High Carley Hospital, and providing and fixing unclimbable railing at the hospital. Mr. C. W. Dean, clerk, 3 Benson Street, Ulverston.

WAKEFIELD.—June 21.—For erection of vagrant wards at the workhouse, Hemsworth, Yorks. Mr. T. H. Richardson, architect, Hemsworth.

WALES.—For erection of a large block of offices, Mount Stuart Square, Docks, Cardiff. Mr. H. Tudor Thornley, architect, 100 St. Mary Street, Cardiff.

WALES.—June 12.—For extension and alterations to the Jersey Arms, Cwmavon. Mr. J. Cook Rees, architect, Neath.

WALES.—June 12.—For erection of Green Dragon Hotel and five dwelling-houses adjoining at Cadoxton, near Neath. Mr. J. Cook Rees, architect, Neath.

WALES.—June 12.—For erection of buildings, &c., for refuse destructor and chimney stack thereto at Barry. Mr. J. C. Pardoe, surveyor, Holton Road, Barry.

WALES.—June 12.—For improvements to front of Cesarea C.M. chapel, Upper Llandwrog. Mr. Robert H. Williams, Cae Glas, Upper Llandwrog, Groeslon, R.S.O.

WALES.—June 12.—For erection of a petty sessional court and police-station at Cross Ash, Mon. Mr. William Tanner, county surveyor, Newport.

WALES.—June 12.—For rebuilding Siloam chapel, Killay. Mr. W. W. Williams, architect, 63 Wind Street, Swansea.

WALES.—June 13.—For erection of two shops and dwelling-house in Denbigh Street, Llanrwst. Mr. Peter McIntyre, architect, The Square, Llanrwst.

WALES.—June 17.—For erection of a hospital, Carnarvon. Mr. Rowland Lloyd Jones, architect, Market Street, Carnarvon.

WALES.—June 17.—For alterations at Carmel chapel Treherbert. Mr. Jacob Rees, architect, Pentre, R.S.A.

WALES.—June 25.—For erection of a new schoolroom and alterations to present schoolroom; also the heating and ventilating of the chapel, for the Trustees of the English Congregational church, Blaina. Mr. W. S. James, secretary, 77 High Street, Blaina.

WALES.—June 26.—For erection of three classrooms, cloak-room and other works to the Cwmyrdderch infant school Cwm, near Ebbw Vale, Mon. Mr. R. L. Roberts, architect Victoria Chambers, Abercarn.

WALES.—For erection of manager's house, Trebanog, near Porth. Messrs. Veall & Sant, architects, Cardiff.

WALES.—For erection of a residence near Treborth railway station. Messrs. Grierson & Bellis, architects, Bangor.

WALES.—For alterations and additions to 104 and 106 Holton Road, Barry Dock. Mr. D. Ernest Knapman, architect Metropolitan Bank Buildings, Barry Dock.

WALTON-ON-THAMES.—June 15.—For erection of a building for a club and institute in Osborne Road. Mr. Geo. W. Ross, Walton-on-Thames.

WALTON-ON-THE-NAZE.—June 28.—For erection of a floral hall and conservatory buildings in the Round Garden. Mr Chas. H. M. Mileham, architect, 1 Lincoln's Inn Fields London, W.C.

WARRINGTON.—June 15.—For erection of police buildings and constabulary offices in Wilson, Patten and other streets Mr. R. Burns Dick, architect, 55 Northumberland Street, Newcastle-on-Tyne.

WEDNESBURY.—June 13.—For erection of a police-station at Darlaston. Mr. C. W. D. Joynson, architect, Butcroft Darlaston.

WHALLEY.—June 13.—For erection of a length of 150 yards of rubble retaining wall on the bank of the river Calder. Mr W. H. Schofield, county surveyor, County Offices, Preston.

WHITBY.—June 12.—For erection of two dwelling-houses and shops and other premises in Brunswick Street. Messrs R. Lennard & Son, architects, Cliff Street, Whitby.

WILLESDEN, N.W.—For erection of three cottages. Mr T. F. Shaw, architect, 60 Nicoll Road, Harlesden.

WIMBLEDON.—June 19.—For alterations and additions to the cottage at the pumping station, Durnsford Road. Mr. C. H. Cooper, engineer, Broadway, Wimbledon.

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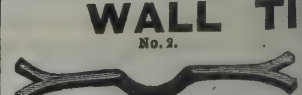
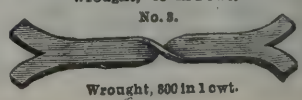
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WOLSINGHAM.—June 12.—For erection of two cottages with outbuildings, at Tunstall reservoir. Mr. Askwith, South Road, Bishop Auckland.

WORTHING.—For erection of a Wesleyan church and schools. Mr. John Wills, architect, Victoria Chambers, Derby.

THE NEW PALACE STEAMERS.

THIS well-known line of steamers has commenced its runnings for the summer. The *Royal Sovereign* plies between London and Ramsgate, calling (after June 20) at Southend, and leaves Old Swan Pier at 9.20 A.M., and Ramsgate for the return journey at 3.15 P.M. every day, including Sunday, but excluding Friday. The *Koh-i-Noor* will (after June 17) run between London and Margate daily, calling at Southend, and leaving, on the return voyage, Margate at 3.15 P.M. and Southend at 5 P.M.

La Marguerite will run (on and after June 28) to Southend, Margate, Boulogne and Ostend, and *La Belgique* (on and after July 1) to Southend, Margate and Ostend. These boats also sail from Old Swan Pier. It is open to intending travellers to go by boat and rail from Fenchurch Street or St. Pancras. One good feature has been introduced this season—the catering is entirely in the company's hands. With a continuance of the present favourable weather these deservedly popular boats should be largely patronised, and especially so as for parties of fifteen and over specially reduced fares are charged.

THE Swindon and District Hospital Board have accepted in an open competition the plans of Mr. G. Halliday and Mr. T. W. Rodger, architects, of Cardiff, for the erection of an extensive hospital at Swindon, and the joint architects have been instructed to prepare the necessary drawings to carry out the work. The same architects have been among the first three in each competition for similar works in which they have entered, and in the case of the Southampton Hospital, where there were forty-three competitors, they received the second premium. In the Swindon competition there were some twenty competitors.

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J. H. Hudson	£2,307 0 0
W. Moody	1,850 0 0
F. Blackburn	1,757 0 0
E. Corner	1,750 0 0
A. Gardam	1,749 15 0
T. Blackburn	1,664 0 0
J. RENNARD, Bridlington Quay (*accepted*)	1,550 0 0

For erection of a pair of villas. Mr. J. EARNSHAW, architect.

F. Blackburn & Son	£1,499 0 0
E. Corner	1,385 0 0
W. Barnes	1,360 0 0
T. Blackburn	1,329 0 0
J. H. Hudson	1,328 13 0
W. Moody	1,318 10 0
A. Gardam	1,158 14 6
E. WILSON, Bridlington Quay (*accepted*)	1,137 14 5

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J. H. Neal, Warwick Street, excavator and bricklayer	£309 8 0
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J. Walker, School Street, slater and plasterer	76 0 0
G. Varley, Settle Street, mason	72 15 0
J. Gell, Forshaw Street, plumber and painter	58 0 0

Rawlinson Street centre.

J. H. Neal, excavator and bricklayer	220 3 0
J. Walker, slater and plasterer	69 10 0
J. Tickle, William Street, carpenter and joiner	68 8 0
J. Gell, painter, &c.	42 0 0
W. W. Fairbairn, West View Road, mason	35 17 6

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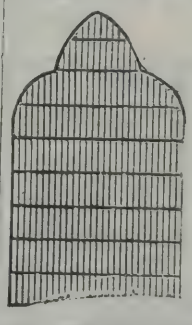
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For alterations to house in Luke Street.

G. Tucker	£495 10 0
S. Manning	450 0 0
H. Nott & Son	397 0 0
J. Davey	387 10 0

BURTON-ON-TRENT.

For alterations to the Stapenhill Vicarage, for the Rev. F. W. Meynell. Mr. THOMAS JENKINS, architect, 35 High Street, Burton-on-Trent. Quantities by the architect.

GEORGE KENNARD (*accepted on schedule of prices*).

For erection of artisans' dwellings (Block No. 1) on the Horninglow Estate, for the Burton-on-Trent Artisans' Dwellings Company, Limited. Mr. THOMAS JENKINS, architect, 35 High Street, Burton-on-Trent. Quantities by the architect.

HENRY EDWARDS (*accepted*) £3,862 10 0

BROMLEY.

For sewering, levelling, paving, metalling, channelling and making good Westmoreland Road and Spencer Road.

Westmoreland Road.

C. Ford	£906 0 0
H. Bentham & Co.	855 6 0
T. Lansbury	695 8 4
R. Stockwell	670 9 6
J. Mowlem & Co.	660 5 2
G. WILLSON, Walthamstow (*accepted*)	656 15 2

Spencer Road.

C. Ford	1,263 0 0
H. Bentham & Co.	1,177 9 1
T. Lansbury	1,009 2 0
R. Stockwell	930 8 10
J. Mowlem & Co.	917 15 3
G. WILLSON (*accepted*)	903 7 8

CHELTENHAM.

For reconstruction of the Montpelier Baths. Mr. JOSEPH HALL, borough surveyor.

CHANNON & SON, Montpelier Street (*accepted*) . £4,900 0 0

CLAYTON.

For construction of a reservoir, conduits and filter tanks at Clayton, Yorks. Messrs. MILNES & FRANCE, architects 99 Swan Arcade, Bradford.

T. SMITH, Bingley (*accepted*).

ECCLES.

For sewering, paving, kerbing, flagging, &c., in Joseph Street and Parrin Lane, Winton. Mr. ARTHUR C. TURLEY, borough surveyor.

Accepted tenders.

W. Snape & Sons, Eccles, for Parrin Lane	£2,909 0 0
W. A. Stamp, Urmston, for Joseph Street	321 0 0

ELGIN.

For laying concrete pavement, granite causeway, &c., in Lossie Wynd. Mr. ACTON A. TURRIFF, burgh surveyor.

Matheson & Co.	£1,323 7 2
R. Mackay	1,197 18 6
J. Mackenzie	1,172 14 1
R. Fraser	1,149 6 0
P. Tawse	1,098 5 3
Chisholm & Co.	1,087 1 0
J. Leith, jun.	1,073 9 0
T. MACLEAN, Elgin (*accepted*)	1,069 14 0

For erection of two shops and three houses in Harbour Street, Hopeman. Mr. JOHN MILNE, architect, Elgin.

Accepted tenders.

T. Miller, builder	£298 0 0
J. Gordon, carpenter*	159 15 0
J. Brodie, plasterer	86 5 0
J. Wilson, slater	40 17 0
A. Ross, plumber	39 14 0
J. James, glazier and painter	31 0 0
J. Johnston & Co., ironwork	20 0 0

* £75 for timber.

EXMOUTH.

For erection of a shop and dwelling-house in Exeter Road. Mr. R. M. CHALLICE, architect, 9 Bedford Circus, Exeter.

F. GRACE, Manchester Road (*accepted*)	£650 0 0
J. J. Lacey	650 0 0
W. J. Stokes	620 0 0

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HASTINGS.

For construction of a kiosk in the Alexandra Park. Mr. P. H. PALMER, borough engineer.

G. MILLER, St. Leonards (*accepted*)	£194 10 0

HEYWOOD.

For painting inside and outside the technical school.

R. TAYLOR, Manchester Street (*accepted*).

HULL.

For restoration of the exterior of the parish church of Holy Trinity.

QUIBELL & SON (*accepted*)	£607 15 0

KEIGHLEY.

For rebuilding the Queen's Theatre. Mr. F. MATCHAM, architect.

GREENHOW & MURGATROYD, Keighley (*accepted*).

LANCASTER.

For erection of a workshop at the electricity works.

Accepted tenders.

W. Harrison, mason.
J. Greene, joiner.
J. C. Johnson, slater.
H. P. Calvert, plumber.

For taking down and setting back certain garden walls on the ramparts and works connected therewith. Mr. J. COOK, borough surveyor.

R. THOMPSON (*accepted*).

LANCHESTER.

For erection of a stone bridge over the Smallhope Burn, at Donley Ford. Mr. W. CUMMING, surveyor, Lanchester.

J. Atkinson	£358 0 0
W. WHITFIELD, Shotley Bridge (*accepted*)	354 3 6

LIVERPOOL.

For erection of boys and girls and infants' school at the Cottage homes, Longmoor Lane, Fazakerley.

W. Tomkinson & Sons	£4,161 0 0
G. L. Desoer	4,120 0 0
P. Tyson	4,055 0 0
J. Paterson & Son	3,962 0 0
T. Spencer	3,929 0 0
W. Hall	3,922 0 0
WEARING & SONS, West Derby Village (*accepted*)	3,896 0 0

LEEDS.

For erection of a parochial institute for Emmanuel Church, Cavendish Road. Mr. HENRY WALKER, architect, 8 Upper Fountaine Street, Leeds.

T. HANNAM, Woodhouse, Leeds (*accepted*)	£3,838 10 0

LITTLEHAMPTON.

For boring, sinking, test-pumping operations and other works at Warningcamp, with a view to acquiring a permanent supply of water.

T. Tilley & Sons	£555 5 0
DUKE & OCKENDEN, Littlehampton (*accepted*)	329 5 0

LONDON.

For building works at the South-Eastern hospital.

Chimney shaft.

R. B. Hilton & Sons	£1,669 10 0
Harris & Wardrop	1,479 0 0
L. Whitehead & Co., Limited	1,075 0 0
G. Gross & Co.	1,042 12 4
J. O. Richardson	969 0 0

Alterations to boiler-house.

Harris & Wardrop	6,124 0 0
F. & H. F. Higgs	5,432 0 0
F. & F. J. Wood	5,223 0 0
G. Cross & Co.	4,685 9 0
L. Whitehead & Co.	4,525 0 0
J. O. Richardson	3,858 0 0

Whole tender.

Kirk & Randall	6,590 0 0

LONDON SCHOOL BOARD.

For exterior painting, Great College Street.

J. Willmott & Sons	£315 0 0
R. S. Buckeridge	280 0 0
H. Wall & Co.	222 0 0
Stevens Bros.	204 0 0
W. Brown	177 12 0
T. Cruwys	177 0 0
F. T. Chinchen	172 11 6
T. NICHOLSON (*accepted*)	153 0 0

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MAIDENHEAD.

For sewering, kerbing, channelling, road and footpath making, Ray Park Avenue. Mr. PERCY JOHNS, borough surveyor.

W. Lee & Son	£1,618 2 10
F. Talbot	1,498 14 1
T. FREE & SONS, Maidenhead (*accepted*)	1,468 8 0

NEWTON ABBOT.

For erection of a boundary wall and iron fencing on the east side of the workhouse grounds. Mr. SAMUEL SEGAR, architect, Union Street, Newton Abbot.

J. Stokes	£179 5 0
F. A. A. STACEY, Newton Abbot (*accepted*)	162 10 0

RIPPINGALE.

For construction of a brick invert to beck.

J. WORTLEY, Rippingale, Bourne (*accepted*)	£45 10 0

ROCHESTER.

For supply of stoneware pipes. Mr. WILLIAM BANKS, city surveyor.

Phillips & Son	£761 0 0
Knowles & Co.	756 0 0
Oates & Green	753 0 0
Albion Clay Co.	735 0 0
Wragg & Sons	735 0 0
Sutton & Co.	734 0 0
Woodward	733 0 0
Ames, Crosta & Co.	695 0 0
Turton Moor Sanitary Pipe Co.	691 0 0
Wright & Co.	688 0 0
Duckett & Son	673 0 0
Ropkins & Co.	657 0 0
PLACE & SONS, Darwen (*accepted*)	642 0 0

SOUTHPORT.

For painting, distempering, plumbing and joinery work at the Board schools, Bury Road, Birkdale.

A. Grayson	£141 5 0
A. E. Scarlett	132 0 0
T. Wainwright	125 0 0
W. Lowe	110 0 0
F. BRADLEY, 69 Upper Aughton Road, Birkdale (*accepted*)	102 0 0

TIVERTON.

For repairs to property. Mr. W. BARRONS, surveyor, Deepway, Tiverton.

W. Loosemore	£149 10 0
S. Manning	108 10 0
J. Sanders	106 5 0
J. Holcomb	104 0 0
G. Tucker	103 15 0
J. PARR, Newport Street (*accepted*)	103 6 0

For erection of a dwelling-house at Middle Hill, Washfield. Mr. WM. BARRONS, surveyor, Deepway, Tiverton.

C. Physick	£418 0 0
J. Sanders	388 15 0
J. Grater & Sons	369 0 0
J. HOLCOMB, West Exe South, Tiverton (*accepted*)	368 0 0
S. Manning	366 0 0

TROWBRIDGE.

For erection of the first portion of a technical school at Trowbridge, Wilts, for the Committee. Mr. THOS. DAVISON, architect, London. Quantities by Mr. GEO. FLEETWOOD, 3 New Court, Lincoln's Inn.

Stephens, Bastow & Co., Limited	£5,712 0 0
J. Williams	5,459 0 0
Long & Sons	5,130 0 0
Hayward & Wooster	5,090 0 0
G. Moore	4,898 18 11
E. LINZEY, Trowbridge (*accepted*)	4,716 0 0
W. Webb	4,638 9 0

TUTBURY.

For alterations to shop premises in High Street, for the Burton-on-Trent Co-operative Society, Limited. Mr. THOMAS JENKINS, architect, 35 High Street, Burton-on-Trent. Quantities by the architect.

A. GEARY, Burton-on-Trent (*accepted*)	£159 0 0

UPWELL.

For erection of a manse. Messrs. KERRIDGE & SONS, architects, The Club Chambers, Old Market, Wisbech.

Elworthy & Co.	£370 0 0
Girling & Co.	355 0 0
S. Hipwell & Co.	340 0 0
J. J. Jarvis	340 0 0
J. F. Parker	336 0 0
W. SUTTON, Upwell (*accepted*)	330 0 0

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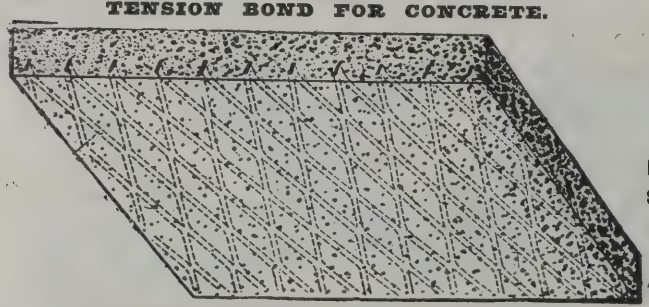
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WALES.

For erection of a minister's house, chapel house and Sunday school at the Croesywaen C. M. chapel, Waenfawr.

W. & O. Pritchard	£1,680 0 0
H. HUGHES, Bryngolen, Newborough Borlorgan, R.S.O. *(accepted)*	1,460 0 0
T. Roberts	1,460 0 0
H. Jones	1,392 0 0
D. Jones	1,300 0 0

ELECTRIC NOTES.

THE electricity committee of the Manchester Corporation have accepted the tender of the Westinghouse Electric Company, Limited, for the supply and erection at the Bloom Street generating station of four 1,800 K.W. combined engine and dynamo machines.

THE Portsmouth Corporation electric-lighting balance sheet shows a net profit on the year's working, after making allowances for the sinking fund, &c, of 2,500*l.* Of this sum it is proposed to hand over a cheque for 1,000*l.* towards the relief of local rates, treating the balance as a reserve fund. This is the fifth year the works have been open, and the result is considered satisfactory. The Corporation is now making arrangements to take over the tramways and run them by electric traction.

IT is stated that an offer has been made to the Southend Town Council by a London capitalist to construct a huge sluice sea-wall at a cost of 600,000*l.*, in return for which he asked permission to construct an extensive generating plant and use the tidal force for its working, with the idea of supplying the metropolis with electric motive power. He guarantees that there shall be never less than 3 feet 6 inches of water on the beach, which is dry for a long distance now at low water; in fact, it will be a huge marine lake. The proposal is under consideration.

THE Local Government Board, having given consent for Grimsby Town Council to borrow 43,500*l.* to carry out an electric lighting scheme in the borough, the Corporation public lighting committee have decided to recommend the acceptance of the tender of Messrs. Hewins & Goodhind, of Grimsby, for the erection of buildings and chimney shaft at a cost of 11,525*l.* 2*s.* There were five tenders altogether, one from Stalybridge, another from Leicester, and three local ones, Messrs. Hewins & Goodhind being the lowest.

AT the annual general meeting of the Institution of Electrical Engineers the award was announced of the premiums for papers read during the past session, as follows:—The "Institution Premium" to Mr. P. V. McMahon, the "Paris Electrical Exhibition Premium" to Messrs. Duddell and Marchant, the "Fahie Premiums" to Professor Oliver Lodge and Mr. G. Marconi, and extra premiums to Mrs. Bertha Ayrton and Mr. J. Elton Young. Students' premiums for papers read before the students' section were awarded to W. G. Royal-Dawson, M. R. Gardner, E. P. Howgrave-Graham, Leonard Wilson, I. R. Morshead and Mr. H. M. Dowsett. The "Salomons Scholarship" was awarded to Mr. H. J. Thomson, a student of the Central Institution. The premiums and scholarship cheque will be presented at the first meeting of the next session in November. Professor Silvanus P. Thompson, D.Sc., F.R.S., has been elected president for the ensuing year.

TRADE NOTES.

A LARGE new Cambridge chime clock has just been erected in the parish church tower at Watermoor, Cirencester, which has all the latest improvements, and is guaranteed by the makers, Messrs. John Smith & Sons, Derby, to keep time within fifteen seconds a month.

MESSRS. EDGAR KEELING, TEALE & CO, LIMITED, 102 Mount Street, Berkeley Square, W., have been entrusted with the execution of all the wrought-iron electric and gas fittings—the wrought-iron balusters and railing for main staircase, and the wrought-iron entrance gates at St. Olave's Union new offices, Tooley Street, S.E.

THE Omagh Asylum, now in course of erection, is being ventilated by means of "Cousland's Improved Climax" patent direct-acting invisible roof ventilators, supplied by the sole manufacturers—the "Climax" Ventilating and Heating Co., Limited, 93 Hope Street, Glasgow.

THE Cefnywaen new school, near Carnarvon, is being warmed and ventilated by means of Shorland's patent Manchester stoves, supplied by Messrs. E. H. Shorland & Brother, of Manchester.

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BUILDING AND BUILDERS.

THE foundation-stones of the new Providence Church at Churchbridge, Oldbury, were laid on the 5th inst. The new church, which will accommodate about 400 persons, is to be built at a total cost of 1,300*l.* Messrs. Wood & Kendrick are the architects, and Mr. J. Dallow the builder.

AT the monthly meeting of the Middlesbrough School Board it was decided that the plan of Mr. J. M. Bottomley, of Middlesbrough and Leeds, for the new Board schools at Ayresome, be accepted. The estimated cost of the new schools is 12,000*l.*

THE foundation-stones of a new Congregational chapel and Sunday school for Pickup Bank and Hoddlesden, near Darwen, were laid on the 3rd inst. The school and chapel are estimated to cost about 3,500*l.*

IT is proposed to erect a new Protestant hall for Liverpool, to be called the Latimer and Ridley Hall. This is to occupy a central position in the city, and to be erected at a cost of about 3,000*l.*

AT Deeplish, Rochdale, memorial-stones of a new Baptist school-chapel have been laid. The proposed building, which is expected to accommodate about 400 persons, is being erected to receive the congregation which for some time has worshipped in the mission-room in Fishwick Street. The cost of the school, exclusive of furnishing, will be about 1,400*l.*

A CONSULTING engineer and his son, in Birmingham, have this week secured, says the *Daily Telegraph*, British and international protection, under the Patent Acts, for an invention entitled "A Mechanical Bricklayer," for use in automatically laying, cementing and levelling bricks, slabs, stones and the like in the construction of fortifications, piers, bridges, viaducts, warehouses, dwelling-houses and buildings of every description. The "mechanical stoker" has proved a success, and the inventors consider the time ripe for the introduction of "a mechanical bricklayer." Should this development succeed the day may come when houses and factories will be built on the "penny-in-the-slot" principle. The thrifty landlord will put a copper in the hole and the automatic workman will duly lay a brick.

GEORGE HAIG, of Springfield Avenue, King's Heath, a carpenter in the employ of Messrs. Lidzey & Evans, builders, Birmingham, fell from a scaffold on which he was at work in the Station Road, King's Heath, on the 1st inst., and was killed. He overbalanced himself whilst reaching for a tool, and fell a distance of 35 feet, alighting on his head, which was terribly injured. The deceased was a single man, and had only recently arrived from Cardiff.

THE foundation-stone of the new English church at Weimar was laid on the 1st inst. by the Grand Duke. Among those who took part in the ceremony were the representatives of the English colony, the Chief Burgomaster, and the American Consul.

PLANS have been prepared for a cottage hospital for Blairgowrie and Rattray districts, extending from Glenshee and Strathardle in the north to Coupar-Angus on the south, and from Alyth on the east to Clunie and Delvine on the west, and building operations are expected to be begun in about a month. The site, kindly presented by Mrs. Macpherson, of Blairgowrie, extends to fully an acre, and is situated in a triangular-shaped piece of ground enclosed by Perth Road, Ann Street and Ewan Street. The hospital will be built on the most recently approved principles, and no pains have been spared in trying to evolve an institution embodying accommodation, utility and efficiency, combined with economical structure. The estimated cost of the building is 1,600*l.*, but at least 5,000*l.* is necessary for furnishing and partially endowing the institution.

THE memorial-stone of the mission halls in Ruchill Street, Maryhill, Glasgow, was laid on the 27th ult. The premises form a portion of a scheme of church building undertaken by Westbourne Free Church. For many years the congregation have undertaken mission work in the district, the rapid development of which has determined them to place a church there. It is intended that comparatively soon a church to accommodate about 800 persons shall be erected on the same site, and that the mission premises shall be handed over to the new church. The halls will occupy a frontage to Ruchill Street of 42 feet, and provide on the ground floor a hall measuring 47 feet by 40 feet, with a lesser hall 16·6 feet by 22 feet, and a small room 8 feet by 13·6 feet. On the upper floor there will be a hall 16·6 feet by 45 feet, divided with a folding partition, a library and a sewing-room. At the back of the premises a house of three rooms and kitchen will be provided for the beadle. The elevation to Ruchill Street is of an ecclesiastical character, which will harmonise with the future church. The halls, which are principally lighted from the roof, will be fitted up in the most approved way. The architects are Messrs. John Honeyman & Keppie.

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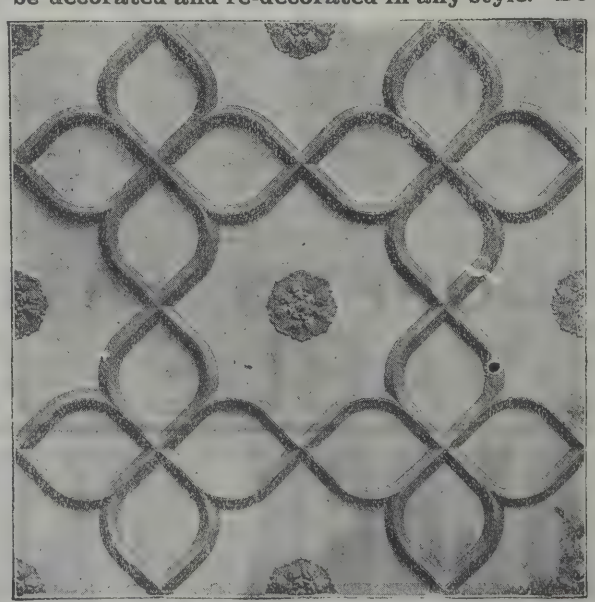
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THE foundation-stone of a new Catholic blind asylum, in extension of the schools for the blind in Brunswick Road, Liverpool, was laid on Sunday last. These schools had been altered and extended several times to meet increasing demands for accommodation, but still the requirements are unsatisfied. Some time ago the governing committee decided to erect a new home in the country to which the children could be drafted, and after anxious consideration it was decided to erect the new asylum in West Derby. A site was chosen adjacent to Rice House, in Yewtree Lane, and here the new building will be erected. The building will be of brick, in the Gothic style of architecture, of two storeys. The front will be at the north-west corner of Yewtree Lane, and the main entrance in the centre of the building. There will be a large entrance-hall, extensive corridors right and left of the entrance giving access to the schoolrooms, dayrooms, parlours, sisters' rooms, &c., and a kitchen, dining-room and laundry will also be provided. The building will accommodate twenty-six children, with room besides for an infirmary of six beds, while a small temporary chapel will be arranged. The total cost, including furniture, is estimated at 4,000*l*., which money has been borrowed from the Liverpool School Board. The architects are Messrs. Sinnott, Sinnott & Powell, and the contractor Mr. M. Fogarty.

VARIETIES.

THE Prince of Wales will lay the foundation-stone of the new buildings of the Royal School of Art Needlework at the corner of the Imperial Institute Road, South Kensington, on the 23rd inst.

THE new reformatory at Loanhead was opened on the 3rd inst. The building, which is a commodious structure, will accommodate about fifty girls, the old place at Dalry having proved too small for the requirements. The buildings have cost about 6,250*l*.

AN elaborate oak reredos, consisting of shafts, pinnacles and arcading, has just been dedicated in St. Andrew's Church, Eccles, near Manchester. The whole forms a frame to a sculptured panel in high relief; subject, The Lord's Supper. The reredos was designed by Mr. Frank P. Oakley.

THE new fire brigade station which has been erected in King Street was formally opened by the Corporation on the 31st ult. The building is of three storeys, and all the necessary equipments are provided for a permanent staff. The cost of the buildings is about 12,000*l*.

THE new schools which have been erected in connection with St. Mary's Church, Aston Brook, Birmingham, were opened on Saturday afternoon. They will accommodate about 400 children and have cost about 3,000*l*.

THE enlargement of the nave and the widening and renovation of the chancel of Christ Church, Barnton, Northwich, have been commenced. A stained-glass window is being inserted in the chancel in memory of the late vicar (the Rev. S. L. Laidman).

ON the occasion of the Prince of Wales's visit to Hammersmith to lay the foundation-stone of the new Savings Bank buildings of the General Post Office on the 24th inst., his Royal Highness will drive in semi-state, and with an escort, from Marlborough House to Hammersmith Road. The Post Office Volunteers will form a guard of honour inside the large marquee which is to be erected, and will also furnish the band. Places in the large marquee will be reserved for important officials.

WE understand that Mr. Wm. J. Moore, the head of the street lighting department of the Welsbach Incandescent Gas Light Company, Limited, is leaving that company, and is about to take up similar duties in the New Sunlight Company, where he is to be entrusted with the organising of a very complete department.

IT is announced that at the Paris Ecole des Beaux-Arts it is intended to open, but not till next year, three special ateliers for women—for painting, sculpture and architecture respectively. Up to the present time only one lady pupil has entered her name as an intending student in architecture, but it is expected that the opening of the new atelier will soon attract others.

ILLUSTRATIONS.

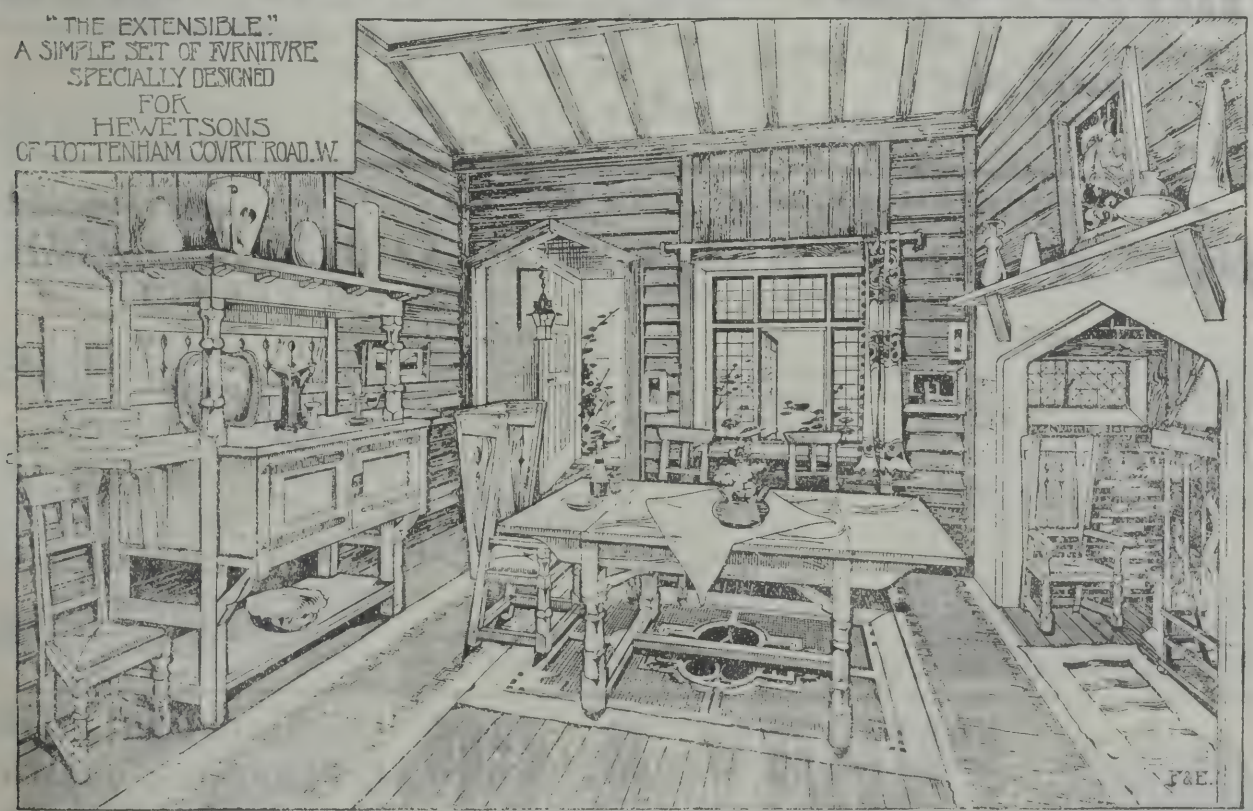
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AT Droitwich, on the 3rd inst., a new station on the Great Western Railway system was opened. The erection of the station has been rendered necessary by the increasing number of visitors to the brine baths. The Great Western Railway Company were stimulated to take up the work by a gift of land from Mr. John Corbett, a magistrate resident in the town. They purchased another parcel of ground, and erected a new station costing nearly 7,000*l.* and furnished with up-to-date sanitary and other appliances. The platforms, 500 feet long, are on a level with the floor of the carriages. There are sheltering verandahs, with glass let into the roof, both within and without the station. The waiting-rooms are cheerful, the platforms well-lighted, and the whole station presents a bright and cheerful appearance.

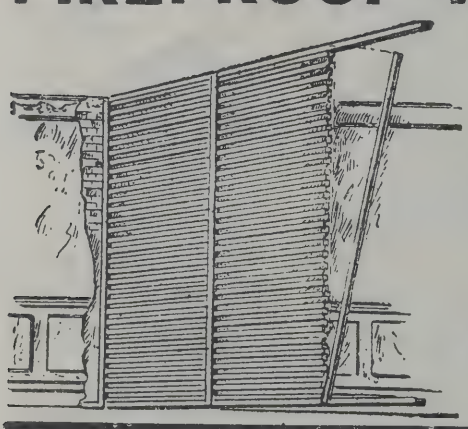
THE new bridge over the river Southesk at Kirkton of Clova was opened with considerable ceremony on Friday last. For many years the need of a bridge has been much felt in the district, the communication across the river being by means of a ford, which was frequently impassable and often dangerous. Year after year Glen Clova has increased in popularity as a holiday resort, and up till now, for want of a bridge, driving parties have been largely restricted to one side of the beautiful glen. The bridge itself, which is according to plans prepared by Mr. Donald Ross, road surveyor, is a handsome structure. It has a span of 45 feet, and is built of local whinstone with cement foundations, the hewn work being Kirriemuir stone. The cost of the bridge was about 700*l.*

THE Yorkshire district meeting of the Incorporated Association of Municipal and County Engineers took place at Sheffield on Saturday. Members of the profession from all parts of the country attended in large numbers. The visitors were welcomed to the city by the Lord Mayor (Mr. Alderman Clegg), with whom they afterwards lunched. After a discussion on a paper by Mr. C. F. Wike, on "Ten Years of Municipal Work in Sheffield," the party spent the remainder of the day in visiting various public works under the control of the municipality.

THE new premises for the Y.M.C A., at Bedford, are completed, and form a conspicuous pile of buildings, of which the town may well be proud. The architects are Messrs. Mallows & Grocock, who are to be congratulated upon the satisfactory realisation of their ideas. The builder, Mr. T. H. Coleman, of Foster Hill Road, Bedford, also deserves praise for his part of the work. The buildings have been so constructed that the outside of the ground floor is composed of shops, the Y.M.C.A. premises being behind and above these. The large hall on the first floor will be available for the public, upon occasions as well as for Y.M.C.A. meetings. This hall is capable of seating some 500 persons. There is a gallery at one end; opposite is the platform, which is placed in a sort of stage recess which is admirable as regards acoustics. Behind the platform end of the hall is an ante-room and a ladies' cloak-room there is a suite of five rooms called the café suite, a public bar a ladies' room and a members' room. The kitchen has been constructed on the top of the building, with a view of preventing cooking smells, &c., pervading the premises. The resources of the café are large; some 100 persons can be, if necessary, accommodated to dinner and 200 to tea. There are four bedrooms provided, and a caretaker's suite of rooms, well fitted with every convenience. The members' suite of rooms comprises a Bible-class room, social-room, reading-room, which can be united into one large room by the sliding back of a couple of patent partitions. Lavatories and other conveniences are also provided. Upon the ground floor is a gymnasium, and opening off from it a dressing-room, lavatories and shower-bath.

THE formal opening took place on the 3rd inst. at Horton near Epsom, of the Manor Asylum, erected to accommodate 700 patients. The site was purchased by the London County Council in 1896, and consists of 1,060 acres of beautifully wooded ground, for which 40,000*l.* was paid. Ninety-four acres of the land have been appropriated to the present asylum, and the old Manor House, which forms the central object in the group of buildings, has been enlarged and adapted for the residence of the medical superintendent, Dr. F. Bryan, two assstant medical officers, a matron, Miss Morgan, five sub-officers, and sixty-two nurses and servants. The old stables and coach-house have been converted into the laundry. On either side of the Manor House temporary buildings have been erected for the patients, which consist of structures framed in wood, having brick foundations, the exterior walls being of corrugated iron, with layers of felt between the wood and iron. The buildings for the use of the patients are all one storey high, and each block has a separate scullery and store-rooms. All the wards have a pleasant outlook. The recreation hall is a fine structure which will seat 400 people, and here religious services will also be conducted. The water supply comes from a boring 450 feet deep, and the lighting is by gas. Workshops, laundry, kitchen, and all other buildings necessary for the enterprise, are constructed and fitted up in accordance with the

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latest demands of science. There is a block for chronic cases which will house 110 patients, and two infirmaries which can receive fifty-nine cases each. The 700 patients for this asylum will be distributed amongst eight blocks, of which three are already finished. For the portion now opened a sum of 112,000*l.* will be expended. The building works of the Horton main Asylum, now in progress, for 2,000 patients, is not included in the amount.

THE new Birmingham library, which has been erected at the corner of Margaret and Cornwall Streets from the designs of Messrs. Cossins, Peacock & Bewlay, and will replace the old premises in Union Street, is to be opened to-morrow (Saturday). The new building is in a quiet and restrained style appropriate to the uses to which it is dedicated. The elevations are in the English Renaissance style, carried out in Ruabon brick and white Hollington stone, with Westmoreland green slates for the roof. The building consists of two blocks at right angles the one to the other. On the Margaret Street side the façade of two storeys is divided into three sections—a gabled portion at each end—and between them a slightly recessed division, further subdivided by piers between the windows. The porch is of stone, and the large circular-headed windows have stone mullions and borders, the arches being broken by key blocks. Over the entrance appears in incised lettering the Latin motto which appeared upon the front of the old building, which has been the home of the library for close upon a century—"Ad mercaturam bonarum artium profectus et tibi et omnibus ditesces." To the right of the doorway, which is closed by a wrought-iron sliding gate, is a tablet recording the dates relating to the new and to the old building; while on the left is a window giving light to a small apartment which is to be used as a telephone call office. Upon entering the visitor finds himself in a spacious hall, upon the further side of which is the segmental counter of the book-issuing department. To the left, and having windows opening on one side to Margaret Street and on the other to the area at the back, is the main lending-library apartment. The shelves are not against the walls, as was largely the case in the old building, but stand out right and left of a central avenue. They are wooden adjustable shelves, on steel frames, on the latest system, supplied by the Library Bureau of London. The room is beautifully light, and the light reaches the whole of the shelves. In the block which has its windows to Cornwall Street are a series of rooms devoted respectively to the clerks, the librarian and the committee. These, while *en suite*, have their separate doors to a corridor, upon the opposite side of which is the lady subscribers' room and lavatories. Ascending by a staircase to the upper floor, access is obtained to the general reading-room, 54 feet by 35 feet, and a conversation-room, 38 feet by 23 feet. These two rooms are divided from one another by sliding doors, which enable the two to be thrown together for purposes of assembly if occasion should require. The reading-room has a portion of the ceiling coved with exposed timbers ornamentally carved, adding greatly to the handsome appearance of the apartment. It is stated that it will constitute the finest general reading-room to be found in any proprietary library in the kingdom. It is proposed that it shall be used both by gentlemen and ladies—the ladies' separate rooms not being supplied with papers. Upon the Cornwall Street side of the upper floor has been arranged a room for rare books, and the smoke-room and ladies' retiring-room reserved for the special use of proprietors who pay the extra subscription. To each of these there is additional lavatory accommodation. Above these on the attic storey are storage rooms for books. A very roomy basement contains a library for the books less in request, binding-room, clerks' messroom, caretakers' residence and the heating appliances. In the yard, approached by an inclined plane from Cornwall Street, is a large shed for the storage of cycles, a convenience which will doubtless be very highly appreciated by many who use the library. The arrangements altogether show that they have been the subject of much well-directed thought on the part of the architects, librarian and committee. The internal woodwork is of pitch-pine, adamant plaster is used for the principal walls, and wood blocks are used for flooring. Electricity is used for lighting the whole establishment and there is not a gaspipe in the place. The cost of the new library is about 10,000*l.*, and the builders (Messrs. J. Barnsley & Sons) have been engaged upon the work just over a year.

THE Right Rev. Dr. Brindle, D.S.O., Bishop of Hermopolis, and auxiliary to the Cardinal Archbishop of Westminster, performed on the 25th ult. the ceremony of opening the new church which has been erected in connection with the Franciscan convent at Bocking, Essex. The new building has been carried out in the Gothic style of architecture, with a belfry at the side, the materials used being red facing bricks with stone dressing, and windows of cathedral tinted glass. It comprises, in addition to the church, all the necessary accommodation for the nuns.

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MESSRS. CHARTERIS & LONGLEY'S new illustrated price list contains a full, and even elaborate, description of their patent system of wood-block flooring, and the explanation is rendered clearer by the aid of sections and diagrams. The advantages claimed for this kind of floor are many, among others that it is firm and level and has a much superior appearance to the ordinary boarded floor; that it is also more durable, noiseless, sanitary, fire-resisting and, if properly laid, damp-resisting; that its use converts cold, damp basements into comfortable kitchens, offices, or warerooms, and, occupying less space than ordinary boarded floors, gives greater headroom; and that if the entire construction be on modern fireproof principles the architect is able to give loftier ceilings, or more than save the cost of wood-block floors in the reduced height of buildings.

MESSRS. YATES, HAYWOOD & CO., of 95 Upper Thames Street, have sent us their catalogue, which in the new edition attains proportions which are truly monumental; nor is the size in any wise disproportionate to the quality, which is excellent. Many of the illustrations are in artistically-executed chromo-lithograph, while those which are in black and white are of commendable sharpness and finish. An excellent feature in the arrangement of this catalogue, and one which will greatly enhance its value as a book of reference, is the linen-protected marginal index to the various sections into which the book is divided. These relate to stoves and interiors, dog stoves, mantels, fender curbs, kitcheners, gas stoves, stable fittings, garden seats, air stoves, gates, railings, verandahs, brackets and cantilevers, staircase balusters, spiral staircases, ventilators, manhole covers, window frames, &c., &c. All these diverse sections are fully illustrated, and all prices are given, and the book, which consists of some 460 folio pages, will be found invaluable to users of the various articles and appliances described.

THE new catalogue which has reached us from Messrs. Thomas Crapper & Co., of Chelsea, is an excellent example of careful compilation and attention to detail. It contains upwards of 160 pages, on each of which appear carefully-executed drawings of the various sanitary wares and appliances for which the firm is known. These, it is hardly necessary to remind our readers, comprise drain-pipes, channels, bends, traps, junctions, chutes, frames and covers, ventilating and other valves, &c. Drain-testing plugs, sinks of various descriptions, closets, lavatories, baths, boilers, radiators, taps, cocks, and garden fittings. Messrs. Crapper & Co. notify u that having their works well equipped with modern machine and a staff of skilled workmen they possess exceptiona facilities for executing with speed and efficiency any repair connected with valve closets, water waste preventers, bath and lavatories, water, steam and gas fittings, &c.; and as the foundry adjoins the works, and possesses many other advantage castings can be supplied from customers' own patterns.

FORESHORE GROYNES.

AT a meeting of the Society of Engineers, held at the Roya United Service Institution, Whitehall, on Monday evening June 5, 1899, Mr. John C. Fell, president, in the chair, a pape was read by Mr. R. G. Allanson-Winn, entitled "Foreshore Pro tection, with special reference to the Case system of groyning.

In introducing the subject the author referred to the advan tages of utilising the destructive forces of the sea for construc tive purposes, and stated that his object was rather to give a account of what had actually been accomplished in tha direction than to advance his own opinions or theories. Deal ing with the question of changes constantly going on in th configuration of the country, he took as an example 30 miles o the Yorkshire coast, and calculated that, at a moderate com putation, over 47,500,000 cubic feet of material were annuall taken from the coast between Flamborough Head and Spurn Point. Where did it all go to? Much was doubtless deposited at the mouth of the Humber, greatly to the detriment of tha estuary, and probably more was carried down southward by th flood tide, and deposited along with material eroded from th Lincolnshire coast in the Wash which was gradually silting up The erosion, in the shape of falling cliffs, was noticed now and taken account of; what did not so readily meet the eye was th gradual deposit beneath the sea, and this accretion of silt would suddenly show itself some time next century, when possibly 100,000 acres of land in the Wash would suddenly by compari son spring into existence, and be added almost at once to the acreage of England. Taking one century with another we did not probably gain or lose much of our area. The addition o 100,000 acres in the Wash alone would make up for a good many years of cliff erosion.

Having briefly quoted certain conflicting opinions on the moot point of the travel of beach at various depths, the author

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endeavoured to show that, as Dungeness Point was steadily moving out into 100 feet of water, there was strong evidence that shingle, of which the point is entirely composed, is capable of motion in water at least 100 feet in depth. Allusion was then made to the unprecedented encroachment of the sea during the past year at Glenbeigh, on the southern shore of Dingle Bay, co. Kerry, an average of 120 feet being recorded for a distance of over 2,000 feet. The problem here involved the protection of about 600 acres of land and some house property. The situation was one of exceeding gravity, and it had been decided to put in the groynes invented by Mr. Edward Case, of Dymchurch, because this system of low groyning had been so successful at other places where the natural difficulties were greater.

Having alluded to the usually accepted methods of dealing with the question of foreshore protection, Mr. Winn pointed out that these oft-repeated and usually accepted methods had frequently met with but indifferent success, and that until Mr. Case brought out his system no one had ever promulgated a scientific theory as to the curve at which a shore should lie, and had also devised a simple and inexpensive form of groyne which should cause the sea itself to build up that shore to its required curved surface of repose. Mr. Case was able, by means of tables which he had constructed and the due consideration of certain details, such as range of tide, nature of shore, sections, &c., to build up any shore, save only an actually rock-bound coast, to an angle at which it would lie with the minimum chance of erosion or alteration of form.

The paper was illustrated by diagrams showing, by means of sections, the actual gains at Dymchurch, Deal, Southwold, Lowestoft and Sheringham—which places were selected from a great many where the system had been successfully applied. The author contended that the invention was to be recommended by reason of its theoretical soundness, its practical utility and economy, and by its success.

PAVING OF TOWNS.

A PAPER was prepared by Mr. C. F. Wike, city surveyor, Sheffield, for the benefit of the members of the Incorporated Association of Municipal and County Engineers who visited the city on Saturday. In it was described some of the municipal work carried out in Sheffield during the last decade in connection with his own department. Mr. Wike said, with certain exceptions, the main streets were twenty years ago narrow and tortuous. That description still applied to some of them, but great improvements had recently been made both in width and line, and those were still going on on an extensive scale. The gradients, while favourable for purposes of drainage, made the question of a suitable form of paving a most difficult one, and there was a great variety of pavements in Sheffield, as the following table showed: — Wood, nearly 3 miles, about 2 miles of which had been laid since January 1898; granite, 21½ miles; Inverkeithing, 1½; gritstone, 21½; boulders (a local name for small rough sets), 47½; tar macadam, 7½; dry macadam, 212: a total of 314½ miles. The proportion of macadam, unfortunately for the district rate, ranked high, and cost was not the only disadvantage. Many streets had gradients of 1 in 10, 1 in 8, and even 1 in 5, and when there was a heavy rainfall the macadam could not remain upon the surface of such streets, but was washed either upon the low-lying roads or into the sewers, from which eventually it had to be removed at great cost. About 300,000 tons of macadam had been used during the last ten years, a large proportion of which had disappeared in the shape of dust, or had been carted away as mud or deposited in the sewers. In Sheffield the cleansing of the central parts of the town was done by a separate department, and only the outlying roads by the Highway Department. In his opinion, however, the maintenance and cleaning of macadam roads should be in the same hands. Trial lengths of the different pavements laid in Sheffield had been carefully watched, and the figures so obtained were as follows:—Life in streets of heavy traffic: Granite, average at least twenty-one years; wood (red), average about seven or eight years; gritstone, rarely more than five or six years in main streets; tar macadam in busy suburban road over four years; dry macadam entirely according to traffic and other conditions. The last remark applied with almost equal force to the other pavements. It was a most difficult matter to give reliable average lives for pavements, and to make the information really useful it should be accompanied by figures as to amount and nature of traffic, gradients, width of road and other local conditions. Where wood was laid against tram rails the life was very uncertain. Pavement of this class laid in Sheffield within the last nine months was already grooving, as well as gritstone and Inverkeithing laid about the same time. With regard to gritstone, which was practically a local stone, numerous experiments had been tried with a

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view to prolonging its life under heavy traffic. Concrete foundations had been used, both by himself and his predecessor, but these had proved a failure. In one main street, paving of this kind laid on concrete was thoroughly worn out in 3½ years. In another street, forming part of a tram route, 7-inch Lancashire sets had been laid on concrete, and the result was being closely observed. So far, the most satisfactory foundation for gritstone seemed to be hand-pitched rubble, with bedding of hard chips. Within the last few years a whinstone from the Inverkeithing quarries had been introduced into Sheffield, and had found favour on account of its quietness and non-slipperiness. It, however, wears very rapidly, especially under traction-engine traffic or along tram-lines. In one case where it was laid under the latter condition it wore ¾ inch below the level of the rails in less than twelve months. The paving immediately abutting upon the rails was then taken up and relaid with a "hit-and-miss" course of granite sets next each rail, to equalise the wear a little. It is now less than two years since the relaying, but the Inverkeithing was from 1½ inch to 2 inches below the level of the granite, and must soon be taken up. His experience tended strongly to prove that no material would stand next to tram-lines but granite, and even that after a time became grooved.

Mr. J. P. Barber (Islington), in moving a vote of thanks to Mr. Wike for his paper, said he quite agreed with that gentleman that the maintenance and cleansing of macadamised roads should be in the same hands. Mr. Wike had treated gritstone sets in the best possible way, yet that had very little effect in prolonging their life. With a stone of such a nature it mattered very little whether it was put on a concrete or a rubble foundation, because that did not affect the wear of the surface of the sets by the traffic. There was no question what kind of sets should be used on streets subject to heavy traffic. As between gritstone and granite there could be but one opinion. If a satisfactory road and true economy were aimed at, one must use granite on roads over which there was heavy traffic. He came to that city expecting to find it a long way behind in respect of the paving of its main thoroughfares, but was agreeably surprised to find they were paved and maintained in a manner which would not discredit one of the best and most populous districts of the Metropolis—the district he represented. The wood in Sheffield had evidently been laid down by someone who understood the requirements of the case, and had brought to bear on the work great care and skill.

Mr. E. G. Mawby (Leicester) seconded the resolution. He said Sheffield could not have a better authority than its city surveyor as to what was best for the paving of the city, and he did not think the Corporation could do better than stick to granite and wood. With regard to the bacterial treatment of sewage, it was gratifying to hear that the results of Mr. Wike's experiments were satisfactory, and he believed there was a great future for the system.

Mr. F. Baker (Middlesbrough) advocated the use of wood as the best for streets lined with shops, and explained that in the district under his control every alternate block next the tram rail when in a wood street was of chilled iron.

Mr. Pritchard (Birmingham) agreed that the paving of Sheffield was second to none in the country. They could not suggest as between the use of granite and wood, for no gentleman was better qualified to do that than Mr. Wike, who knew the class of traffic which the pavement had to withstand.

Mr. Price (Birmingham) contended that it was a question of policy for a corporation whether the town could afford to pay for a certain class of pavement or not, and not for the surveyor to decide. The official who was responsible for the repair of the pavement should also be responsible for the cleansing of it, and should have under him the sewering arrangements.

The president (Mr. Claude Robson), in supporting the resolution, said on the per unit of traffic, and not necessarily the aggregate traffic, granite sets were distinctly cheaper than wood, and in London they would be using granite if it were not that the people were more neurotic than the people in the north.

The resolution was carried with acclamation.

Mr. C. F. Wike, in returning thanks, said all the work had not been done by one man, and he had to thank the members of the City Council for the great support they had given him during the last ten years, without which he could not have got along at all. He also desired to acknowledge the hard, conscientious work done by his staff. Some of them had left Sheffield in order to take up better positions elsewhere, and he was glad to see some of them taking part in that meeting.

BRIGHTON TOWN HALL.

THE extensive alterations which have been in progress at the Town Hall, longer than some people care to contemplate with complacency, are nearing completion. The central hall, says the *Sussex Daily News*, is still a mass of scaffolding from floor

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to roof, and though it may seem to the uninitiated that there remains enough to be done to keep the large staff of workmen busy for months to come, experts are able to say a few weeks will suffice to put the finishing touches. The work was commenced in January 1897, but has been much delayed owing to the fact that the building could not be given over absolutely to the contractors, who have had to undertake the structural alterations in sections. The contract price was 30,000*l.*, but extras have swelled it considerably. A strong feeling still obtains that the wiser plan, and perhaps the cheaper in the long run, would have been to build an entirely new town hall; but, be that as it may, an inspection of the work proves that the best has been done under the circumstances. There is little that one familiar with the old building will recognise in the new with the exception of the exterior, though even this has undergone considerable alteration, a new wing having been added on the east side of Bartholomews and an extension into Market Street also carried out, to say nothing of the vast improvement in the lighting by the inletting of a number of additional windows. Inside scarcely a trace of the old order of things is to be found. The council chamber stands "where it did," but that is about all.

The Town Hall proper and other rooms which adjoined it have been swept away and utilised in the provision of an imposing suite of committee rooms; the town clerk's corner overlooking Market Street is now the happy hunting ground of the rate collectors and the accountant's department generally, and where stood the old police-court and police-station the town clerk and his assistants now hold sway. The surveyor's department and the medical officer of health and his staff are located in the east side of the buillding, and generally speaking the offices have been admirably mapped out. Practically all the departments are already installed in their new quarters, and the confusion and wild state of chaos that formerly existed, owing to the ill-adapted nature of the building, have given place to perfect order and system. Each department has now ample accommodation, adequate apparently for all time, with the single exception perhaps of the accountant's staff, whose numbers have appreciably increased since the plans were drawn, and who appear, by comparison with other branches, to be somewhat cramped. Some inconvenience, too, may result from the surveyor's department having offices on several different floors, but otherwise the plans seem to be incapable of improvement. Taking the offices as a whole they are fine lofty apartments, and all heads of departments have private rooms. Most of the fitting has yet to be carried out, but will be in keeping with the good taste with which everything else is being done, and the public will be interested to know that all departments are easily accessible from the main entrance. This, as formerly, will be on the north side of Bartholomews, and once in the entrance hall one will be confronted by the main staircase, on the completion of which workmen are now so fully occupied. It is a very imposing bit of work, with a marble tread, fine columns, and ornamental balustrading, and leads to a series of galleries which open on to the various offices and rooms on each floor, the floors being also connected with an hydraulic lift. A very noticeable improvement in the central hall is that of light, gained by the insertion of a lantern light in the roof. A general idea of the arrangement of the new building can perhaps be best conveyed by an allusion first of all to the sub-basement. This has been utilised for store and strong rooms for the various departments. In the basement the new wing extended to the eastward houses the police force and a section of the surveyor's staff, and it should be pointed out that none of these offices are underground, being on a level with the east side of Bartholomews.

On the ground floor are the new police-court, with an adjoining suite of rooms for the use of the magistrates, counsel, witnesses, &c., the town clerk's general office and offices for the sanitary, rate collecting and accountant's departments. A prominent place is given on the first floor to the mayor's parlour. This opens out on to a balcony in the new east wing, and has been tastefully upholstered, while the walls are adorned with portraits of some of Brighton's public men. On the same floor are the mayor's reception-room, one of the finest apartments in the building, and more offices for the town clerk, surveyor and accountant, and gallery of the police-court. The council chamber and committee-rooms take up nearly the whole of the accommodation on the second floor, with the exception of another section of the surveyor's offices. The council chamber has been enlarged by extending the west wing into Market Street, while the wall on the east side has been thrown back for the purpose of forming an ante-room for members of the council. There is still a good deal to be done in the council chamber, although the work may be said to have reached an advanced stage. It will be the only apartment in the Town Hall, besides the police-court, entirely fitted in oak, and will have entrances, the principal one being through double doors from the central staircase. This will be for the members' use, the public staircase being on the west side and

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entered from Market Street. The members' seats are raised and in three rows of semicircular shape, the mayor's chair having been moved from the north to the south side of the room. Above him is a new press gallery, reached by a spiral staircase. The accommodation on the third floor comprises the surveyor's drawing offices, custodian's apartments and store-rooms. The building will be heated throughout by hot water, and lighted by electricity.

LINCOLN MASTER BUILDERS' ASSOCIATION.

THE inaugural dinner of the members of the above Association was held at the Spread Eagle Hotel, Lincoln, on Thursday night, and was a great success in every respect. To begin with there was a large attendance. Host and hostess Lakin provided a most excellent repast, which was well and quickly served, the tables were nicely decorated, the new room provided ample accommodation, and what added much to the comfort of those present was that it kept at an even temperature. The chair was occupied by Mr. W. H. Close. Regret was expressed at the absence of Mr. M. Otter, the hon. secretary, through indisposition.

The loyal and patriotic toasts were given from the chair and heartily received, Mr. Wellsman responding for the "Army, Navy, and Reserve Forces."

Mr. J. M. Harrison proposed "The Mayor and Corporation," remarking that he knew all the members quite well, and he was of opinion they had a very good Mayor and a good Council.

In the absence of a member of the Corporation, Mr. W. Watkins, an ex-mayor of the city, responded. He alluded to the tremendous changes which had taken place in the city during the past forty years or so, pointed out how it had developed and been improved in matters of sanitation and in the streets. In giving a word of praise to the electric-light installation, the speaker evidently had in mind some adverse criticism which had been made, for he said that the arc lamps were never quite steady, but he believed those in Lincoln were steadier than almost any others he had seen, and that he regarded as a great achievement on the part of the electrical engineer, as the installation had only been recently put down. As to the disposal of sewage he thought the Corporation had adopted the natural and proper treatment in the construction of bacteria tanks, and he also expressed approval of boring for water near the pumping station, a course which he advocated fifteen years ago. The boring, he added, would certainly have to be a deep one, but when the strata was tapped we should have a splendid water for domestic purposes. He might, perhaps, cavil at the Corporation in matters of municipal architecture, and he hoped to see an advancement in that direction. At some length he condemned the scheme to place slaughterhouses on the hill side above the cattle market; his remarks seemed to meet with general approval.

The Chairman gave the toast of "The Lincoln Branch of the National Association of Master Builders of Great Britain." He said although that was the inaugural dinner, the Association was not a new one. Twenty years ago, when he first became acquainted with the building trade of the city, there was a very flourishing Master Builders' Association, but, alas! many of their members had passed away, and others had either left the city or retired from business. Some years ago a time of depression set in, and the Master Builders' Association declined, but it never died out. It was kept alive by two of the present members of that Association. In February of last year certain labour troubles arose in the city, and it was felt advisable by certain builders in the city to revive the Association, reorganise it and bring it into a flourishing condition. That had been done, and it was a pleasure to him to preside over that large gathering of builders and kindred trades. The Association had been of great value to the members. They had been able to meet together and express their individual opinions, they had become better known to each other and there never was a better feeling existing amongst the trade than at present. Trade troubles had occurred during the year, but they had been able to speak with a united voice, and they had been able to amicably settle differences between their operatives and themselves. There was now a feeling of mutual confidence and respect between them, and that had to a great extent been due to the Master Builders' Association. He considered he was justified in saying that arbitration would always be found to be better than the taking of drastic measures.

Mr. S. Horton, in appreciative terms, proposed "The Architects."

Mr. W. W. Watkins, in response, made an interesting and instructive speech on the value of technical instruction in the building trade, and gave instances in which he himself had had to show a workman how to do his work in a manner which would save an immense amount of time. He urged that it was



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essential that every trade should be properly taught and learnt, and deplored that many artisans thought they were fully competent when they had been at a trade a year or two. If they had systematic education in all branches of trade they need fear the competition of no foreign country.

Mr. Cooper and Mr. Dunn also replied.

The other toasts were "Kindred Trades," "The Visitors," "The Press" and "The Chairman." The toast list was pleasantly interspersed with songs.

CUTTING STEEL GIRDERS BY ELECTRICITY.

THE Moulton Starratt Contracting Company, of Chicago, while engaged on the reconstruction of the New York Life building in that city, found it necessary to cut through six steel I-beams, each 15 inches high with a ½-inch webb and 6-inch flange varying in thickness from ¼ inch at the outside to 1 inch at the centre. The point at which the cut was to be made was located in such a position that it would be necessary to have special saws made, and as three I-beams of this size side by side would not cut very easily, it was estimated that in addition to the time required to make the special saws it would take two men at least two weeks at 3.50 dols. a day to saw them off. This loss of time in finishing the job and the expense involved were important considerations, and when it was suggested to Ralph Starratt, superintendent of the contracting company, that inasmuch as a smooth cut was not necessary, it might be feasible to get the girders burned off with the electric arc, he placed the matter in the hands of Clyde J. Coleman, of the Coleman Laboratory of Experimental Engineering. Mr. Coleman has done considerable work in the line of electric arc burning for the purposes of getting into safes and vaults with broken locks, and for cutting new doorways in vaults already in place, and also as an interesting experiment to demonstrate the possibilities of safe burglary by this method. Mr. Coleman pronounced the plan of burning off the I-beams perfectly feasible, and undertook the task. The time actually required for electrically burning off the six girders was about twelve hours, and from four to five hours more were spent on mechanical work, such as removing girders to get at the remainder. The electric arc, therefore, did in two working days what would have required from two to three weeks by the usual method, resulting in a great gain of time for completing the remainder of the job.

The plan of operation, as described by the *Western Electrician*, is very simple. Current was applied at 110 volts from one of the dynamos in the plant of the building. The current used was about 350 amperes. The positive side of the circuit was grounded on the structure of the building, and the negative connected to a carbon holder containing a 1½-inch round carbon. The carbon holder had a wooden handle. The operator struck an arc between the spot on the iron to be melted and the carbon. The light and heat were intense, and the effect was very disastrous to the eyes where proper precautions had not been taken. The arc is usually covered over with a muffle, consisting of an asbestos lined iron box, with a hole in the back just large enough to admit the carbon used. The box is placed against the iron to be burned, and the carbon thrust through the hole and the arc drawn. In places where there is not room for the box the carbon is simply thrust through a shield consisting of a sheet of heavy asbestos board. Some resistance has to be placed in the circuit, as is the case with any arc working on a constant potential circuit. The resistance used in this case was simply a few turns of German silver wire placed in a pail of water under a faucet, from which it was constantly replenished.

PATENT VULCANITE ROOFING.

AT the Edgware Petty Sessions on the 17th ult., before T. Bridgwater, Esq., and Messrs. H. W. Nelson, J. E. Lilley, W. Hannaford and H. Lovejoy, Mr. William Martin, builder, of 7 Rockhall Road, Cricklewood, London, N.W., appeared to the summons issued by Mr. S. S. Grimley, district surveyor to the Hendon District Council, for having eleven houses covered with vulcanite roofing.

Mr. Bevir appeared for the District Council, and Mr. Blackwell for the defendant.

Mr. S. S. Grimley, district surveyor, and Mr. Reid, building inspector, gave evidence contending that in their opinion the vulcanite roofing did not comply with the by-laws, which specify that the roofs of dwelling-houses should be covered with slate, tile, metal or other incombustible material.

Mr. Blackwell then said that he would clearly prove that the roofs were covered with a material that was incombustible, and called evidence to show that the material was largely used.

Edward Elliot, superintendent of the Wolverhampton Borough Fire Brigade, gave evidence as to a test carried out

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by the fire brigade of the borough. Several roofs composed of slates and vulcanite were simultaneously set fire to in the presence of a committee of the Corporation, and the vulcanite roof withstood the fire longest. He did not go on the roof, but after the slate roof was completely burned down several men went on top of the vulcanite roof, thus proving that it was still quite strong and solid, although charred beneath. A fireman brought him a piece cut out after the fire, and in his opinion it was the same material as used by defendant.

James Thompson, architect, of Southend-on-Sea, said he had used this material, with a top layer of ballast and sand, on a large number of buildings, and that he was using it on the Corporation Buildings at Southend-on-Sea at the present time. It was, in his opinion, the best material that could be used as a protection against fire. The roof of the public baths was composed of this material, and also that of other buildings.

Alfred Harmer, builder, of Lower Clapton, said the roof of his back addition was composed of 1-inch tongued flooring, a layer of vulcanite and then the earth. The roof was used as a garden and recreation ground with flower-beds. He had often burned rubbish on the top without any injurious result. On May 9 a fire broke out at the house, and it was completely gutted with the exception of the flat roof, which remained intact. A table and chair on the roof was burnt by the flames which were blown across it, but the roofing was untouched.

William Clinch, an officer of the Law Union and Crown Insurance Company, said that some houses containing roofs of this kind were insured by the company, including that of Mr. Harmer. He saw the roof referred to after the fire, and agreed with what the last witness had said.

Peter Wood, builder, of 177 Ashmore Road, Paddington, said he built two houses three or four years ago, with roofs composed of this material, and he had also built in other parts. The district surveyor of Paddington had passed his plans and, so far as he knew, saw the houses built. He had two flats and a large workshop in Willesden, but they had not yet been passed by the Willesden District Council.

W. H. Martin, son of the defendant, said he laid the roofs, first with rough boarding, then vulcanite and then the earth. He had been on top before coming into Court, and had found that the ballast was gradually going into the soil and the material was becoming quite fast, and that there was no fear that the soil and ballast would blow or wash away.

By Mr. Bevir: The boarding underneath was not tongued, but put close together.

George Max Beer, managing director of the London branch of the company manufacturing the patent roofing, said that they were supplying thousands of yards to the War Office, that their own works at Bow were covered with the material, and were passed by the district surveyor, and that it would last for years.

The Bench retired for a few minutes, and on returning the chairman said they had paid every attention to the case, and without adding from what they had heard, the Court decided to dismiss it.

Mr. Blackwell applied for costs, stating that he had witnesses' fees which would come to 14*l.* 14*s.*

The Bench allowed 20 guineas costs.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

10752. Thomas Alexander Currie and George Edward Currie, for "Improvements in machines for dressing stone."

10905. Marc Perret, for "An improved adjustable support for the scaffolding or framing used in building concrete floors and the like."

11030. Alfred Paget Humphrey, for "Improvements in or relating to the securing of gates, doors and the like."

11039. Alfred William Turner and William Alfred Turner, for "A mechanical bricklayer, for use in automatically laying, cementing and levelling bricks, slabs, stones and the like in the construction of fortification, piers, bridges, viaducts, warehouses, dwelling-houses and buildings of every description."

11052. Emil Wonsowski, for "A new or improved door-fastening device."

11066. James Boardall, for "A new or improved weather-bar for windows."

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THE EMPIRE PALACE OF VARIETIES, MIDDLESBOROUGH: EXTERIOR.

ERNEST RUNTZ, Architect.



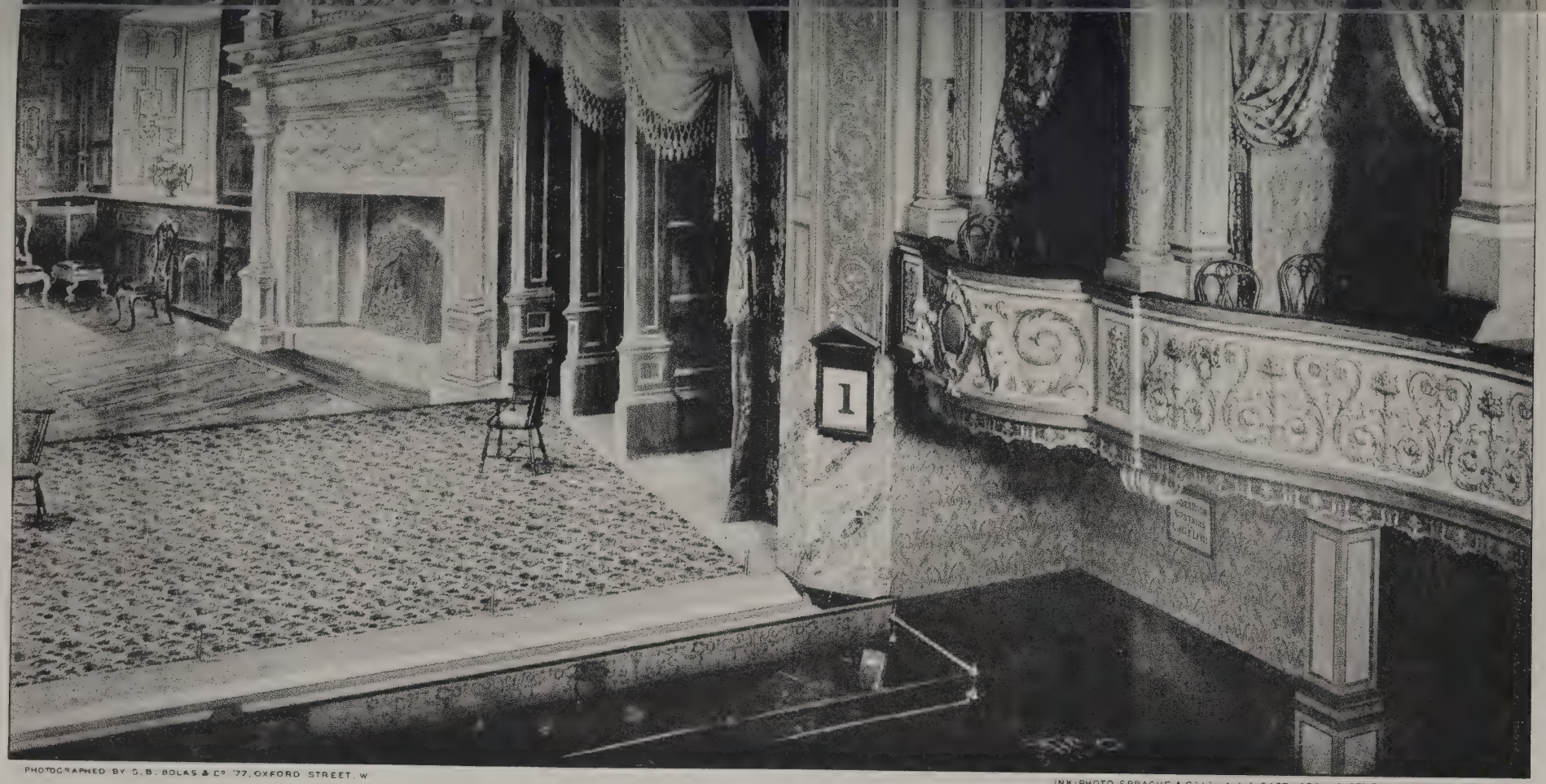


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CATHEDRAL SERIES, No. 232.—ROCHESTER: THE CHOIR.


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THE EMPIRE PALACE OF VARIETIES, MIDDLESBOROUGH: INTERIOR.
SHOWING HALF THE STAGE AND BOXES.
ERNEST RUNTZ, Architect.



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THE EMPIRE PALACE OF VARIETIES, MIDDLESBOROUGH: INTERIOR.
SHOWING PROMENADE.
ERNEST RUNTZ, Architect.



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The Architect, June 9th 1899.

The Architect.

THE WEEK.

In the course of the discussion in the House of Commons on the Bill promoted by the Dublin Corporation for the purpose of extending the city boundaries, Mr. T. Healy said that the late Sir Herbert Stewart, who was killed at Abu Klea, furnished an entire terrace of houses in London with the doors and chimney-pieces which he had quarried out of old Dublin tenements. There may be some exaggeration in the statement, but it is a testimony to the good taste of the warrior. Dublin houses have been subjected to many vicissitudes like those in other cities and towns. But the difference between past and present is more marked than elsewhere. Soho, for instance, is no longer what it was, still it has not fallen into the degradation that is witnessed in the district of Dublin known as the Liberty. Many of the houses were as fine examples of "Queen Anne" as could be found; the carved woodwork, plastering and tiles were unsurpassed in Great Britain. Members of the Meath family lived there, and some of the wealthy traders of the city also thought it was a sign of respectability to have houses near them. By degrees the character of the district altered, and eventually almost every room was occupied by a different family. Woodwork and tiling were destroyed or carried off, but it is still possible to discover fragments which will suggest the former appearance of the houses.

A time when preparations for war cannot be neglected does not seem opportune for bringing forward a project for a tunnel between England and Ireland. There are, however, obligations which greatness imposes, and as at the period it was considered necessary to uphold English reputation by sacrifices to discover the North-West Passage, early in the next century, if peace can be assured, a tunnel under the Irish Sea may be accepted as a duty. The passage would never yield sufficient profit to tempt speculators, although schemes as uncertain constantly come into the market. That a tunnel could be constructed between Scotland and the North of Ireland is likely. There might be occasional mishaps, but eventually the difficulties would be overcome. What is uncertain is the gain of time. London must be considered the starting-point of all such enterprises, and the difference between a journey from it to Stranraer and from Islandmagee to Dublin must be compared with one from London to Holyhead followed by a sea passage. There is not enough attention given to the subject. Mr. Barton, the engineer, has mainly practised on Irish railways, but he is most cautious in what he says, and his anticipations can be accepted with more than the usual amount of confidence. It is characteristic that he does not minimise the difficulty arising from the difference between the Irish and British gauge, which for through traffic would make it necessary to put down a third rail on Irish lines, and the construction of special rolling stock if Irish carriages and waggons were to run on English lines.

In a little time we may expect to hear that contractors and other employers will insist on every workman who seeks employment from them filling up a schedule of his own and his ancestors' medical history, like those demanded by the insurance offices. In no other way is the amount of risk under the Workmen's Compensation Act to be realised. Judge Lumley Smith, Q.C., has decided in the Westminster Court that an employer took the risk of employing a man with gout in his system, and if an injury were received which brought out the gout the employer would be liable to pay the man compensation. The applicant was awarded 15*s.* a week, to date from a fortnight after the accident, which occurred on January 2, and to continue till further notice. The applicant was employed by Messrs. Sugg, and was struck on the hand by a hammer which was wielded by a boy. Miss-hits are not unusual, and are treated as trivial affairs, but the injury was aggravated in this case by the man's gouty condition. How is an employer to provide against such a contingency without the aid of information which would enable a medical adviser to diagnose the case of each workman? No less startling is a decision just given in the Court of Appeal. Since trade began in the world workmen have amused themselves by taking advantage of the ignorance of apprentices and boys. But a joke may now be the cause of the outlay of money by an employer. In the case we refer to (Brown *v.* Scott) a man told a boy that the foreman had left an order that he was to oil a machine while in motion. No such order was given, and oiling was not among the boy's duties, but there was the joke. The boy slipped and was injured. The County Court judge, although admitting that oiling was not part of the applicant's regular work, yet, as the accident arose out of and in the course of his employment, made an award in the applicant's favour. The employer appealed, but a majority of the Court declined to set aside the judgment. To meet such cases it will be necessary to discover workmen who have no desire to vary the monotony of labour by a practical joke, and we doubt if they are to be met with in this country.

There are so many parties connected with a Scottish church, it is difficult to bring them into agreement whenever building works have to be undertaken. The church of St. Leonard's parish, St. Andrews, offers an example. It is not in a sound state, and the questions arise, Can it be repaired, or must it be rebuilt? The "heritors" who will have to bear most of the expense are in favour of reparation. They have obtained an estimate from Mr. Henry, who says that by an outlay of 1,003*l.* 6*s.* 5*d.* (there is nothing like precision) the church can be made to serve its purpose. His conclusions are supported by Dr. Rowand Anderson and Mr. J. Kinross. The Presbytery believe that the heritors are eager to shirk their responsibilities, which should lead them to the rebuilding of the church. Mr. Kinross therefore was solemnly asked, "Can the ruin of St. Leonard's be made sufficient and serviceable and not injurious to health by anything that can be fairly and truly called repair, honestly regarded as the proper course, and not as a way of heritors evading their obligations?" The heritors refuse to do more than their architects consider necessary, and have adopted the following resolution:—"That Mr. Kinross, the architect consulted by the Presbytery, having corroborated the opinion of Dr. Rowand Anderson and Mr. Henry that St. Leonard's Church is repairable, the heritors renew their offer to repair the same in accordance with either plan, and if the Presbytery refuse to accept of same the heritors resolve to appeal to the sheriff against their judgment, and authorise the committee to employ a law agent to prosecute the matter." It remains to be seen whether the Presbytery will succumb.

Reports so persistently arrive about the discovery of the tomb of Romulus, it may be well to recall what the ancients thought on the subject. The oldest legends give two versions of the death of the founder of Rome. According to one he was assassinated at the Altar of Vulcan in the Forum, while the other describes his disappearance in a miraculous tempest which suddenly overspread the city. Preference is given to the former, but the scene of the murder was not the Forum, but a place called the "goat's swamp," where Romulus had come to negotiate with the Sabines. The two races were at war before as well as after the historic "rape." According to Dion, when the Sabines saw the murderer of their king they rushed on him and cut him in pieces. Possibly it was at the foot of the Quirinal the deed was perpetrated. Anyhow, a shepherd declared that Romulus was seen by him upon the Quirinal and announced he was then among the gods. The Sabines accepted the legend and raised a temple to the new god under the name of Quirinus. It is remarkable there was never a temple of Romulus, although the temple dedicated to "Venus and Rome" was sometimes taken for one. Nor was there a tomb of Romulus, for its existence would nullify the belief in his apotheosis. A tomb surmounted by a lion in the Comitium was called by his name, and in the Middle Ages one in the Transtevere was supposed to contain his remains, but there is nothing to support a belief that a black stone such as was lately found marked the place where the chief was buried.

WILLIAM MORRIS.*

WITH the exception of royalties, warriors and prominent politicians, there are few men who can expect their biography will be prepared and published in two volumes and the first edition exhausted in less than three years after they have quitted life. In the case of an artist there is sure to be dilatoriness. LEIGHTON and MILLAIS were generally considered to be of more importance than WILLIAM MORRIS, but memoirs of them have yet to appear. Artists are therefore to be excused who take time by the forelock and send out autobiographies under the title of recollections. MORRIS's life was known to be interesting on many accounts, and the curiosity to discover how the qualities of a man could be explained who was at once an aristocrat by feeling and a Socialist by conviction, a workman and a manufacturer, a poet and an economist, would inspire an interest in Mr. MACKAIL'S work. But that is not sufficient to account for its success. Much is due to the author. WILLIAM MORRIS was many-sided to an extent which has amazed the Germans, among whom such phenomena abound. His biographer should be able to appreciate the varied activity which was displayed in poetry, printing, glass-staining, dyeing, weaving, engraving, embroidery and other forms of production. Mr. MACKAIL has not only recorded but interpreted the works of WILLIAM MORRIS. He endeavours also to explain how and why MORRIS became an agitator—a task in which he could hardly hope to be convincing. But with all his admiration he does not allow his vision to be dazzled by his friend's achievements in poetry and industrial art. MORRIS was careful to admit among his *entourage* those alone who were disposed to idolise him. His equals or his superiors were avoided. Mr. MACKAIL, as one of the favoured few who were allowed to approach the pontiff, is not stinted in his admiration, but he does not hesitate to suggest the existence of shortcomings which of course affected whatever was said or done by the "poetic upholsterer." There was much in MORRIS which appeared puzzling to those who knew him only by repute or by occasional encounters, but the following analytical passage explains some of the apparent anomalies:—

> Morris had himself always been one of the people to whom personal matters bear far less than their normal share in life. He was interested in things much more than in people. He had the capacity for loyal friendships and for deep affections, but even of these one might almost say that they did not penetrate to the central part of him. The thing done, the story, or the building, or the picture, or whatever it might be, was what he cared about in the work of his contemporaries and friends no less than in that of other ages or countries; and in his mind these things seem to have been quite independent of the story-teller, or the architect, or the painter, and not merely substantive things, but one might almost say substantive personalities. So, too, in the ordinary concerns of life he was strangely incurious of individuals. On one side this quality of mind took the form of an absolute indifference to gossip and scandal, and a capacity of working with the most unsympathetic or disagreeable colleagues, so long as they were helping on the particular work in hand. On another side it resulted in an almost equally marked inconsiderateness. He sometimes seemed to have the aloofness of some great natural force. For sympathy in distress, for soothing in trouble, it was not to him that one would have gone. The lot of the poor, as a class, when he thought of it, had always lain heavily on his spirit. "Indeed, the poor man is always much at the mercy of the rich"—those noble and melancholy words, used just a century before by Johnson to Boswell, express a feeling which was at the root of all Morris's social doctrine. But the suffering of individuals often only moved him to a certain impatience. Many years before Rossetti, in one of those flashes of hard insight that made him so terrible a friend, had said of him, "Did you ever notice that Top (Morris) never gives a penny to a beggar?" Inconsiderate and even unscrupulous as Rossetti was himself in some of the larger affairs of life, this particular instinct of generosity was one which never failed him. For the individual in distress—were it a friend in difficulties or some unknown poor woman on the street—he was always ready to empty his own pockets, and plunge deeply into those of his friends. Morris's virtues were of a completely different type. Scrupulously just in his dealings, incapable of driving a hard bargain, liberal up to and even beyond his means in the support of an object which had gained his sympathy, he had not in his nature that touch of lavishness that gives a human warmth to generosity, and may elevate inconsiderate profusion into a moral excellence. That habit of magnificence, which to the Greek mind was the crown of virtues, was Rossetti's most remarkable quality. In the nature of Morris it had no place.

If nature has not enriched a man with the milk of human kindness and has frozen his blood, he is no more responsible for the privation than for his stature or the colour of his hair. There are crowds of excellent citizens who are as unsympathetic as was WILLIAM MORRIS and yet are respected. But they do not go about in a condition of diffusive philanthropy, nor pose as saviours of the world. MORRIS was assessed at his true value, and consequently he was the least convincing of street orators. The mob believed he was having a pastime at their expense, and, although ready enough to be duped, could not become game for a man whose sporting costume was an imitation of their everyday garments. Where he was most familiar he was treated as a living joke. According to his confession the meetings in his own district were dead failures, and the audience "hung on my hands as heavy as lead."

But MORRIS might well be excused if he imagined he was destined to set the world aright according to his own notions. Nature in leaving him heartless was otherwise bountiful to him. He was no "tortured torturer of reluctant rhymes," but a true poet. He was a dreamer from his childhood, and his endeavour was to make the world around him correspond with that which his imagination had created. Mediævalism was in the air, and MORRIS inhaled it with all his force. It is delightful to read of the delicate child riding about his father's park in Essex in a little suit of armour. We can imagine how doughty a knight he considered himself—for he had read all SCOTT'S novels and other romances before he was seven—and as a knight he was tilting real and imaginary evils to the end of his days. His father, who was a prosperous bill-broker, purchased a grant of arms, and the Heralds' College, where there is more humour than is supposed, assigned him in 1843, to the great delight of his romantic son, the following:—"Azure, a horse's head erased argent between three horseshoes or, and for crest, on a wreath of the colours, a horse's head couped argent, charged with three horseshoes in chevron sable." Henceforth the boy held himself to be a tribesman of the White Horse, and the family crest was as obtrusive in the decorations of his house as the coronet is on the noble's in HOGARTH'S picture. What a delight to him it was to discover a brass of one WILLIAM MORYS, a farmer, and another of the farmer's wife. From his name it might be supposed he was a Celt, and many of the characteristics of Celtic poetry which MATTHEW ARNOLD described are found in his stories in verse. But apparently he believed neither the Welsh nor Irish MORRISES bore the horse's head couped argent, and he therefore renounced all kinship with them and their poetry. As Mr. MACKAIL, his biographer, says:—"In spite of his Welsh blood and of that vein of romantic melancholy in him which it is customary to regard as of Celtic origin, his sympathies were throughout with the Teutonic stocks. Among all the mythologies of Europe, the Irish mythology perhaps interested him least: for Welsh poetry he did not care deeply; and even the Arthurian legend never took the same hold on his mind or meant as much to him as the heroic cycle of the Teutonic race."

At a later time he appears to have considered himself as one of the Northmen. He had one claim to the distinction. His fits of rage were at least equal in intensity to any of those recorded of Berserkers. To hear him talk of the sea he might have been a rover. And we learn how, when he first visited Iceland, "on the Law-Mound of Thingvalla by the steads of Herdholt or Lithend, he stood with deeper-kindled emotions than would have been roused in him in the Roman Forum or on the Athenian Acropolis, or where grass grows over the fallen towers of Troy." His account of the impressions which Iceland made on him is curious, for it is evidence of the failure of MORRIS to derive from the island any of the spirit of the old heroes. "It is an awful place," he wrote; "set aside the hope that the unseen sea gives you here, and the strange threatening change of the blue spiky mountains beyond the firth, and the rest seems emptiness and nothing else." Two years afterwards he renewed the experiment, and re-

* *The Life of William Morris.* By J. W. Mackail. New impression. (Longmans, Green & Co.)

corded that "the journey has deepened the impression of Iceland, and increased my love for it. The glorious simplicity of the terrible and the tragic but beautiful land, with its well-remembered stories of brave men, killed all querulous feeling in me, and has made all the dear faces of wife and children and love and friends dearer to me."

It was in 1873 he wrote those words, and he had already studied Icelandic literature with Mr. MAGNÚSSON, and was resolved to give English versions of the Sagas. But when he went up to Oxford twenty years before he could only imagine what the early home of the Vikings was like. Nature, however, can lead us as well by means of illusions as by realities, and young MORRIS, of the tribe of the White Horse, astonished his fellow Freshmen at Exeter by his fire and impetuosity, bodily strength, high temper and "his habit of beating his own head, dealing himself vigorous blows, to take it out of him." BURNE-JONES was entered at the same time, and "at first sight each found in the other a kindred and complemental spirit; within a week they were inseparable friends." Both were intended for the Church and for a time they were filled with an ecclesiastical enthusiasm. A set gathered round them of earnest students, who were also proof against all the common dangers of the city. MORRIS was the richest, for he possessed an income of about 900*l.* a year. As they were eager for knowledge, much was studied and talked about of which no account was taken in examinations. MORRIS and BURNE-JONES were fascinated by Mr. RUSKIN's books, and the former "chanted rather than read those weltering oceans of eloquence." In 1854 MORRIS was able to visit France, and Rouen gave him delight such as he had never known. It was about that time his friends discovered that "TOPSY was a big poet." As the men's minds developed they became more desirous of devoting themselves to some common effort. MORRIS had thoughts of devoting his fortune to the creation of a monastery. Others sought for a similar mode of co-operation. G. E. STREET, who then lived in Oxford, wished to set up an imitation of the German School in Rome, of which OVERBECK was the superior. However, when on a walking tour in France during the summer of 1855, both BURNE-JONES and MORRIS came to the conclusion that their vocation was not to be clergymen, although they could still attain their ideals of life and usefulness, one by painting, the other by architecture. What the art was to MORRIS is thus described by Mr. MACKAIL:—

> Morris did not graduate as a professional architect, nor in all his life did he ever build a house. But for him, then and always, the word architecture bore an immense, and one might say almost a transcendental, meaning. Connected at a thousand points with all the other specific arts which ministered to it out of a thousand sources, it was itself the tangible expression of all the order, the comeliness, the sweetness, nay, even the mystery and the law, which sustain man's world and make human life what it is. To him the House Beautiful represented the visible form of life itself. Not only as a craftsman and manufacturer, a worker in dyed stuffs and textiles and glass, a pattern designer and decorator, but throughout the whole range of life he was from first to last the architect, the master craftsman whose range of work was so phenomenal, and his sudden transitions from one to another form of productive energy so swift and perplexing because, himself secure in the centre, he struck outwards to any point of the circumference with equal directness, with equal precision, unperplexed by artificial subdivisions of art and untrammelled by any limiting rules of professional custom.

MORRIS's family was disappointed at the change, but there can be no doubt he showed more aptitude for architecture than for theology. On January 21, 1856, being in his twenty-second year, he signed his articles and began work in STREET's office in Beaumont Street, where PHILIP WEBB was then chief clerk. Meanwhile BURNE-JONES had become acquainted with GABRIEL ROSSETTI, and was following painting under his direction. MORRIS soon came under the artist-poet's influence, and before the end of the year he arrived at the conclusion that he was better fitted to be a painter than an architect. Accordingly he quitted STREET's office. Mrs. MORRIS, according to Mr. MACKAIL, never quite forgave BURNE-JONES for what she naturally thought was mainly his work. On MORRIS himself the dissolution had an unsettling and, for a time, almost a disastrous effect."

The two friends lived together, and as BURNE-JONES was poor, and economy must be considered, they took unfurnished rooms at 17 Red Lion Square, which had been occupied by ROSSETTI and WALTER DEVERELL. The cheap furniture of those days could not give pleasure to a young fellow like MORRIS, who had created many a palace of art and adorned the rooms with Mediæval objects. It was therefore decided that WEBB and himself should design simple furniture, which was to be truthful and pleasing although made of deal. They produced, according to ROSSETTI, tables and chairs like incubi and succubi, a round table as firm and as heavy as a rock, and a settle which made the room used as a studio one-third less in area. But, with all the defects of the pieces, the experiment was the prologue to the founding of MORRIS & Co., a firm that can never be overlooked whenever the history of industrial art in this country is composed. The decoration of furniture by painting offered a new field for the activity of the three friends.

It was in 1857 that ROSSETTI went to Oxford to see BENJAMIN WOODWARD (DEANE, SON & WOODWARD), who was engaged on the new museum which was considered to be more than a building, for to many it signified the adoption of Victorian Venetian Gothic. He was also occupied with a hall for the Union Society. ROSSETTI saw an opportunity for wall-painting, and as WOODWARD concurred, the approval of the building committee of the Union was obtained. MORRIS and BURNE-JONES, with many other young artists and amateurs, were glad to co-operate. The subjects were taken from the "Morte d'Arthur." The series might have helped to promote a more general desire for wall-painting in English buildings, but decay set in almost before a work was finished, and the fragments which have survived retain a melancholy interest. It was while engaged in Oxford that MORRIS became acquainted with the lady to whom he was married in April 1859, and whose features are immortalised by several of ROSSETTI's drawings.

We have heard lately lamentations about the incubus of wealth which is supposed to make the poor man's lot enviable to millionaires. There is much which money cannot accomplish, but when a man has ideas it can enable him to have them realised. MORRIS could write poetry without any fear of wasting the time on which his income depended, and could have the volumes published, although he was aware he would never sell enough of them to pay the printer's bills. In the same way, when he returned to England with his wife he could create a home according to his own fancy, and without any regard whether it corresponded with the houses occupied by families of position in the country. He gave the commission to PHILIP WEBB, who was in independent practice, and the site selected was an orchard near the village of Upton, in Kent. The exterior was plain, and suggested some of STREET's office work. The Lamp of Truth had illuminated the design. The drawing-room was to be made the most beautiful in England, and "everything, or nearly everything, that was to furnish or decorate it had to be designed and made." But as in the rooms in Red Lion Square there was independence of the cabinetmaker, it was resolved at Upton to follow that precedent. On the suggestion of MADOX BROWN or ROSSETTI a company was formed, and to MORRIS it appeared as a realisation under the happiest circumstances of his early notion of a community seeking to realise an ideal. MORRIS claimed that they formed "the only really artistic firm of the kind, the others being only glass-stainers, or else that curious nondescript mixture of clerical tailor and decorator." They went beyond the limits of advertising manufacturers by describing themselves as artists who were for many years attached to the study of the decorative arts, although some were novices. At first there were financial difficulties, but the novelty of the experiment, which, like Captain SHANDON's *Pall Mall Gazette*, was supposed to be carried out by gentlemen for gentlemen and by university graduates for graduates, was appreciated, and high prices were paid for simple things. In those days there was little knowledge about art in relation to industry, and when men were taken as experts they had a right to expect liberal remuneration for saving their clients from the consequences of bad taste. The firm lasted until 1875, and was not dissolved without

disagreeable consequences. The house at Upton was not neglected. But before it was completely furnished and decorated MORRIS was laid up with a severe attack of fever. The distance from London was too great to be traversed twice a day by a convalescent, and reluctantly the house had to be resigned. We are told that after he left it in the autumn of 1865, "MORRIS never set eyes on it again, confessing that the sight of it would be more than he could bear."

By residing in London he was able to devote more time to the expanding business of the firm and to gain more leisure for poetic composition. How he could accomplish so much with his own hands must always inspire wonder. MORRIS generally confined himself to work in which he could have a personal interest, and in that way the labour was lightened. But the quantity of literary and artistic production which he executed suggests a Northman's heroic energy exercised in construction instead of destruction. It is said he composed seven hundred lines of "The Earthly Paradise" in one day, and his regret on the completion of that charming collection of poems was in part at least owing to the fertility of mind he enjoyed while the verses flowed from his pen. MORRIS was one of the lucky men for whom labour was a solace. Mr. MACKAIL tells us that:—

The need of games to pass the time—the reason why nine persons out of ten after they are grown up play games at all—was a thing he never felt. His mind was always working, and his hands never long idle. Nor, in spite of his exceptional swiftness in reading and the immense detailed knowledge which he acquired from books, was he what is called a great reader. His power of rapid reading did not degenerate into the mere physical craving to read. He always knew whether he wanted to read a book or not, and when he did not nothing could induce him to read it. His library, until he began to collect early printed books, was not large, nor was it either selected or kept with any special care.

(*To be continued.*)

WINFIELD MANOR.*

THERE are few places which possess such a many-sided interest as the manor-house of South Winfield. It illustrates to what degree our forefathers often succeeded when making selection of the location of their habitations in combining the two qualities of beauty and strength; and to the lover of the picturesque its fine old ivy-mantled ruins are always a source of delight. To the student of domestic architecture it appeals as a striking example of the transition from the feudal castle to the baronial hall and mansion; whilst its association with the imprisonment of the ill-fated Mary Queen of Scots in the sixteenth, and the struggles between Parliament and the Crown in the seventeenth century, commend it to all who take an interest in the stirring historical events of their own country.

Many conjectures have been offered as to the origin of the name. In the Domesday Book the manor is referred to as both Winefeld and Winnefelt, from which a writer in the *Archæologia* deduces the theory that it was formerly a vineyard—the field of the vine—but there is no evidence to support such a supposition. Another suggestion is that Winfield is derived from the circumstance of a battle having been fought and some notable victory secured there. But as Blore, whose book on "Winfield and its Manor House" is the standard work on the subject, quaintly but sagaciously observes:—"We rarely meet with a field of victory whose honour is not tarnished by its having been also the field of defeat." A further and more likely derivation may be found in the fact that Guin in the British signifies water, and that the Guin-field, or water-field was so-called from the frequent floods from the stream which flows through the valley, and which, as Blore remarks, caused the floor of Winfield Church to be covered with a foot of water three or four times every winter. Personally, I incline to a fourth theory which attributes the origin of the name to Win or Whin, by which the common furze or gorse is often known in Derbyshire and Yorkshire. The adjoining parish is that of Brackenfield—the field of bracken; what more likely than that its neighbour should be known as Winfield—the field of gorse?

At the time of the Norman survey the manor of Winfield was held by William Peverel, a natural son of William the Conqueror, who was lord of the manor of Chesterfield. Indeed, his possessions were most extensive, for we find that he owned 39 manors and villages in Nottinghamshire, 44 in Northamptonshire, 12 distributed over the four counties of Essex, Oxford, Bedford and Buckingham and 13 in Derbyshire. From the family of Peverel the manor descended into the possession of the families of Heriz and Bellers, but in the reign of Henry VI. a dispute, which culminated in a lawsuit, arose as to the disposition of this and other property. Ralph, Lord Cromwell, claimed it as cousin and heir-at-law of Margaret, wife of Robert de Swyllington, while Sir Henry Pierpoint, representing another branch of the family, maintained that he was entitled to the property as heir-at-law of John de Heriz. This suit was not fought out to the bitter end, but a compromise was effected under which the manor of Winfield came into the possession of Lord Cromwell.

The manor-house at that time was situated near to the Peacock inn, not far from the present railway station, but on the Alfreton side of the railway. It was adjacent to the present main road from Derby to Chesterfield, and abutted on the much-discussed Rykneld Street, which connected the two Roman stations of Little Chester and Chesterfield. Cromwell commenced the erection of what must have been the very magnificent mansion of which to-day only the ruins are left to us. The date is generally ascribed to about the middle of the fifteenth century. Camden is the authority for attributing the erection to Cromwell, but his statement receives a curious corroboration in the fact that over the entrance gateway are bags or purses of stone, in allusion to the circumstance that Cromwell filled the office of Lord High Treasurer. The manor-house at Coly Weston, in Northamptonshire, underwent enlargement at the hands of Cromwell, and there again the bags or purses are found carved in the stonework. Cromwell sold the reversion of the estate to John, second Earl of Shrewsbury, by whom further additions to the buildings of the manor-house were made.

As at Haddon, these buildings are so arranged as to enclose two courts or quadrangles, though unlike Haddon, there is not independent access to each. Admission is gained on the east side through an archway into the southern court, and thence through a second gateway into the inner or northern court. The buildings between the two courts are in a good state of repair, and are in fact inhabited at the present time by the custodian of the ruins. The buildings which formed the sides of the southern court comprised the barn, the "barracks"—a name which Mr. J. D. Leader surmised was bestowed during the civil wars when Winfield was besieged—the stables, outbuildings, and quarters for the servants. On the north-west side of the manor-house the declivity of the ground was so great that little fear of successful attack from that quarter was entertained, but on the sides where the ground was more level earthworks appear to have been thrown up, and the field to-day is known by the name of "the bulwarks." The northern quadrangle contained the chief apartments of the mansion. Opposite to the entrance gateway, and on the north side of the court, is the porch which gave access to the great hall and the state apartments. "To the westward," says Mr. Leader, "stands the massive tower of the keep, with dungeon cells in its thick walls, and running from this tower along the west side of the court are the foundations of a range of buildings in which, according to tradition, were the apartments of the Queen of Scots. Nothing now remains of them but the outer wall and the inner foundations, but some idea of the character of the accommodation may still be formed. The numerous narrow windows, the fireplaces and the many angles all point to a series of small rooms; and if there were any larger rooms they must have fronted to the court, a position that made them not only safe from hostile attack, but in the case of the Queen of Scots diminished the chance of escape." The tower at the south-west angle rises to a height of 72 feet, and the prospect from its summit is both extensive and beautiful, though the landscape is not of the bold and rugged character which marks so many scenes in Derbyshire. Tradition has it that Mary's apartments and this tower were connected, and that from it she was able to see the approach of friends or their messengers and thus keep up secret communication with the outside world. The most beautiful part of the building is the south front of the banqueting-hall, a spacious apartment 72 feet 4 inches long and 36 feet 5 inches wide, with a finely decorated oriel window. The daïs was at the east end of this room, and the staples which still remain in the walls point to their having been hung with tapestry. Unfortunately the hall was spoiled in the seventeenth century by its then owners, who converted it into two storeys subdivided into dwelling-rooms. What remains of the windows on the north side must be assigned to this period. Underneath the large hall, and corresponding to it in length and breadth, is a room called the "crypt," respecting which much controversy has arisen. Mr. Leader dismisses the theory that it was a servants' hall by calling to mind the habits of the times—the lord and his attendants taking their meals together, divided only by the salt—and suggests that it may have been the chapel. Dr. Cox, on the other hand, affirms

* A paper read by Mr. W. Jacques at the meeting of the Chesterfield Students' Association.

that it had no connection with ecclesiastical purposes, that the chapel was a detached building to the north-east of the banqueting-hall, though only some traces of the foundations now remain, and that the most probable use of the crypt was that of a servants' hall. Between two such authorities it would be presumptuous to attempt to decide.

I have already said that the manor-house passed into the possession of the Shrewsbury family on the death of Lord Cromwell, and it became one of their favourite seats. George, the fourth earl, died there in 1541, but it was during the time of his namesake, the sixth earl, that Winfield first played an important part in the history of our country. Mary, Queen of Scots, was entrusted as a State prisoner to the custody of the Earl of Shrewsbury in the latter part of 1568 or early in 1569. This nobleman was the fourth husband of the famous Bess of Hardwick—a lady described as "proud, selfish, unfeeling and cruel, the oppressor of her husband, the tyrant of his family and the aggrandiser of her own." It was not a pleasant task which Shrewsbury undertook at the request of his sovereign, but Elizabeth undoubtedly displayed her customary shrewdness in making choice of him. He was a rich and powerful nobleman, and his estates were right away in the centre of England and lying wide of the great high roads of the country. He had seven mansions—the castle at Sheffield, with the manor-house in Sheffield Park; the manors of Worksop and Winfield, the abbey of Rufford, the hall at Buxton and the castle at Tutbury. The countess, by a previous marriage, had become possessed of Chatsworth, and she had also her own residence at Hardwick. Mary, after her arrest, was first taken to the castle at Tutbury, breaking the journey for one night at Chesterfield—or rather at Walton, at the house of Mr. Godfrey Foljambe. After a few weeks' residence at Tutbury, however, the earl obtained authority to remove her to Winfield Manor, and on March 20, 1569, she arrived there. She had not been here long before Leonard Dacre, a relative of the Earl of Shrewsbury, devised a plot for her escape, but was persuaded to abandon it by the Duke of Norfolk, who had hopes of marrying the queen, and who feared that if she got abroad the prospect of such an alliance would be very remote. An attack of illness—which gave rise to rumours of her death—occurred early in May, and led, on her recovery, to her removal in a letter to Chatsworth. It is not within the scope of this paper to trace the whole period of Mary's imprisonment. She remained in the custody of the Earl of Shrewsbury at various places, including Tutbury, Chatsworth, Sheffield, Worksop and Buxton until 1584.

It cannot be said that this period was a very happy one for his lordship. Lodge, in his "Illustrations of British History," sums up the character of his wife in the following terms:—"She was a woman of masculine understanding and conduct, proud, furious, selfish and unfeeling. She was a builder, a buyer and seller of estates, a money lender, a farmer, a merchant of lead, coal and timber. When disengaged from these employments she intrigued alternately with Elizabeth and Mary, always to the prejudice and terror of her husband." It is believed that the quarrels which ensued formed one of the reasons for eventually removing Mary from Shrewsbury's guardianship. Elizabeth took the wife's part, and the Earl, writing to a friend, speaks of the "hard sentence" against him, "to my perpetual infamy and dishonour, to be ruled and overanne by my wife, so bad and wicked a woman." The Bishop of Lichfield tried to effect a reconciliation, though his manner of setting about it was decidedly original. It might be correct, he said, that the Countess was a sharp and bitter shrew, but the good bishop went on philosophically to observe:—"If shrewdnesse or sharpnesse may be a just cause of sep'a'con betweene a man and his weife, I thinke fewe men in Englande would keepe their wives longe; for it is a com'on jeste, yet trewe in some sence, that there is but one shrewe in all the worlde, and ev'y man hath her; and so ev'y man might be rid of his wiefe that wold be rydd of a shrewe." At length, in 1584, the Earl obtained a long-sought permission to visit London, and Sir Ralph Sadler was appointed to take charge of Mary, who was then at Sheffield. Sadler expected that she was to remain there, but orders were given to Shrewsbury to see her settled at Winfield under Sadler's care before coming up to London. These orders were a surprise to Sadler, who, on learning of them on his arrival at Sheffield, wrote for further instructions, remarking that "comparing the openness of the country about Winfield and the greatness of the house, and therefore the more danger, to the straightness of this [Sheffield] and so the stronger, I would rather choose to keep this Queen here with 60 men than there with 300." It was nevertheless eventually agreed to remove her to Winfield, and she arrived there again in September 1584. Some idea of the responsibilities and expense incurred by Shrewsbury as Mary's gaoler may be gathered from a report made to Queen Elizabeth by Sadler. It is dated from Winfield, November 5, 1584, and is in the form of answers to a series of questions. From these it appears that there were at Winfield at that time 120 servants, gentlemen, yeomen and officers of Lord Shrewsbury's, besides fifty of Sir Ralph Sadler's, and forty soldiers, making in all the rather formidable total of 210. It was necessary, he said, that whether at Tutbury or Winfield, there should be forty or fifty soldiers in addition to the servants. The Queen of Scots had four good coach-horses of her own, and her gentlemen had six, the four being kept at Lord Shrewsbury's charge. The Queen had in attendance upon her forty-seven persons, who are thus enumerated:—"Five gentlemen, fourteen servitors, three cooks, four boys, three gentlemen's men, six gentlewomen, two wives, ten wenches and children." About twenty rooms were occupied by the Queen and her retinue. None of the furniture was her own—"she hath no stuff of her own, neither hangings, bedding, plate, napery, kitchen vessel, nor anything else," and of certain "stuff" which Queen Elizabeth had sent for her use it is said there was "nothing of it serviceable, but it was worn and spent." A question as to the Queen of Scots' ordinary diet both on fish and flesh days elicits the information that she had "about sixteen dishes at both courses—sometimes more or less." Her two secretaries, master of the household, the physician and De Prean had a mess of seven or eight dishes, and always dined before the Queen, their own servants having their "reversion." The rest of the folk dined with the "reversion" of the Queen's meat. Her gentlewomen and the two wives and other maids and children, being sixteen, had two messes of meat of nine dishes at both courses for the better sort, and five dishes for the meaner sort. As to the price of provisions, we learn from the same document that wheat was about 20*s.* and malt about 16*s.* per quarter; a good ox cost 4*l.*, a score "muttons" 7*l.*, hay was about 13*s.* 4*d.* per "lode," oats 8*s.* per quarter, and peas about 12*s.* It was during Mary's stay at Winfield that the seeds of the Babington conspiracy were sown. Most authorities overlook the fact that young Babington was a ward of the Earl of Shrewsbury. Writing in 1571 he informs Lord Burghley that Babington of Dethick is dead after a long sickness, adding "he was my neighbour at Winfield, holding for me his chief house, Dethick, by knight's service," and asking for the wardship of the young heir. The request was granted, and it was no doubt while he was a member of Lord Shrewsbury's household that Babington's romantic attachment to the Queen of Scots was first formed, with such disastrous results in after years to both. Mary left Winfield for the last time in January 1585, and her execution for her alleged complicity in the Babington conspiracy took place at Fotheringhay two years later.

Winfield Manor remained in possession of the Shrewsbury family until 1516, but on the decease of Gilbert the seventh earl in that year it was divided between the respective husbands of his three daughters—William, Earl of Pembroke, Henry Grey, Earl of Kent, and Thomas Howard, Earl of Arundel and Surrey. On the outbreak of the Civil War the manor-house was held by Earl Pembroke, who was found on the Parliamentary side. Sir John Gell had raised in October 1642 about 200 men in Chesterfield by beat of drum, and with this small force, which he succeeded in adding to in various places, he gave a good account of himself throughout the county. He met Sir Thomas Fairfax at Nottingham, and on his solicitation went to Winfield Manor in order to communicate with some Derbyshire gentlemen, one of whom was Mr. Milward, who had been a "Captayne of a trayned band," to persuade him to take up arms for the Parliament; but he was too late, for Mr. Milward had just previously accepted a commission of the king for a regiment of foot. Sir Thomas soon afterwards marched to Derby and desired to Colonel Gell that he would let him have 400 or 500 "musquetiers" to march with him towards Chesterfield and thence to Yorkshire. He was unable to spare that number, but Colonel Gell told him that he had 100 men at Winfield Manor, of whom he might have sixty, about a similar number from Captain Taylor's Company at Wingerworth, and forty of Captain Stafford's company at Chatsworth. With these it is said he was "well pleased" and marched as far as Chesterfield, where an "allaram" reached him that the Earl of Newcastle's forces were marching towards Derbyshire. He at once retreated into Leicestershire, to the apparent disgust of Sir John Gell, who declared his ability to cope with the Earl of Newcastle, and who endeavoured unsuccessfully again to join hands with Fairfax. Meanwhile the Earl of Newcastle's forces had commenced an assault upon Winfield Manor on December 7, 1643, and after four days they took it by storm; but Colonel Gell, by a rapid movement of his forces, was on the spot ten days afterwards, and in one day took prisoners two troops of horse, with their colours, in Winfield town, though he did not at that time seek to regain possession of the manor-house. The Earl of Newcastle soon departed with the main body of his troops, leaving a garrison to hold the manor-house. This garrison seems to have acted on the offensive as well as the defensive, for the following year Colonel Gell sent to Nottingham to Governor Hutchinson and Colonel Thornough for their assistance to beleaguer Winfield because it was, he said, as great an annoyance to Nottinghamshire as to Derbyshire. The place was in

due time environed, but about a fortnight later part of the besieging force had to be sent away to disperse several small bodies of Royalist troops who were assembling at Burton from Lichfield, Tutbury and other places with the intention of relieving Winfield. Major Sanders, who had charge of the detachment, had the good fortune to surprise Colonel Eyre and his regiment in Boylestone Church, capturing the whole of them without the loss of a single man on either side. Leaving a guard of dragoons over the prisoners in the church, Sanders pressed forward to Burton, where his mission of breaking up the Royalist bands was completed, and he then returned with his men to the "leaguer" at Winfield Manor again. The operations occupied some months. The besiegers managed to cut off the supply of water, hoping that this would soon bring the besieged to terms, but the latter got over the difficulty by sinking a deep well in the courtyard whence they obtained an excellent supply. In cannon, the besieged were better off than those outside, and at length "Colonell Gell finding that his ordinance would doe noe goode against the Mannor, and understanding that Major-Generall Craford had foure great peeces, sent two of his officers unto him to desire him to send them for three or four dayes for battering; and in soe doinge hee would doe the countrey good service, because it was a place that could not bee otherwise taken without they were pined out." We are told that Major-General Crawford, "desirous to doe the State and countrey good service, came presently with his ordinance and some horse and ffoott thither." The bombardment commenced on the east side from Pentrich Common, and a battery raised for the defence of the manor was soon carried, but it was found impracticable to make a breach in the walls. The cannon were then taken to a wood on the west side, where they were brought to bear with such effect that after a "three houres battrey," the garrison, numbering about 220, yielded. Pilkington, in his "History of Derbyshire," writes:—"I saw the breach by which the assailants entered, and several of the cannon-balls which were employed on this memorable occasion—one, which was lately found in the hills, weighs 32 lbs. Colonel Dalby, who was the governor of the place, was killed by a deserter who knew him as he was walking disguised as a common soldier in the stable. The hole through which he introduced his musket is still to be se n near the porter's lodge." In 1646 an order was issued by Parliament for the dismantling of Winfield Manor, and Colonel Roper, described as "a person of great worth and well known in Derbyshire," was deputed to execute the order. The destruction, however, appears to have been only partial, for twenty years later a part of the manor-house was the residence of Immanuel Halton, a famous mathematician. In later years the estate was divided, and in 1744 a member of the Halton family, to whom the manor-house had been allotted, barbarously used the ruins as a quarry for stone to erect the house at the bottom of the hill. Dr. Cox says that he has in his possession some original drawings made in 1785 which show that, notwithstanding all the vicissitudes through which the place had passed, the windows of the principal rooms remained glazed even at that date. I have carefully refrained from attempting to discuss several interesting but controversial points, which, though not strictly within the scope of the paper, offer tempting themes for remark—such as Elizabeth's treatment of Mary, and the extent to which Mary had knowledge of the Babington conspiracy—and have limited myself to setting forth the historical associations of the manor-house, and I trust that what has been said may awaken an interest in the fine old ruins which we hope to inspect for ourselves shortly.

A MUSEUM OF CARTHAGINIAN ANTIQUITIES.

THE British consul at Tunis, Sir Harry Johnston, in his report to the Foreign Office on the progress in the regency of Tunis, states that an admirable museum of Carthaginian and Roman antiquities has been formed, a collection of which is being yearly added to by the careful excavations which are being made under the direction of Père Delattre on the site of Carthage. M. Gauckler has, as the headquarters of his collections, the handsome Museum el Alaoui, established in the old Beylical Palace of the Bardo, five miles from Tunis. At the Alaoui Museum, Roman remains and Arab art are equally well illustrated. Among the more important works in 1897-98 undertaken by the Government department which is under M. Gauckler's direction, may be mentioned the gradual revelation and repair of the Roman baths at Tabarka, the discovery or repair of the aqueducts of the Sukra, the cisterns of Teburba and of Mehdia, and of the Roman fountain at Thala. On the heights of the Odéon two Roman villas of relatively late date have been discovered and cleared. They contain mosaics in layers which represent in their series the gradual progress of the art, and therefore supply most interesting information as to the gradual development of mosaic work. Another Punic cemetery has been discovered near Borj-Jedid, while at Duaf-esh-Shar, near Goletta, a most interesting mosaic 7 metres square has been brought to light. It represents a Roman mansion with various hunting scenes, and a temple of Apollo and Diana. To the south-east of Zaghwan an interesting Christian church has been discovered, containing a baptistery in the form of a cross, entirely paved with mosaics. One of the aisles had been closed at some time or other by means of an immense stone coffin-lid from a Pagan sarcophagus. This is ornamented with bas-reliefs of the Three Graces surrounded by the Four Seasons. This object has been removed to the Alaoui Museum, where also have been placed some very beautiful and perfect statues recently discovered by M. Gauckler near Carthage, and some large mosaics of the greatest interest, one of them illustrating the land of Egypt, with crocodiles, hippopotami and apes.

As regards Arab art, the mosaics of Kairwan are being judiciously preserved from decay, and hidden beauties have been revealed by the removal of innumerable layers of whitewash. The Alaoui Museum at the Bardo has just come into possession of a real treasure—a beautiful little house in the very best style of Saracenic art and architecture, which, all unknown to the authorities, actually existed alongside the Bardo Museum, only separated by a thick wall. The Bardo, of course, even in its decay is an extraordinary pile of buildings, at one time a little town of continuous inhabitations. Not only did the Beys of Tunis and many of their children and their children's dependents live here, but widows of former Beys continued to reside in nooks and crannies. One such widow of a long-deceased bey inhabited an exquisite little dwelling alongside the Bardo Museum, entered from the outside, however, by one mysterious door only. A black eunuch was often seen going in and out of this door, but as it was known that the apartments to which he went contained some female member of the Beylical family no inquiries were made. A few months ago, however, the old lady in question died. After a time her heirs decided, for some reason best known to themselves, to destroy the house in which she had lived. Accordingly Arab workmen were sent to break a way in through the outer wall. These operations and the peep of an exquisite interior which was afforded attracted the attention of the director of the museum, who forthwith made an appeal to the enlightened spirit of the Bey of Tunis. His Highness at once took measures to stop the destruction, and finally managed to transfer the possession of this Arab dwelling to the director of the museum. The damage done was soon repaired. On the other hand, the simple piercing of the wall connected with the Museum of El Alaoui this beautiful Arab house, to which it will remain attached as a specimen of the best style of Saracenic domestic architecture and decoration. It is intended that the house shall be left entirely intact, with Arab cooking implements, Arab furniture, beds and the like, just as though it was about to be occupied, so that visitors to Tunis may realise the appearance of an Arab house of the best description before the spread of European ideas had spoilt local taste.

TESSERÆ.

Sir James Thornhill.

HIGH as was Thornhill's reputation, he was far from being generously rewarded for some of his works, and for others he found it difficult to obtain the stipulated prices. His demands were contested at Greenwich, and though La Fosse received 2,000*l.* for his work at Montagu House, and was allowed 500*l.* for his diet besides, Sir James could obtain but 40*s.* a yard square for the cupola of St. Paul's, and no more for Greenwich. When the affairs of the South Sea Company were made up, Thornhill, who had painted their staircase and a little hall by order of their cashier, demanded 1,500*l.*; but the directors learning that he had been paid but 25*s.* a yard for the hall at Blenheim, they would allow no more. He had a longer contest with Styles, who had agreed to give him 3,500*l.* for his work at More Park; but not being satisfied with the execution, a lawsuit was commenced, and Dahl, Richardson and others were appointed to inspect the work. They appeared in court, bearing testimony to the merit of the performance. Styles was condemned to pay the money, and by their arbitration 500*l.* more for decorations about the house and for Thornhill's acting as surveyor of the building. This suit occasioning inquiries into matters of the like nature, it appeared that 300*l.* a year had been allowed to the surveyor of Blenheim, besides travelling charges, 200*l.* a year to others, and that Gibbs received but 550*l.* for building St. Martin's Church. By the favour of that general Mecænas, the Earl of Halifax, Sir James was allowed to copy the cartoons at Hampton Court, which occupied him for three years. He executed a smaller set of one-fourth the dimensions. Having been very accurate in noticing the defects and the additions by Cooke, who repaired them, and in examining the parts turned in to fit them to the places, and having made copious studies of the heads, hands

and feet, he intended to publish an exact account of the whole for the use of students, but this work never appeared. In 1724 he opened an academy for drawing at his house in Covent Garden, and had before proposed to Lord Halifax to obtain the foundation of a royal academy at the upper end of the Mews, with apartments for the professors, which, by an estimate he had made, would have cost but 3,139*l.*; for Sir James dabbled in architecture, and stirred up much envy in that profession by announcing a design of taking it up, as he had before by thinking of applying himself to painting portraits.

The Oecus.

The word oecus signifies a room of extraordinary size, though it very frequently means an entrance hall or dining-room. Vitruvius mentions four kinds of them in such a way as to vary them into five species; he mentions the Tetrastylon, two Corinthian ones, and adds to these also the Cyzicene and Egyptian. Oecus Tetrastylos is a room where four insulated columns support an upper storey. It will be convenient to have the entrance of this construction, for the floor of the hall will thus be made more secure, and by the advantage of the columns the height of the entrance may be made to agree with the proportion of the other parts. The Corinthian oecus is a room which, according to Vitruvius, has single columns placed either on a poggio or base, or on the ground; that is, columns in a single row and inserted in the wall, either standing upon pedestals, as in the first figure, or standing on the ground, as in the second, and for the sake of distinction it is called Corinthian; each style is excellently adapted to a hall. The entablature may be made either of wainscot or stucco. The ceiling should be either semicircular or curvature, depressed to the third part of the breadth of the room. The most beautiful length will be that which exceeds the breadth by two-thirds. The Cyzicene oecus was not of Italian but of Grecian origin, nor does it differ so much from the Corinthian in figure and use as in the situation, the doors and the windows. It looks towards the north and into the gardens, and so capacious are its dimensions that it would contain two triclinia placed opposite each other with their respective circuits. It has folding doors in the middle, and windows made to open like doors to command a view of the gardens. The Egyptian oecus, far exceeding the others in beauty, contains the height of two storeys, so that it has two orders or rows of columns. The lower ones are insulated, with an architrave only placed upon them, according to Vitruvius, but to which Palladio properly adds a frieze and a cornice. On the corona of this rests an entire wall, in which is inserted a second order of columns, which are either half or three-quarter ones. They are placed directly over the insulated columns, and are a fourth part less, and in their intercolumniations are windows. In the part below the wall stands off from the columns, but is connected by means of the storey above; so that round the sides of the hall a walk is formed by the columns, covered with a floor open to the air, and with a balustrade.

Fashions in Art.

The influence of fashion, in producing so frequent revolutions in the sentiments of men with regard to the beauty of those objects to which it extends, and in disposing us to neglect or to despise at one time the objects which we considered as beautiful before, may perhaps be explained upon the principle of association. Fashion may be considered in general as the custom of the great. It is the dress, the furniture, the language, the manners of the great world which constitute what is called the fashion in each of these articles, and which the rest of mankind are in such haste to adopt, after their example. Whatever the real beauty or propriety of these articles may be, it is not in this light that we consider them. They are the signs of that elegance and taste and splendour which is so liberally attributed to elevated rank; they are associated with the consequence which such situations bestow, and they establish a kind of external distinction between this envied station and those humble and mortifying conditions of life to which no man is willing to belong. It is in the light, therefore, of this connection only that we are disposed to consider them; and they accordingly affect us with the same emotion of delight which we receive from the consideration of taste or elegance in more permanent instances. As soon, however, as this association is destroyed, as soon as the caprice or inconstancy of the great have introduced other usages in their place, our opinion of their beauty is immediately destroyed. The quality which was formerly so pleasing or so interesting in them, the quality which alone we considered, is now appropriated to other objects, and our admiration readily transfers itself to those newer forms which have risen into distinction from the same cause. The forsaken fashion, whatever may be its real or intrinsic beauty, falls, for the present at least, into neglect or contempt, because either our admiration of it was founded only upon that quality which it has lost, or because it has now descended to the inferior ranks and is of consequence associated with ideas of meanness and vulgarity. A few years bring round again the same fashion. The same association attends it, and our admiration is renewed as before. It is on the same account that they who are most liable to the seduction of fashion are people on whose minds the slighter associations have a strong effect. A plain man is incapable of such associations, a man of sense is above them, but the young and the frivolous, whose principles of taste are either unformed or whose minds are unable to maintain any settled opinions, are apt to lose sight of every other quality in such objects but their relation to the practice of the great, and of course to suffer their sentiments of beauty to vary with the caprice of this practice. It is the same cause which attaches the old to the fashions of their youth. They are associated with the memory of their better days, with a thousand recollections of happiness and gaiety and heartfelt pleasures which they experience now no more. The fashions of modern times have no such pleasing associations to them. They are connected to them only with ideas of thoughtless gaiety or childish caprice. It is the fashions of their youth alone, therefore, that they consider as beautiful.

Roman Coloured Inks.

It is probable that there were many ways of colouring ink, in changing different colours, employed by the Romans. Red ink (made of minium, vermilion) was used for writing the titles and beginnings of books, so also was ink made of rubrica, "red ochre," and because the headings of laws were written with rubrica, the word rubric came to be used for the civil law. So album, a white or whited table, on which the praetors' edicts were written, was used in a similar way. A person devoting himself to album and rubrica was a person devoting himself to the law. There was also a very expensive red-coloured ink with which the emperor used to write his signature, but which any one else was by an edict forbidden to use, excepting the sons or near relations of the emperor, to whom the privilege was expressly granted. But if the emperor was under age, his guardian used a green ink for writing his signature. On the banners of Crassus there were purple letters. On pillars and monuments letters of gold and silver, or letters covered with gilt and silver, were sometimes used. In writing also this was done at a later period. Suetonius says that of the poems which Nero recited at Rome one part was written in gold (or gilt) letters (aureis litteris) and consecrated to Jupiter Capitolinus. This kind of illuminated writing was more practised afterwards in religious compositions, which were considered as worthy to be written in letters of gold (as we say even now), and therefore were actually written so.

Nature and the Ideal.

Nature is a collective idea, and though its essence exist in each individual of the species, can never in its perfection inhabit a single object; our ideas are the offspring of our senses; without a previous knowledge of many central forms, though we may copy, we can no more imitate, or, in other words, rise to the principle of action and penetrate the character of our model, than we can hope to create the form of a being we have not seen without retrospect to one we have. Meanness of manner is the infallible consequence that results from the exclusive recourse to one model; why else are those who have most closely adhered to, and most devoutly studied the model, exactly the most incorrect, the most remote from the real human form? Can there be anything more disgusting to an eye accustomed to harmony of frame than the starveling forms of Albert Dürer, unless it be the swampy excrescences of Rembrandt? the figures of the former, proportions without symmetry; those of the Dutch artist, uniform abstracts of lumpy or meagre deformity; and yet the German was a scientific man, had measured, in his opinion had reduced to principles the human frame; whilst the Dutchman, form only excepted, possessed every power that constitutes genius in art, seldom excelled in invention and composition, and the creator of that magic combination of colour with chiaroscuro, never perhaps before and surely never since attained. And did not the greatest master of colour but one, Tintoretto, if we believe his biographer Ridolfi, declare that "to design from natural bodies, or what is the same, from the model, was the task of men experienced in art, inasmuch as those bodies were generally destitute of grace and a good form?" We are informed by the Latin editor of Albert Dürer's book on the "Symmetry of the Human Body," that during his stay at Venice he was requested by Andrea Mantegna, who had conceived a high opinion of his execution and certainty of hand, to pay him a visit at Mantua, for the express purpose of giving him an idea of that form of which he himself had had a glimpse from the contemplation of the antique. Andrea was then ill, and expired before Albert could profit by his instructions. This disappointment, says the author of the anecdote, Albert never ceased to lament during his life. How fit the Mantuan was to instruct the German is not the question here; the fact proves that Albert felt a want which he found his model could not supply, and had too just an idea of the importance of his art to be proud of dexterity of finger or facility of execution, when exerted only to transcribe or perpetuate defects

NOTES AND COMMENTS.

IN these days, when old and young believe they are competent to judge buildings, statues and pictures, it is refreshing to meet with an eminent man of letters and a scholar to boot who is not ashamed to own his incapacity to instruct working artists. Last week Sir WALTER BESANT appeared as a lecturer at the Manchester Art Museum. Those present who expected to have at least an exposition of the mathematics of æsthetics or of the principles adopted in designing the Temple of Jerusalem, were disappointed, for the lecturer confined himself to some ancient and modern artists whose work, as HEINE says of MOSES, was not in brick and granite, but who tried to form human pyramids, human obelisks, and out of the residuum to raise a people. As to himself Sir WALTER BESANT said :—"I have always felt that it is an impertinence, to say the least, for a man who does not possess some practical knowledge of art, if only enough to understand its difficulties and to appreciate its limitations, to put himself forward as an art critic. For my own part, I have never attended an art school; I have never even made a serious study of art; I believe that I could perhaps distinguish between an early Flemish master and an early Italian; in an examination on the history of art I should come out as badly as most. As for the characteristics of the great painters, ancient or modern, I am like the man in DU MAURIER'S picture. 'Before a BOTTICELLI,' he said, 'I am dumb.' In fact, I am obliged to be dumb because I have nothing to say." In spite of this self-depreciation we suppose there are no readers of Sir WALTER BESANT'S books who would be anxious about the result if he were to announce the publication of what is called an "art novel," or let us say one in which most of the characters would be followers of one or other of the arts.

THE mystery in which the poverty of REMBRANDT has been enveloped is likely to be dispelled if Dr. A. BREDIUS, the director of the Mauritshuis, continues to be fortunate in discovering records like those he has imparted to the *Oud-Holland*. It appears that in 1654, when he was in litigation with the representatives of his late wife, REMBRANDT received from DIEGO D'ANDRADO, a Portuguese Jew, an advance of 75 florins on account of a portrait of a young girl. The work was completed, but DIEGO declared it did not resemble the original, and through his notary, ADRIEN LOCK, demanded that the work should be altered or the money returned. REMBRANDT declined to do either, and threatened proceedings against the Portuguese for libel. He demanded payment of the balance, and said he was willing to submit the portrait to the judgment of a jury of members of the Painters' Guild of St. Luke. Otherwise he would sell the portrait by public auction. The result is not known, but it is evident from the incident that REMBRANDT was losing his popularity as a portraitist. The second revelation discovered by Dr. BREDIUS relates to an action for breach of promise which was taken against the painter by GEERTJE DIRCX, who was the nurse of his son TITUS. She declared he not only promised, but gave her an engagement ring. REMBRANDT confessed his intimacy with the plaintiff, but denied the promise to wed. The Court, however, decided against him, and he was ordered to pay 160 florins down and 200 florins yearly to GEERTJE. As REMBRANDT'S prices were much reduced the drain on his resources was unendurable. It would be interesting to know what the other maid-servant, HENDRICKJE SLOFFELS, thought of the affair. The two cases indicate that REMBRANDT was as weak a man as his later portraits suggest.

THE extent of the business in illustrated post-cards which is transacted abroad can hardly be realised in England. One firm in Dresden has published 20,000 views in that form, including many of the most interesting subjects in Europe. Some publishers confine themselves to architecture and street scenes, while others give reproductions of famous pictures in continental galleries. In fact, a variety of subjects can be obtained, from portraits to armorial shields. Already collections of photographic post-cards have with some supplanted those of postal stamps, and they are found to be more interesting. Exhibitions of them are occasionally held. The curators of galleries and historic buildings which are open to the public in many places aid in promoting the sale of the views. There is a novelty in sending a communication from a feudal castle like Pierrefonds which many are glad to seize. The preparation of the cards offers a new field of industry to others besides photographers, and there is no doubt they will lead to an increase of interest in buildings, pictures and statues. There is also the advantage of accuracy, and a comparison of the old-fashioned views on note-paper with the modern photographs, however small may be the scale, will exemplify one of the differences between science and art.

THE French people are so fond of public acknowledgments whenever they render the least services to the State, it is no wonder few gifts are rendered to the musées and other galleries. What is the return for a valuable picture or statue? There is an official acknowledgment of whatever is given, but a man cannot go about with the document around his hat, and the public therefore cannot admire his generosity. The Municipal Council of Paris has at last realised how little inducement there is to make the citizens become donors to the public collections. It has been, therefore, resolved that for the future every one who offers an important gift which will be worthy of acceptance is to receive a medal bearing an effigy of the Republic with an inscription recording the gratitude of the city. As in appearance it will correspond with the medals to which the town councillors are entitled, a man can be taken to be one of the civic fathers without undergoing the trouble of an election. By the new arrangement it is anticipated the Musée Carnavalet and the Bibliothèque Historique will be enriched without any increase of the rates.

ILLUSTRATIONS.

CATHEDRAL SERIES.—ROCHESTER: NAVE, LOOKING WEST.—DOORWAY IN SOUTH CHOIR TRANSEPT LEADING TO CHAPTER-HOUSE.—DETAILS OF WEST DOORWAY.

THE west doorway of Rochester Cathedral must have been considered when first seen as a marvel. There is a wonderful contrast between its sculptured richness and the severity of the interior. HENRY I., who is introduced as if he were one of the pillars of the Church, had granted several privileges to St. Andrew's Priory, and we suppose it was considered a duty to represent him. He holds in his right hand a sceptre, and in his left a book, for it is well to remember he was known as Beauclerk, or Scholar. But he was hard on the Church, and for a time devoted the revenues of Norwich, Ely, Canterbury, Durham and Hereford to his own use. He also exacted large sums from the prelates and abbots. He seized on all the treasures left by GILBERT, Bishop of London, for the benefit of the Crown. It suggests the terrible state of oppression at the time when we find the following in the Saxon Chronicle :—"How unjustly this miserable people is dealt with. First they are deprived of their property, and then they are put to death. If a man possesses anything it is taken from him; if he has nothing he is left to perish by famine." Queen MATILDA, who is seen on the other side, was originally called EDITHA, and was the daughter of MALCOLM III. of Scotland. She was a popular queen, and was known as Molde, or the Good. She was a patroness of minstrels and poets, and munificent beyond her means. The lintel above the figures is supposed to represent the Apostles, and in the tympan is a figure of CHRIST supported by angels and surrounded by the evangelistic symbols. The other doorway is flanked by figures typical of the church and the synagogue. The latter was not supposed to be a pleasing figure, but it will generally be found that the sculptors availed themselves of the opportunity to represent a beautiful woman, and we suppose the figure at Rochester was no exception. Over them are figures of doctors and angels, and a canopied figure which it is impossible to identify forms the apex. The door itself is modern.

QUEEN'S HOTEL, LEICESTER SQUARE.—GRILL ROOM.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

By the Author of "Ecclesiologia Germanica," &c.

(*Continued from page* 371.)

XXIII.

Beauvais.

AFTER a *café au lait* in the Place on the following morning I repaired to the cathedral with the intention of "assisting" t the Offices du Matin—Terce, Canons' Mass and Sext—but to ny great regret learnt that, from pecuniary reasons, their recita- ion had been discontinued. I have never had the good fortune o hear an accompanied service in Beauvais cathedral; its effect nust, I conceive, be very fine.

The money spent some five-and-twenty years ago upon the rection of an astronomical clock would, properly invested, have one far towards the sustentation of the daily choral offices in his sublime Gothic choir, which one tries hard to think is not a building where an artist has striven after more than he can possibly attain. It is, perhaps, presumption to criticise such work as this, yet it is impossible to pursue architectural study with that blind faith which drives one to indiscriminate admira- ion of everything done by twelfth and thirteenth-century builders.

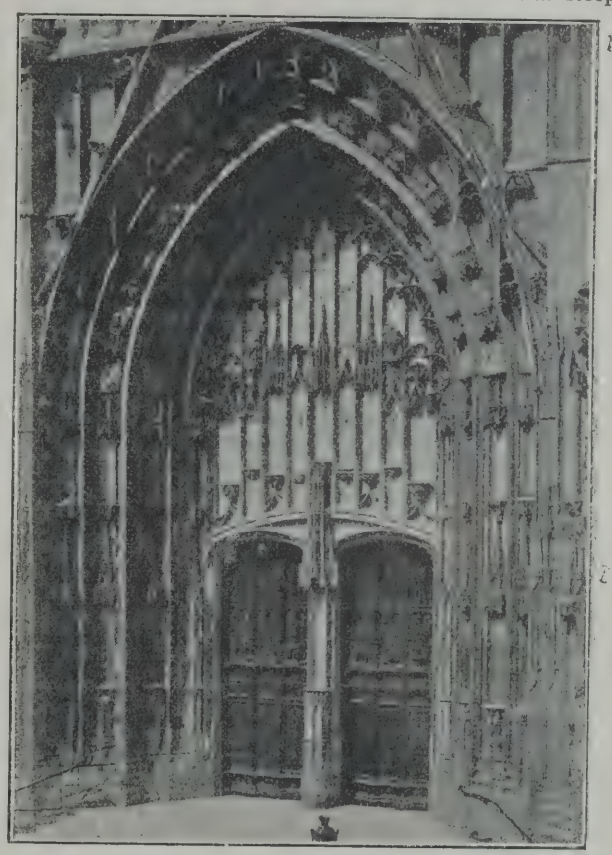


Beauvais Cathedral: from the South-east.

A glance at the apsidal chapels convinces us that Beauvais athedral was originally planned on a scale by no means aggerated; but when the desire for emulating the neighbour- g cathedral of Amiens became too strong to be resisted, a iforium and clerestory were raised on the arches opening to ese chapels in order that the vault of the circumambient aisle ight reach the increased height of the great choir arcades on which was reared a clerestory reaching the unprecedented eight of 157 feet.* Commenced in 1225 and consecrated in 1272, Beauvais choir fell twelve years afterwards—punishment brought on by that "vaulted ambition which overleapeth itself."

Looked at in this light, one is not surprised, especially on examining the arches of the choir, to find a building so unworthy of its age—the palmiest one of French architecture. Here the main object of the architect seems the attainment of height and airiness at the expense of everything else, many of the details being coarse and even slovenly in execution. In order to remedy its defects after the fall, the three arches on either side of the choir were subdivided into six, and from the great size of the piers and the narrow span of the arches, the present effect of the interior of this choir, terribly sublime at a first glance, is one in which the arches have little to do, and in which much beauty has been sacrificed in order to keep the vault from falling in again. In the portion of unrelieved wall between the tops of the six arches and the triforium string-course, traces of the three original ones are plainly distinguish- able.

The best work in the cathedral is, as may be guessed from its date, in the apsidal chapels and the eastern aisle of either transept, which is good thirteenth century. The upper portions of the transepts were not begun until the com- mencement of the sixteenth century,* and one bay of the nave had been projected when, on the completion of the transepts, whose works had dragged on for more than fifty years, it was abandoned for the erection of a central steeple



Beauvais Cathedral: South Portal.

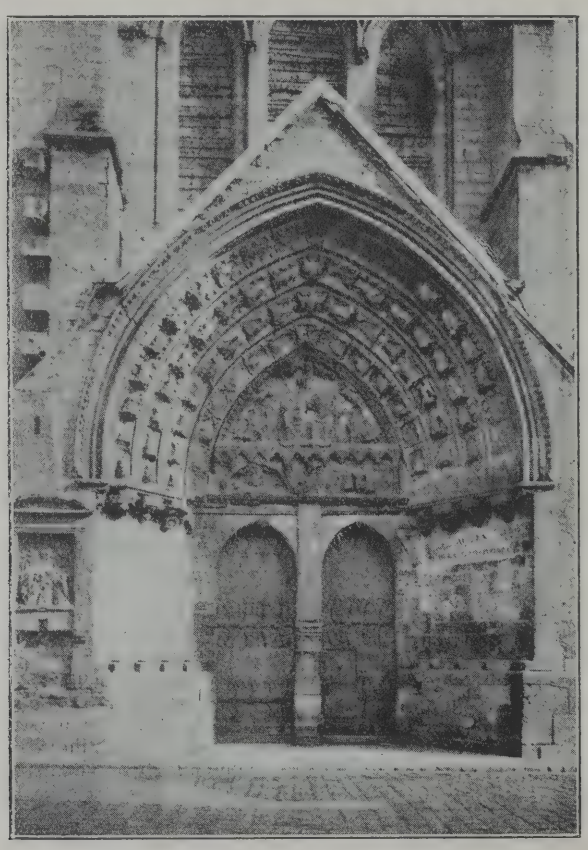
which should rival in altitude that of the dome of St. Peter's. Finished in 1568, this steeple, in consequence of being built before the nave was there to receive its lateral pressure, lasted but five years. "Le jour de l'Ascension de l'Année 1573, tandis que le clergé et le peuple étaient en procession dans les rues de la cité, elle s'écroula avec un fracas épouvantable: un épais

* The following notes on the chronology of this remarkable edifice, om Pierre Louvet's "Nomenclatura et Chronologia Rerum Ecclesi- ticarum Diœcesis Beluacensis," 1613, may be quoted:—"*Milo de antholio Episc.* 1225. Bruslement du chœur de S. Pierre de auuais. *Guilelmus de Gressio Episc.* 1247-69. Il fist paracheuer le œur de S. Pierre. *Reginaldus de Nantolio Episc.* 1272. Les anoines commencent de faire le diuin service au nouueau chœur de ur Eglise Cathédrale. *Theobaldus de Nantholio Episc.* 1284. rande ruine ès voultes et pilliers du chœur de S. Pierre de Beauuvais, de manière que les chanoines y cessèrent le diuuin seruice par le temps de *quarante ans.*" It is not a little curious that Europe's two most stupendous choirs, *i.e.* those of Beauvais and Cologne, should have been completed almost simultaneously, *i.e.* in 1322. During the rebuilding of Beauvais choir the services were held in the Basse Œuvre, of which rude Romanesque building a portion still remains west of the unfinished nave.

* The prelate under whom this gigantic work was begun was Louis de Villers de l'Isle Adam, and Louvet in his "Chronologia" records the "Commencement de la Croisée de l'Eglise Cathédrale de Sainct Pierre de Beauuais, 1500." These transeptal façades at Beauvais certainly rank very high indeed among works of their age and class, works in which the hand that achieved the transept of Sens may be traced.

nuage de poussière couvrit toute la ville. Dès la veille, de tristes indices avaient annoncé le malheur qui devait bientôt arriver : quelques pierres isolées s'étaient détachées du sommet ; l'équilibre était rompu ; rien ne pouvait arrêter la catastrophe. Le Maître Maçon était monté à l'intérieur de la tour, pour examiner l'état de la muraille ; il s'aperçut promptement de l'imminence du danger. Il cria au peuple assemblé dans l'église qu'il eût à se retirer très-promptement. Il n'était pas encore descendu, que l'affreuse chute ébranla toute l'église et répandit la consternation dans les esprits. On se hâta de réparer les dommages occasionnés par ce terrible accident ; mais qui eût osé penser à reconstruire cette aiguille prodigieuse? On se contenta d'élever à la place un modeste campanile en bois." (Bourassé, "Cathédrales de France.")

The vault of the south transept, which had suffered most from the fall of this steeple, was restored, and the date of its completion, 1593, can be read upon one of the keystones. The works in the nave were resumed, but the treasury was so completely exhausted that they were abandoned. Perhaps this was not altogether to be regretted when the declension of Gothic art at the commencement of the seventeenth century is remembered. However, its completion might have formed a not uninteresting epoch in the history of French architecture, besides enhancing our appreciation of that choir which, in spite of its faults, can only be viewed for the first time with bated breath.



BEAUVAIS : WEST DOOR OF ST. ETIENNE.

Although vastly inferior to some of her Northern sisters in richness and extent of coeval vitreous decoration, Beauvais Cathedral presents the student with a specimen of each of the three great phases through which the art of glass staining passed.

Of the Mosaic style the early thirteenth-century windows of the lady chapel are very good examples. In the clerestory of the choir we have an exemplification of that system which prevailed so extensively in the fourteenth century, of arranging the subjects or figures with a band of rich colour about the middle of a long succession of windows, so as to produce a decided horizontal line of rich colour throughout the building, harmonising with and assisting the lines of the architecture. In the present instance this arrangement of a band of canopied figures with white glass above and below * is not only productive of a good effect in windows at such great height, but gives an idea of strength to the fenestration, which would otherwise have had an attenuated look.

Of stained-glass produced just previous to its fall, that in the great transeptal roses at Beauvais is very fine and rich in colouration.

Among the curios brought together in a museum hard by the cathedral, I regarded with melancholy interest a fair embroidered mitre. It belonged to F. de la Rochefoucauld, Bishop of Beauvais at the time of the Revolution, and who, with his brother the Bishop of Saintes, the venerable Dulau, Archbishop of Arles, and nearly 200 ecclesiastics of every grade, so bravely "met the tyrant's brandished steel" in the awful massacre that took place in the convent of the Carmelites at Paris on the night of September 2, 1792.

(*To be continued.*)

* For a long time after the Gothic Revival artists in stained-glass perpetuated the fatal mistake of overloading their windows with positive colour. A glaring instance of this is the great south transeptal rose at Westminster, the work of Ward and Nixon in 1847-48. Among pioneers of the Revival, Mr. Butterfield paid great attention to stained-glass, and, wherever he could, superintended the execution of windows to be placed in churches of his own design, much in the same way as Pugin did. To this fact, and to his insistence upon white or neutral glass for backgrounds to his figures, the east window of the south aisle at All Saints, Margaret Street, by O'Connor, owes so much of its excellence ; also those at the east end of St. Augustine's College Chapel, Canterbury, and St. Matthias, Stoke Newington, by Willement and Wailes respectively. Within the last twenty years a liberal use of white glass has, I am glad to say, grown into favour with the majority of our leading practitioners in the vitreous art, and those wishing to judge for themselves of the sparkling effect produced by a bold employment of grisaille balanced by strongly-expressed colours in vigorous contrast will be gratified by an inspection of such works as the eastern quintuplet of lancets in St. Margaret's, Lee, S.E., the east window of SS. Peter and Paul, Teddington (superintended by the late G. E. Street, R.A.), and those in the clerestory of St. Mary Abbott's, Kensington, all the work of Messrs. Clayton & Bell ; by that in the northern chapel of All Hallows, Southwark, by Messrs. Burlison & Grylls ; and by that with which Mr. J. Ninian Comper has graced the very Early Middle Pointed east window of the College chapel at Brackley, one of the most successful modern windows of the style with which I am acquainted. Much of the recent German glass in this fourteenth-century style is excellent. I refer more particularly to those in the northern range of chapels in Mayence Cathedral ; to the eastern windows in the Minster, at Essen, and to those in St. Lambert's, at Münster—all of which, from their attenuation, are peculiarly fitted for the treatment adopted in the clerestory at Beauvais.

THE REVIVAL OF TRADESMEN'S SIGNS.*

WHEN at the request of our chairman I undertook to read a paper on "Signs" I hoped that not much research would be necessary. I soon, however, became aware that to do justice to it would be almost like writing a history of England. I only now begin to understand why our chairman selected it, and that I was perhaps somewhat rash in agreeing to undertake the preparation of such a paper. But that books on the subject have already been written by Larwood and Hotten, Philip Norman and Hilton Price, I could hardly have dealt with signs at all this evening. To become really a pundit on this difficult and abstruse subject some knowledge of heraldry, astrology, mythology, theology, archæology, zoology, history, biography and geography is needed. I scarcely possess more than a limited acquaintance with many of these branches of knowledge.

The necessity for displaying some sort of sign if one wishes to barter goods, accommodation or service against money or kind, can hardly be disputed. In a new settlement the first care of the intending storekeeper is to scrawl his name and trade on a piece of wood and hang it out to attract the passers-by. In America this is called "setting up one's shingle." The necessities of the budding communities of to-day were no less felt in the past. In days when customers could not read a representation of the commodity on sale would be more serviceable than an inscription. If opposition stores were competing more telling representations of the same objects, more attractively rendered, would serve to distinguish one establishment from the other.

Such signs must have been in use from remote times. It is only when the wares themselves can be displayed to the passers-by in safety that signs can be dispensed with, as in open bazaars and markets. In the East time-honoured customs of trade and hospitality rendered signs unnecessary, and there is no mention of them in either the Bible, Josephus, or the "Arabian Nights." Neither has anything indicating their use been met with in the excavated cities of Asia and Africa. It

* A paper read before the Applied Art Section of the Society of Arts by Mr. J. Starkie Gardner, on May 30.

seems, in fact, that signs were an institution almost peculiar to Europe, for it is only within its limits that records of them appear—doubtfully in ancient Greece, but with certainty in Rome. The most venerable is that of the Bush, denoting the tavern in Italy, which reached Roman Britain. Our ancient proverb, "Good wine needs no bush," commemorates this most venerable of signs, the symbol of the house in which jovial companions foregathered. The Cock and the Chequers are also Roman signs, which no doubt equally found their way here, and link our civilisation with that mighty Empire to which we are perhaps apt to underrate our indebtedness.

In the earliest times, when people in England were mostly illiterate, only very easily understood signs could be used, clearly denoting the nature of the establishment and the trades carried on. In days when people and things actually were what they seemed to be, and there were no shams, embattled walls really symbolised the power of the noble, and banner-shaped vanes and finials proclaimed his degree. The church, the monastery, the mill, the smithy, the shambles, the malt-house were all easily recognised; the tavern or ale-house almost alone required some distinguishing sign. We consequently find that the earliest ordinances made it compulsory for these to display the Bush—the ivy bush—sacred to Bacchus; whilst other traders might display signs or not as they pleased. In the towns where more recondite trades were carried on, their kind was advertised by such articles as a woolpack, tailors' shears, barber's pole, oil-jar, or magnified boot or glove.

All signs of this nature are common or collective—that is, used in common by all engaged in the same trade. They are scarcely mentioned by old writers, but are seen in the earliest illustrations, something very like a "wine bush" appearing in the Bayeux tapestry. Among well-known examples of collective signs are the three golden balls of the goldsmiths, the three gold crowns of the drapers, the vintners' three tuns or bunch of grapes, the wheatsheaf of the brewers and bakers, the compasses of the masons and carpenters, and so on. Interesting as this branch of the subject might prove, it is not my intention to pursue it farther to-night.

Signs, distinguishing and peculiar to individual establishments, are the product of a later and more sophisticated stage of civilisation. They, perhaps, only came into use on the definite adoption of distinguishing badges by the nobility. The noble in residence in a city would, in feudal days, entertain his vassals and neighbours coming from his own part of the country; and, in his absence, hospitality would be dispensed by his seneschal or major-domo. Doubtless, as the feudal feeling relaxed, and guests became more casual and numerous, some payment might be looked for, if not by the nobleman, by his stewards. Similarly, in hospices and monasteries entertainment could be had, but payment from the well-to-do would be expected, as it is in continental hospices at the present day. In very remote parts, where travellers are rare, one is warmly welcomed, and no payment accepted; in more frequented routes, however, payment, though nominally optional, is expected; whilst along the regularly beaten tracks bills are made out and presented in the usual way. Under the latter circumstances, the business of entertaining well-to-do travellers becomes a source of considerable profit, and the nobleman's steward, equally with the rich merchant, would fix up some sign indicative of a readiness to receive paying guests. The citizen would distinguish his house by some fanciful device, like the trade-marks of to-day; or by a rebus, such as that handed down as the Bolt-in-Tun. We learn that the nobleman displayed a painting of his arms on his town house, a custom surviving to this day in the painted hatchment. No less a person than the poet Chaucer, summoned as a witness in the Scrope and Grosvenor dispute, as to the right to the Bend-or, deposed that in walking up Friday Street he saw a sign with these arms painted on, put there by a knight of Chester whom he had not previously heard of. Amateur Bonifaces were distinguished from professional "herbergists," and their houses only resorted to by people of substance. Such establishments were, beyond doubt, the origin of the bona-fide hostelry or hotel.

Individual signs, unlike the collective signs, are referred to by nearly all our older writers, such as Chaucer, Froissart, Shakespeare, Ben Jonson, Beaumont and Fletcher, and some of them are inwoven into our national history. Some still existing signs vie with and even surpass our oldest families in their venerable antiquity, dating back to the Plantagenets. The more ancient, if existing, would present a pictorial history of our manners, customs, sports and pastimes for 500 years past, and more or less correct representations of all our popular heroes. Walpole, writing a century and a half ago, remarked:—

"I was yesterday out of town, and the very signs as I passed through the villages made me make very quaint reflections on the mortality of fame and popularity. I observed how the Duke of Cumberland's Head had succeeded almost universally to Admiral Vernon's, as his had left but few traces of the Duke of Ormond's. I pondered these things in my head, and said unto myself, 'Surely all glory is but as a sign.'" *

The custom of not merely two, but hosts of a trade agreeing to cluster together, as in Goldsmiths' Row, Leather Lane, Ironmonger Lane, Budge Row, rendered it difficult to find enough appropriate and specifically distinguishing names to provide for each establishment, a difficulty such as is encountered in christening our numerous men-of-war to-day. For such multitudes of distinctive signs the realms of history (natural, sacred, profane and fabulous), of husbandry, travel, humour, of gastronomy and astronomy, the ménage, religion, sport and profanity, were ransacked. Everything upon, above or beneath the earth was pressed into the service, from the Virgin Mary to His Satanic Majesty; from our sovereign lord the King to Dirty Dick; the Moon and the Cheshire Cheese. The Cockatrice, Phœnix, Salamander, Griffin—fearful wildfowl these—and the more popular of the patron saints, figured largely on the signboard; nor were the ever-welcome devotees of the Leather Bottel and Pewter Tankard unremembered.

Of such signs as the Sun, Star, Crescent, Dolphin, Flying Horse, Fortune, Elephant, Bear, Lion, Cock, Wheatsheaf, Ivy and Vine, and Chequers, it is impossible to guess the antiquity. Some belong to pagan times. The Adam and Eve, Salutation, Angel, Virgin, Baptist's Head, Crosses and Cross Keys, Mitre, Nuns and Friars, must be Christian; signs like Neptune, Atlas, Hercules, Golden Fleece, smack of more freethinking times; while the Mother Redcap, Mother Shipton, Dick Whittington, Robin Hood, Guy of Warwick, the Black Prince, and the John of Gaunt, Falstaff and Palsgrave speak for themselves.

Some of the many Kings' and Queens' Heads and Crowns may date back to Mediæval times. The landlord of a Crown Inn was executed by Edward IV. for venturing upon the mild joke that he had made his son heir to the crown. The Tabard and the Bell in Southwark are mentioned by Chaucer in 1383, and the White Hart, hard by, was Jack Cade's headquarters, and has been immortalised by many pens, from that of Shakespeare to Charles Dickens. This, with the Antelope, Dragons, Red, White and Black Lions, White and Blue Boars, Swan, Hawthorn, Feathers and Rising Sun, were Plantagenet badges, and extremely popular while the dynasty lasted. Henry V. was entertained at a Red Lion on his return from Agincourt in 1415. The White Hart in Bishopsgate bore till quite recently the date 1480 on its front. The Boar's Head in Eastcheap is mentioned in the time of Richard II., and was once London's principal tavern. It was in this house that Prince Hal and his two brothers made such a riot that they merited the attention of the Mediæval chucker-out, and were taken before the magistrate. The Duke of Somerset, prophetically told to beware of castles, was killed by Richard Plantagenet in a Castle tavern. The Chequers on the Hoop was visited by Chaucer's "Canterbury Pilgrims," and a Chequers tavern stood in Lambeth in 1464.

The Tudor badges naturally supplied a fresh set of popular signs, of which the Rose was the favourite. Our saying "Under the rose," has not, however, an English origin. Perhaps some present have sat under the huge rose in the pleasant vaults of Bremen, where the town councillors were wont to meet to quench their thirst with draughts of Rhenish. The Bull and Mouth and Bull and Gate are believed to commemorate an event in the reign of Henry VIII.—the taking of Boulogne. Bulls and Bears became extremely popular signs under Elizabeth, when baiting these animals was the favourite national amusement.

There must have been a great massacre of Popish signs upon the demise of Queen Mary, such as Cross Keys, Maidens, and Catherine Wheels. The Three Nuns in Aldgate, mentioned by Ben Jonson, and the Pope's Head in Cornhill, which existed in 1464, and the Mitre in Cheape, extant in 1475, are notable survivals which still continue to flourish. These, like the Three Cranes in the Vintry, and the Mermaid Tavern in Bread Street, were once household words. It was in the latter that Raleigh established a literary club frequented by Shakespeare and the wits of the day. The only known letter to Shakespeare is dated from the Bull Tavern in Carter Lane. Of equal celebrity were the Rainbow and the Devil in Fleet Street, and Hell and Heaven, in Westminster, alluded to in Butler's "Hudibras." The Society of Antiquaries was incubated in the Young Devil Tavern in Fleet Street, though the august society in whose rooms we are assembled was evolved in the cooler atmosphere of a coffee-house hard by. Of the religious signs spared on the death of Mary, comparatively few survived the more drastic disestablishment under the Protector, Cromwell. An Act of Parliament even extinguished the Golden Cross in the Strand, as savouring of superstition.

Of the signs introduced by such events as the Stuart Accession, the Commonwealth and the Restoration, it would detain you too long to speak. Neither can we run through the catalogue of the hosts of admirals, generals, littérateurs and poets

* Walpole to Conway, April 16, 1747.

commemorated during the centuries of struggle through which we have attained to our present state of wealth and prosperity. Long may it be ere the Vernons, Drakes, Benbows, Rodneys, Nelsons, Keppels, Granbys and Marlboroughs disappear from our sign-boards, and the nation ceases to drink to their memories and think of their deeds. The innumerable whimsical, fantastic or far-fetched signs must also be passed over. The sporting signs of the Horn, the Greyhound, the Gun, the Nag's Head, Old Fox, the Coach and Horses, Spotted Dog, Horseshoe, Fox and Hounds, Hare and Hounds and Dog and Duck are dear to many, and speak of the tastes of our ancestors even more than of our own. When destined to disappear before the march of progress, some may at least remain of those perpetuated in the names of streets and squares, as Half Moon Street, Hart Street, Red Lion Street and Square and Falcon Square.

Under Richard II. it had been made compulsory on innkeepers to hang out signs, though other trades might do as they pleased. Within twenty years of his death, the great projection of the "ale stores," as tavern signs were then called, impeded the highway, especially in Cheape, and injured the stability of the houses, and an Act was passed to limit them to not more than 7 feet in length. Repressive and permissive measures seem to have alternated ever since. Sometimes the streets were graced with innumerable signs, hung out as banners are on gala days, their numbers defeating the object in view by obscuring each other. The efforts to outvie one's neighbours caused the signs, at times, to become so serious a nuisance that legislation had to be resorted to. Charles I. granted to the citizens of London on his accession, as a special boon, the right "to hang out signs and posts for the better finding out of their dwellings, shops, arts or occupations, without impediments, molestation, or interruption of his heirs or successors." His son, Charles II., however, took advantage of the Great Fire to abolish this privilege, and compelled all signs to be fixed to the face of the house. This fashion of fixing painted signs to house fronts, instead of hanging them out, has been maintained on the death of armigerous occupiers up to the present day. The carved stone and cast-iron signs let into the fronts of houses chiefly date from the edict of Charles II. Soon afterwards the hanging signs were again numerous, the difficulty of providing names introducing a dual nomenclature, when such combinations as the Cock and Bull, Cat and Fiddle, Goose and Gridiron became the fashion. The necessity for signs relaxed when the streets were numbered. This commenced in 1708, it appears, with Prescott Street, Goodman's Fields, for Hatton writes, "Instead of signs the houses here are distinguished by numbers, as the staircases of the Inns of Court or Chancery." Until then it was absolutely necessary to identify houses unprovided with signs or some distinguishing feature as in the vicinity of some other house adequately distinguished by some sign, as "over against" the Load of Hay or Yorkshire Grey. Omnibuses, like their forerunners the stage coaches, still as far as possible choose public-house signs to mark their destinations and stopping-places. The coffee-houses in the seventeenth century, entirely new and smart institutions, struck the greatest blow at the use of signs. Wishing it to be understood that they were not to be classed with the older tavern, they broke away from old customs and inaugurated the new mode of merely writing up the name of the owner, as Dick's, Tom's, Wills', Sam's, Buttons', Peales', or more high-sounding names as the Smyrna or Cyprus. The last repressive Act was passed in 1762 for taking down all overhanging signs under a penalty of 5*l.* and 20*s.* per day, and this was so effectual that scarcely any remained by 1770, except a few over the bookstalls in Holywell Street, which are noticed by our much-respected secretary, Mr. Wheatley, in his book on London as existing down to 1849.

The Mediæval form of projecting sign, as pictured by Larwood and Hotten in their excellent book, was a carving in wood fixed within a hoop. The hoop was a very venerable and ancient affair, handed down from Pagan times. The ivy garland in honour of Bacchus, the so-called "bush," and the universal tavern emblem, required a backbone, and this backbone remained after the ivy had been stripped from it. Some ancient illustrations show that the tavern "Bush" became elaborated into a series of intersecting hoops, garlanded over and surmounted by a crown of evergreens, perhaps additionally decorated with ribbons on gala days. From simple and pure to rich and fantastic is the order of progress in matters decorative, with set-backs when revulsion of feeling sets in. The Jacks-in-the Greens, nearly the last and now almost extinct survival of the old May-day revels, but which were quite common in my younger days, were merely tavern signs perambulating the streets—Jacks-in-the-Alehouse, but the alehouse turned loose into the streets, attended by a motley crew of revellers. Sayings such as "As wise as an owl in an ivy bush" show that the words "tavern" and "bush" were synonymous. When the mere "bush" no longer sufficed the bare hoops were utilised to hold some badge distinguishing the house, specifically distinguishing badges being held to be *de rigueur*, garlanded and beribboned, it may be, on festival days. A George-in-the-Hoop is recorded as a tavern sign of the reign of Edward III., and others as Cocks or Hens "in-the-Hoop" are mentioned in the time of Henry VI., and to these doubtless the singular phrase "Cock-a-Hoop" is to be traced.

Belonging to a much later period is the more sophisticated fashion of hanging out actual pictures illustrative or descriptive of the name of the house. These were set in richly worked frames, and often depended from very handsomely carved or worked brackets on supports. There are vague traditions that pictures by such world-renowned masters as Holbein, Correggio and Paul Potter have suffered the indignity of having been thus hung out to attract the passer-by. It is absolutely certain that paintings by celebrated English academicians, such as Hogarth, Wilson, Harlow, Morland, Old Crome, David Cox and others, have served this purpose. Some distinguished academicians, as Cipriani, Charles Cotton, Samuel Wall and John Baker, really commenced their careers as sign-painters; and, if we may draw conclusions from the price of 500*l.* paid for a picture of Shakespeare for a sign in Little Russell Street, Drury Lane, the profession was perhaps not a bad stepping-stone to more enduring honours—especially as those called in to paint the sign sometimes stayed to paint the apartment as well. The paintings of a room in the Pope's Head, Cornhill, deserved the encomiums of the genial and observant Pepys, and those of the Rose, near Temple Bar, of the more critical Walpole. The great mart for the average pot-boiler sign kept in stock was Harp Alley, Shoe Lane, while a more *recherché* class could be commissioned from the coach-painter. In 1762 an exhibition was held by a self-styled Society of Sign Painters, to which Hogarth, who fully entered into the joke, was a contributor.

When picture signs were so popular and at times magnificent, the supports and frames which surrounded and suspended them were worthy of them. These were of carved wood or iron, or of both combined, gilded and painted, and sometimes so preposterously massive as to pull out the front of the house they adorned. A particularly ill-contrived construction caused a front to fall out in St. Bride's Lane in 1718, killing, with others, the king's jeweller and two ladies. A sign of the Three Queens in Clerkenwell, on the other hand, was so firmly built in that when ordered to be removed in 1764 it cost 200*l.* to take down. Among the many large and elaborate constructions London could boast of, those pre-eminent and reputed to be the largest were the signs of the Castle in Fleet Street and of the White Hart in Southwark. A Frenchman, by name Misson, visiting England in 1719, says that though signs were kept small in Paris by restraining influences from above, in London they jutted out so far as to touch each other, and to stretch right across the narrower streets to the opposite wall. Many, he remarks, with their painted and gilt iron supports, must have cost over 100 guineas. Another Frenchman travelling in England in 1765, saw nothing to chronicle on landing at Dover except the enormous size of the public-house signs and the ridiculous magnificence of the ornaments with which they were overcharged. Every sign formed a triumphal arch which crossed the streets. A picture of a particularly elaborate sign, that of the White Hart at Scole, in Norfolk, which cost, in 1655, 1,057*l.*, represents an immense arch with carved panels of deities and heraldry, crossing from the house and resting on a brick pier on the opposite side of the road.

As a practical worker in iron, it may naturally be expected that I should show more partiality for the iron brackets which supported the signs than for any other part of the structure. This is in truth the case. When and where iron was first used for the purpose I do not know, and therefore shall not pretend to say, but probably the use dates well back into the Middle Ages. Illustrations of iron sign brackets occur in the design books of the seventeenth and eighteenth centuries. That such a renowned architect and designer as Jacques Androuet du Cerceau should have thought it worth while to devote a page of illustrations in his celebrated treatise on architecture to them, proves that so far back as the sixteenth century iron sign brackets were esteemed as vehicles for artistic treatment. The designs are in the taste of the day, simple and slightly inclining to the geometric, charmingly evolved by a refined ornamentalist, but not by a practical iron-worker. Next in point of date is the leaf from the treatise of a practical mechanic —Mathurin Jousse The design is crude and not particularly well drawn. The third illustration, from the illustrated catalogue of a real worker and designer in iron, presents a far better, though extremely simple design. It must be remembered that the French in the second half of the seventeenth century, far from encouraging extensive signs in their streets, restricted them by law to very modest dimensions. Probably for this reason none of the great designers in France, who published such sumptuously-illustrated books on iron-work, have cared to give any illustrations of sign brackets. It was otherwise in England, however, at this time, as we have seen, for magnificence in the matter of signs was the order of the day. Nothing more elaborate

can well be imagined than the three designs for sign brackets comprised in Tijou's book, published towards the close of the seventeenth century. Tijou, it is known to most of you, was the designer and contractor for the iron-work at Hampton Court Palace, St. Paul's Cathedral, Chatsworth and other places. Any smith present will, however, at once perceive that these designs could never have actually been carried out or even drawn by a practical man. They go far to prove, I may incidentally remark, that Tijou was not himself a craftsman or expert, but merely a designer, whose designs, moreover, required a very great deal of alteration at the hands of experts before they could have been handed out for execution by the smith. The old tradition that Huntingdon Shaw, of Nottingham, really executed the work may not be far wrong. This by the way. Unfortunately, illustrations of English sign brackets previous to the enactment of 1765, which condemned them to destruction, are extremely rare. Though Hogarth incidentally depicts a great many signs, only one is at all an elaborate piece of iron-work.

Of actually existing iron sign brackets there are none in England, speaking according to my limited knowledge, older than the Chippendale or Adam's periods—few, indeed, being more than a century old. To find older examples we must pass over to the Continent. The most ancient that I have met with is the remarkable bracket in the Marché du Vendredi of Bruges, from which still depends the model of a curry-comb. Judging from the contemporary font-cranes, which it greatly resembles in its details, it must date from about 1500. There are a few others in the Low Countries, preserved in museums, of almost equally early date—all, both sign and bracket, being solely of iron. In Germany a few of late Renaissance date may still exist, but as in Belgium, the vast majority are of the style of Louis XV., known as the Rococo. None appear to have been designed for hanging pictures, but only to include signs made of beaten iron or copper. Those designed to receive a huge representation of a key, the sign of the locksmith in Germany, are the most elaborate, serving to illustrate practically the skill of the craftsman seeking custom as well as to decorate his abode. In France few sign brackets seem to have survived the Revolution, and in Italy and Spain there are practically none. Illustrations of two of the richest examples I have met with in England, designed locally, and of a third in the Nottingham Museum, showing a real blacksmith's ideal of what a sign should be, must conclude my series of ancient examples.

It may be debateable whether hanging signs should be permitted in our London streets or not. If well designed and not too numerous, they add a certain picturesqueness, especially in certain situations. So long as they cause no practical inconvenience or danger to the public it would seem superrogatory to prevent money being spent in the decoration of our not over beautiful thoroughfares, and to abrogate a privilege and custom that has, on and off, existed for several centuries. The omnipotent London County Council not having as yet definitely decreed that no more signs shall be erected in London, I am enabled to add a few modern examples to my series of pictures both of other people's and my own productions. The place of honour in this series must, I think, be accorded to the sign at the bottom of St. James's Street, designed by Mr. De Wilde, once, I am pleased to think, on my own staff. It hangs high, but is very effective and well-proportioned, and not inharmonious with the Norman Shaw building on which it is placed. An additional merit is that it is a pioneer, having been the first important sign put up in London during her present Majesty's reign.

Another very striking sign is to be seen at Heath's, the hatter, in Oxford Street, made by Messrs. Strode, from I believe the architect's design. Its merit is slightly lessened in my eyes, at all events, from the fact that it appears to some extent to have been inspired by the example just seen. Of signs made for public-houses, those for the Rising Sun in Tottenham Court Road and the Shades in Charing Cross are by my own firm, to the order of Messrs. Treadwell & Martin. Being my own offspring the less said about them the better. The most original and daring sign yet erected is undoubtedly that for the same architects, by my friend Mr. Shirley. It is quite alone and very quaint. The only fear I have about it is that if many signs with so great a projection were erected in our streets, the privilege of putting up any at all might soon be abrogated.

At a Meeting of the Imperial Fire Insurance Company held at their chief office, 1 Old Broad Street, E.C., on the 8th inst., the report of the directors for the year ending December 31 last showed premiums received 612,544*l.*, and losses 384,983*l.* A dividend was declared for the year of 1*l.* 5*s.* per 10*l.* share, absorbing 75,000*l.*, after the payment of which the funds of the company stood at 1,257,374*l.*, exclusive of the paid-up capital of 300,000*l.*

PICTURE FRAMES IN ANTIQUITY.

IN the course of the discussion on Mr. Hunter Donaldson's paper on "Picture Frames" at the Society of Arts, Sir George Birdwood, K.C.I.E., C.S.I., said:—The question of picture, as of sculpture,* frames is indeed one of all but the very highest artistic importance, and painters and sculptors, truly reverent toward their art, ought to be more particular as to the framing, or other setting, of their divine handiwork, than even a writer about the binding and "forwarding" of his book. He had always taken the deepest interest in picture frames, and not only in relation to the pictures they enshrined—for the frame of a great picture should be regarded as its shrine (Latin, "scrinium") or ark, and should be designed in this devout regard—but also in relation to the position the enshrined picture has to permanently occupy; but he had never once given a thought to the historical genesis of the picture frame, until his attention had been drawn to the subject by the spontaneous and felicitous statement of his views and opinions on the artistic question of picture frames with which Mr. Hunter Donaldson had favoured and delighted them that evening. Of course the ultimate origin of picture frames is in the instinct—one of beauty as well as of utility—natural to finite reason, to define, that is, to fix bounds to, to frame-in, everything, even the infinite. Thus according to the Hecatæan geography, which is the geography of Homer and Hesiod, the whole habitable earth, the sun-rise lands [Asia, with Libya], and the sun-set lands [Europa: *cf.* Erebus, Hesperus, Hesperides] is framed-in by the circumfluent stream of outer ocean, and in the Ptolemaic astronomy, which is the astronomy of all poetry and romance, the Seven Heavens of our planetary system are bound in by the Twelve circumambient Wardens of the Zodiac. Even the infinite comprehension and charity of the "Fides Catholica" has, from the sixth or seventh centuries of human salvation, been picturesquely defined by the peremptory terms of the circumscriptive creed of, as is said, "the holy prelate Athanasius." In the Græco-Roman wall-painting of the first century A.D., formerly to be seen in the Casa d'Adonide at Pompeii, a pigmy is represented before an easel painting a picture, and it is clear that he is painting-in the frame as he paints the picture. This is what was done in the case of many of the wall-paintings of Pompeii, and what was, and is, done with many of the paintings in the Coptic churches of Egypt, and it is universally done by the native artists of India. The oldest actual example† of an approximately determinable date of this simple manner of framing-in a picture known to me is the archaic Corinthian terra-cotta plaque in the Louvre, representing, in black figure-painting, a potter at his wheel, before a heap of clay, turning the wheel with his left hand, and moulding a lump of the clay into a vase with his right, two finished vases hanging above him, the whole framed in with a heavy border of black. This is the proper framing for trivial pictures. In the Græco-Roman painting of the first century A.D., from the Casa del Ceruscio, Pompeii, now in the Naples museum, representing a female artist painting a Herm, a Cupid stands before her holding up a sketch of the statuette, stretched on a frame, which is obviously the original of the bald and arid so-called "Oxford frame." This is the identical "pictura in linteo"—"painting on canvas"—illustrated in Rich's "Dictionary of Roman and Greek Antiquities," and Dr. Murray would appear to have shown Mr. Hunter Donaldson, in the British Museum, an actual frame of this description. It was evidently derived from the embroidering frame and the weaving frame of the ancient Egyptians, Greeks, and Romans; for, at least among the Greeks, pictures were painted with the embroiderers' needle long before they were painted with liquid colour and the brush. The only painted picture known to Homer is the "pictura textilis"—"acu picta." The frame of the classical lyre suggests an elegant modification of this otherwise wholly mechanical, unimaginative and frigid form of frame.

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* Frame is rather an awkward term to apply to a thing used merely to bind in, or enclose, any other thing, for in its primary sense it means the essential, and total fabric, body, structure, or form (as apart from the "materia prima") of things—as in these quotations:—"This goodly *frame*, the Earth;" "And spangled heavens, a shining *frame*;" "And whatever stirs this mortal *frame*." But every one now knows what is meant by the word frame as used in its secondary sense, in connection with pictures, and it is of happy augury in this connection that its ultimate meaning, in its Anglo-Saxon form of *fram*, is "excellent," "surpassing." In fact, frame is allied to the Latin *primus*, "first," and the Sanskrit *parama*, "most excellent."

† On the ceilings of the temple of Amen-Ra, at Thebes, dating from the fourteenth century B.C., we repeatedly find representations of the vulture, the symbol of Maut, the consort of Amen, floating, on wide extended wings, in a clear, blue sky, bounded on either side and on top by a border of darker blue, studded with stars. But this three-sided border is probably a severely conventionalised form of Nuit, the goddess of the overstretching Midnight Sky, and was evidently in no way intended as a true painted-in frame for these lacunarial tableaux, although it affords a beautiful suggestion of one.

The earliest decorative frame known to me is Egyptian of the fourteenth century B.C., and it at once expresses in the most emphatic terms of art the subtle, sympathetic relations that must always subsist between a frame and the contents for which it is especially designed. In this case the frame and its contents are a specimen of massive jewellery, slightly more than 5 inches broad at the base, slightly less than 5 inches broad at the top, and just 4¼ inches high. It is the sepulchral pectoral, now in the Boulak Museum, of Kha-em-nas, son of Rameses II., and it is wrought in lapis-lazuli and gold. What at once gives this splendid jewel its imposing dignity is that its frame is fashioned in the form of the naos, cella, or "holy of holies" of an Egyptian temple; or, as he would himself rather suggest, of the shrine within the "holy of holies." We have another suggestion, of an analogous character, for artistic frames in the terra-cotta amulets of the first or second century B.C., stamped with figures of the Ephesian Artemis and the mystic inscriptions known as "Ephesia grammata." One of these was found at Syracuse, and is to be seen in the museum there. The frame in this case is modelled after the actual ædicula (literally "little edifice"), canopy, tabernacle, shrine, or, in secular language, cabinet of the Goddess in the cella of the temple of the "Great Goddess of the Ephesians," as that was modelled after the Greek frontispiece of the temple itself, with its pediment crowned with palmetted antifixes and supported by pillars. In the sepulchral portrait of an Archigallus, or high priest, of Cybele, of the third or fourth century B.C., now in the Capitoline Museum, at Rome, the frame is a plain moulding; from the high priest's neck hangs an amulet of the ædicula type already described; and the sculpture is further interesting from the sort of shallow niche in which the head and shoulders of the figure are countersunk taking the form of the Buddhistic niche, which, in my belief, first suggested to the Greek artists, enslaved by the Arabian conquerors of Syria, the characteristic Saracenic arch. In the small portable shrines of Cybele, of the third and fourth centuries B.C., found in hundreds throughout Asia Minor, and frequently in Greece, we have examples of admirable frames for memorial sculptures; the treatment of the plinth in these shrines especially satisfying the feeling for a strong support for the contained bust or statuette. The ædicula dedicated to Terra Mater found in the Campo Verano, near Rome, and now in the Palazzo del Conservatori, at Rome, is, in the artistic force of its severely simple construction, the noblest example extant of this type of sacrosanct statuary. The representation of the ædicula of the Tauric Artemis on a wall-painting at Herculaneum, shows it to have been an arched canopy of the simplest open construction, resembling a garden wire-work arch, surmounted by a sort of archaic "fleur-de-lis," or semi-"thunder-bolt." It would seem to have suggested the decoration of Lord Beaconsfield's statue on last Primrose Day, when the graceful canopy of arched palm branches was somewhat unhappily surmounted by a feebly-modelled coronet of primroses. In short, the ædicula in its endless permutations affords fruitful inspirations, not only for picture frames, but also for statue frames, whether tabernacular or mural shrines, or more familiar niches. So also does the cippus, or tombstone [*cf.* the Greek "stele," both going back to the phallic pillar, of which the most interesting Roman example was the urban Lar, the Deus Rediculus, also called Tutanus, who had his temple near the Porta Capena] of the Imperial Roman period; as may be judged from the cippi of the first century A.D., of Marius, Petilius and Pintæus, found at Bonn, and now in the Bonn Museum. In the case of the cippus of Marius, in the corners left between the arch of the niche in which the deceased is represented on horseback, and the square head of the stone, are sculptured representations of the "dona militaria" (torques, &c.) conferred on him in life. This is a most happy way of relegating the honorific insignia of great men, which happen to be artistically unassimilable in their portraits, to the decoration of the picture frames. The cippus, of the first century A.D., of another eques, found in Rhenish Hesse, now in the museum of Mayence, and that of Q. Sertorius, found at Verona, and now in the Museo Lapidario there, and of Q. Statius, found at Athens, and now in the museum there, are examples of the simple and effective setting of memorial sculptures. On a cippus in the museum at Avignon only the insignia of office—the fasces and the curule chair—of the municipal magistrate commemorated are sculptured below his name. In a Romano-Gallic cippus in the Caen Museum, the tradesman commemorated is represented with a steelyard in his right hand, and the goods he is about to weigh in his left. In the Romano-Gallic cippus in the Sens Museum a blacksmith is represented standing in a niche (modelled from the arched doorway of a Christian church) beside his anvil, with a hammer in his right hand and his fire-tongs hanging to the left of him. Another Romano-Gallic cippus of the Christian period presents the bust of an innkeeper in a niche (similarly arched to the last), pouring wine from a flagon in his left hand into a tumbler in his right. There are many such Romano-Gallic cippi, and all are invaluable, not only as graphic illustrations of the arts and crafts and trades of the period, but more especially in the present connection of the principles which should determine the artistic treatment, of which the enframing is an integral part, of such subjects. There is a variety of the mural cippus, or it might equally well be said ædicula, called, I do not altogether understand why, armarium. This term is found first applied to a chest for arms, tools, tackle, &c., then to cases for books, cabinets, and cupboards of any kind, and to any room or place for holding tools, books, &c., and, finally, to the shrine-like cippi, or ædiculæ, containing family portraits, reproduced in wood, stone or metal from the "imagines Majorum," or painted wax masks taken of the Roman nobility immediately after death. The practice of taking these post-mortem masks appears to have been almost universal in antiquity. It was followed by the Egyptians, Assyrians, Phœnicians, Carthagenians, and Italians, and it accounts for the lifelike character of their sepulchral portraiture, and particularly for the vivid individuality of the busts and portrait statues of the distinguished Romans which have come down to our time. There is in the Lateran a so-called armarium, of the Imperial Roman period, of a female member of the family of the Haterii. It was found with other funerary sculptures, all mural, of the family, on the Via Labicana, not far from Centocelle. The equipment* (whence possibly the designation "armarium") or framing of the bust presents a simple pediment, supported by a pilaster on either side and by a rounded pillar a little in front of the pilaster to the right of the bust. The pillar on the opposite side is absent, and appears to have been broken away. On either side, at different levels, there is a bracket between the pilaster and the pillar, intended for a lamp to be lighted in honour of the revered dead. The pediment, within its architectural mouldings, is trailed with flowers on either side of the representation, apparently of a lighted lamp. The pilasters are scrolled with heartsease, while the remaining pillar is delicately imbricated. The bust rests on a narrow broken ledge of marble, and this "armarium" evidently wants its proper plinth; yet, as it stands, in the appropriateness and the religious sentiment of its elegant and charming design, it is a perfect example of what the enshrining frame of a family portrait should be. The provision of the brackets for lamps at once fascinates the beholder, recalling the daily ceremonial commemorated in the hymn of Prudentius, "Ad incensum Lucernæ;" a beautiful and solemnising domestic rite which ought never to have been allowed to pass into disuse. But it is probably to the "consular diptychs," of the fourth and fifth centuries A.D., that we must look as the immediate precursors of the modern picture frame. The diptych and the triptych—"pictura in tabula"—had probably always existed; and Rich illustrates a triptych from a Pompeian mural painting, the exact location of which he does not give, as suspended, with a considerable forward slant, over a doorway. Under the Lower Empire, the custom prevailed of the consuls and other magistrates, on entering office, presenting their friends and patrons, as also the Christian bishops to whom they wished to be civil, with folding tablets of ivory or wood, having their names and their portraits and their insignia of honour carved thereon. These were in fact their *cartes de visite*, and he (Sir George Birdwood) would fain see the fashion of them revived to the exclusion of the egregious photographic *cartes*. The edges of these consular diptychs are nearly always framed round in low relief with conventional decorations, identical in design with those of the frames of gilded "gesso," or of gilded and stamped paper, applied along the edges of the painted diptychs and triptychs and other wood-panel ikons found at the present day among the Greeks and Russians and Copts and Abyssinians. Labarte, in his "Handbook of the Arts of the Middle Ages," in the chapter on "Painting and Caligraphy," at one time inseparable arts, gives three illustrations which seem to me very suggestive of the gradual transformation of the panel ikon and diptych and triptych, edging or "selvage"—if the word may be so used—into

* I use "equipment" to avoid the use of "frame," here usable only in the sense of the whole shape, form and structure—including the bust or other sculptured subject—of this armarial type of mural monument. Armarium, among other things, means specifically a marine store; "armare" meaning [Charta Alfonsi reg: Aragon: 1288] to fit out, equip, a privateer; and in the case cited in the text the armarium is the complementary part, which, with the bust, fully equips, and gives form and shape to the memorial. [Equip, shape, and ship are the same word, and "ship-shape" a tautology.] Armarium is used also by Tertullian for the completed canon of the Hebrew Scriptures. We have, on the other hand, armariolum, for the tabernacle in which the Corpus Christi was carefully kept under lock and key [Statua Ecclesiæ Leodiensis, 1287], and in Low Latin, armariolus, for the little chest in which certain of the utensils used in the offices of the Christian Church were kept beside the High Altar; in these two instances armarium corresponding with the pagan Sacrarium, in which the salinum paternum, patella, and other sacred and mystic ancestral and progenitory symbols, were kept by the Romans.

the modern picture frame. The originals of the illustrations are all in the National (formerly Imperial) Library at Paris. The first, from a miniature of the fifteenth century, representing a female statue painter, has behind the statuette of the Virgin and Child a panel ikon of the Saviour's head, with a heavy stamped and obviously gilded "selvage." The second, from a MS. also of the fifteenth century, representing a caligrapher at work, has at his feet a panel painting of the Crucifixion, the "selvage" of which is considerably raised above the surface of the paper. The inner edge of the "selvage" is obviously "bevelled" to the surface of the painting. The third, from another MS. of the fifteenth century, represents a female artist at an easel, painting a picture of the Virgin and Child, already fixed in a round moulded frame, with apparently the ring for hanging the frame fastened to its top. The parallelism as regards "motives," and the details illustrating them, between the above fifteenth-century miniature and the Pompeiian fresco of another female artist painting a Hermes, described by the speaker at the commencement of his remarks, was remarkable and profoundly interesting. "Plus ça change plus c'est la même chose." Even more remarkable is the proof of the continuity of artistic methods and appliances, afforded by a painting in a fifth-century MS. of the "Materia Medica of Dioscorides" at Vienna, representing an artist copying a mandrake plant, held up before him by the goddess Euresis, on a quarto sheet of vellum, fastened to the drawing board resting on the easel by six "drawing-pins." The speaker said he thought that in these few references, which might be indefinitely extended, he had sufficiently traced the true pedigree of all the traditionally modern varieties of picture frames, and pointed out the direction in which to look for promptings for their improvement. The Italians of the Renaissance modelled their best picture frames from these ancient armaria, cippi and ædiculæ, as is very clear from the actual examples, and the reproductions, of Italian Renaissance frames in the South Kensington Museum; and it is equally clear that Sir Frederick Leighton and Sir Philip Burne-Jones were directly inspired by the later in designing their classical frames, which, in Sir Frederick Leighton's hands, always harmonise perfectly with the pictures they contain. If he might generalise from the instances cited, he strongly advised the revival of the use of wood or metal or composition, self-edged panel for trivial paintings; while for family portraits and great imaginative pictures he would like to see the fullest development given to the picture frame as a shrine; and of course to the enframing by moulding, niche, canopy or other equipment of statuary. But the great point was that the artist should have the first and last word in the framing of his work; it should be part of his covenant alike with the patron and the dealer in frames, who both require to be taught that frames have to be made for pictures, and not pictures for frames—not since sculpture and paintings rose above their restricted status as the handmaids of architecture and became independent fine arts. The frame and its picture are commutually inseparable as the wine cup from the red wine in it, and as the setting of a jewel from its priceless gems. In the words of Schiller, truth is independent of its vehicle, but beauty is made perfect alone by its environment, literally "the vessel makes the content"—"Bei dem Schönen allein macht das Gefäss den Gehalt."

ANDREA DEL CASTAGNO'S "ST. JEROME."

AN Italian contributor of the *Scotsman*, writing from Florence, says:—

If, in her transition from a Mediæval to a nineteenth-century city, Florence is depriving us of many a historic building or landmark, she affords us some compensation by the concurrent unearthing of a remoter past and the resuscitation of art treasure long over-laid. In the latter direction she has, within the past eighteen months, given back to us two masterworks, known, indeed, to the history of painting, but buried for centuries under far inferior productions. The first of these, the famous "Pietà" of Ghirlandaio, came in the nick of time to enrich the celebration of the fourth centenary of Vespucci with the finest presentment of that great geographer and explorer yet revealed. The second "resuscitation" is of still higher artistic, if of inferior historic, import—that of the magnificent fresco by Andrea del Castagno representing St. Jerome, with the familiar lion beside him, between two Maries in praying attitude, and, above, the Trinity, with the crucifix "che scorta," as described by Vasari. The mighty theologian, scholar and hermit, "secco e roso" (dry and shrivelled) as the parchments over which he pored, is depicted with consummate power; the colouring retains much of its original brilliancy; the fresco, indeed, is all but intact, and, most satisfactory to relate, it has quite escaped the compromising touch of the restorer. The world is now the richer by another masterpiece of a painter whose authentic work is about as rare as that of Giorgione, and hardly less precious—work to which I shall allude presently as indicating a strength of character and an independence of thought as superior to the "formal idealism" of its epoch as it is to the "loose realism" so often accepted as "truth to nature" in contemporary art.

The circumstances in which the discovery was made are worth recording. Just as in Rome the munificence of King Frederick William of Prussia in 1829 founded the Archæological Institute which, under Gerhardt, Von Platen, Bunsen, Becker, Jordan, Henzen and Mommsen, has done such splendid work as to justify the assertion that (till lately, at least) "restored Rome is a German city," so in Florence there has for some time existed a parallel German institute—"Un Istituto di Storia dell' Arte"—composed of art students from the Fatherland, who, with equal intelligence and ardour, make it their task to study Florentine painting, sculpture and æsthetic production generally in its every phase and period, collecting from all sources whatever work or documents can illustrate or throw light on the theme. Its director is Professor Brockhaus, one of its "members of council" is the Commendatore Herr Marcuard, and Dr. Warburg and Dr. Horn are two of its most accomplished representatives. These gentlemen waited the other day on the Syndic of Florence (the Marquess Pietro Torrigiani) and the "Commissario dell' Ufficio Regionale" and craved permission to institute a search for the very valuable fresco of Andrea del Castagno, known to have been painted by that master for the "Cappella dei Montaguti" (chapel of the Montagues) in the church of the SS. Annunziata, in the piazza of that name—a fresco of which all trace had been lost since the "restoration" to which the said chapel had been subjected 350 years ago. Their petition was granted with every expression of goodwill by the "Rappresentante del Comune," in whose keeping the church of the SS. Annunziata lies, and every facility was vouchsafed them for the prompt and thorough tracking out of the hidden treasure. Yesterday they had their reward. In co-operation with the "Commissario dell' Ufficio Regionale," whose authority was required for the proceeding, they removed from the chapel wall the "pesantissima tavola" (very heavy picture) painted by Allori, and, sure enough, came upon the "splendido affresco" underneath it—the object of their quest—Andrea del Castagno's masterpiece, just as described by Vasari.

The moment was an inspiring one, and the feelings of the savants present were happily interpreted by the Commendatore Herr Marcuard as, addressing the Inspector of Monuments (the Cavaliere Carocci), the engineer Signor Bondi of the "ufficio technico" of the commune, some of the "Padri Serviti" attached to the church, and certain of the members of the "Instituto Germanico," and other art students, he pronounced the following words, "molto cortesi e molto opportune" (very gracious and very well-timed):—"Gentlemen, the task which has brought us here having been completed, I feel it my duty, in name of all students and lovers of art, to thank the honourable Syndic of Florence for the permission vouchsafed us to make the desired investigations in the church of the Santissima Annunziata, which is in custody of the Town Council. I have also to thank the 'Commissario dell' Ufficio Regionale' in charge of the Conservation of Monuments, and, in an especial degree, the Marquess Torrigiani and the Cavaliere Carocci, for their valued co-operation; and also the reverend 'Padri Uffizianti' (officiating clergy) of the church for their genial aid. Certainly the restoration to light of the fresco of Andrea del Castagno, described so minutely and so exactly by Vasari, is an important event for the whole world of art, which will be hailed with joy by the city of Florence, enriching herself as she has now done by another artistic gem of most precious merit." In reply, the Cavaliere Carocci, in the name of the whole company, thanked the Commendatore Herr Marcuard, as representing the "Instituto Germanico," for its valuable contributions to Tuscan art history, and for such treasure trove as the newly resuscitated fresco, by which the artistic patrimony of Florence was so opportunely enriched. All Italian students and lovers of art, he concluded, felt themselves honoured in having as fellow-workers such learned, such discriminating, and such warm votaries of Italy's "glorie più serene" (serener glories) as the members of the "Instituto Germanico." Thereafter the assembly broke up and went its way, while the event of the morning was communicated by telegraph to his Excellency Dr. Baccelli, Minister of Public Instruction.

For weeks to come—indeed, with each successive season during which Florence gives hospitality to the world of travel—the "St. Jerome" of Andrea del Castagno will be a "point of pilgrimage" for all art votaries. It will have the effect, moreover, of drawing attention to another authentic work of the same master—the "Cenacolo" ("Last Supper"), in the old conventual establishment of the Santa Apollonia in the street once so called, but now rebaptized (according to a regrettable innovation practised all over Italy), by another name, the Via Ventisette Aprile. The painting, by no means recognised as its power and originality entitle it to be, is remarkable for the

severe, some might call it the coarse, realism of its presentment of the Saviour and His Apostles. Our Lord is reproduced as a red Jew of distinctly plebeian aspect, with a head of great capacity and features full of benevolence and humanity; while His disciples, with the exception of St. John, are equally depicted as neither more nor less than the humble, unpretending, honest peasants or bourgeois they undoubtedly were. St. John is saved from the general rusticity by the refinement of his expression; but all the rest, from St. Peter downwards, are neither more nor less than the fishermen and "petite bourgeoisie" introduced to us in the Gospels. The daring which put before the world this "Houndsditch Cenacolo," as it has truthfully but irreverently been called, can only be estimated after comparing it with the idealised, over-refined, quite unnatural types almost universally given in paintings of the same subject by del Castagno's contemporaries. And yet how strongly impressive, how touchingly naïve, are the figures and their grouping. In guide-books the fresco is called "painful." But surely the epithet is ill-chosen. It is no more "painful" than Michel Angelo's Christ with His Cross in the "Santa Maria sopra Minerva" in Rome—a sculptured figure in which the great artist gives the lie to the "namby pamby," not to say "spoony," conceptions of the Saviour appealing to us *ad nauseam* in so many post-Renaissance churches. Del Castagno's Christ and His Disciples, as given in the "Cenacolo," would, it is not too much to say, have won from Michel Angelo an appreciation he would have withheld from nearly all contemporary pictures on the same theme—instinct as it is with the strength that "looks facts in the face," that strives to reproduce nature as she presents herself "unadorned," and that scorns to court popularity by playing up to its prejudices in the perpetuation of an effeminate tradition.

ARCHÆOLOGICAL EXPLORATION IN CRETE.

AN appeal for funds for explorations in Crete has been issued by Mr. A. J. Evans and Mr. D. G. Hogarth, director of the British school at Athens. They say:—

The new conditions in which Crete is placed and the final emancipation of the island from Turkish rule have at last rendered it possible to organise a serious effort to recover the evidences of her early civilisation.

How important are the results which a thoroughgoing investigation in this field holds out to archæological science may be gathered from what has already been brought to light in far less favourable circumstances. The path of Cretan exploration was opened out by the English travellers Pashley and Spratt. Their exploratory labours have been followed in more recent years by the striking discoveries of Halbherr and Fabricius. The great inscription containing the early laws of Gortyna stands alone as a monument of Greek civic legislation. The bronzes of the Idæan cave have afforded a unique revelation of the beginnings of Classical Greek art. Future researches, to which English investigation has once more contributed, have brought into relief the important part played by the still earlier civilisation of Mycenæ, the wide diffusion of its remains and even the existence in the island of an indigeneous system of sign writing anterior to the use of the Phœnician alphabet. Additional indications, indeed, have come to light which carry back the chronology of the earlier relics of Cretan culture far beyond the date of Schliemann's great discoveries on the mainland of Greece, and attest an intercourse with Egypt going back to the third and, it may be, even the fourth millennium before our era. We have here in Crete the first stepping-stone of European civilisation.

The better to solve the many interesting problems thus opened up it has been decided to form a "Cretan Exploration Fund," under the direction of the undersigned and in co-operation with the British School at Athens, in order to carry out a series of comprehensive excavations. We have pleasure in announcing that His Royal Highness Prince George of Greece, High Commissioner of the Powers in Crete, has graciously consented to become patron of the fund.

Thanks to the kind support extended to the scheme by His Royal Highness the High Commissioner it has been possible to secure for British enterprise a series of sites selected for their historic importance or specially representative character. At Knosos—the city of Minos and the Labyrinth, of Dædalus and the "Choros" of Ariadne, the traditional centre of the ancient sea-power of Crete and its earliest school of art—one of the first objects inviting excavation is a mound containing the ruins of a prehistoric building, the exploration of which had been already one of Schliemann's ambitions. At Præsos, another site reserved to us, it is hoped to lay bare the chief stronghold of the original Eteocretan race, where an archaic inscription in an indigenous and still undeciphered dialect has already been discovered. Lyttos, which is also included in the scheme, was regarded as the model Dorian city, and the fragments of its ancient laws that have come to light on its acropolis height give hopes of considerable epigraphic results.

The part which caves have played in the early religion of Crete has been very important, and three of these containing votive deposits of great antiquity have been secured for investigation. Of these the great cave of Psychro on Mount Dikta, the legendary birthplace of Zeus, promises results not inferior to those obtained from his cave sanctuary on Ida. The investigation of some prehistoric sites on the south-east coast of Crete, also included in the present plan, is expected to throw a valuable light on the early intercourse on Egypt.

In order fully to realise this comprehensive scheme of investigations it will be necessary to raise a sum of at least 5,000*l*. The object has a real claim on British enterprise. From a national point of view, this task of scientific exploration in Crete is a fitting sequel to the joint work of political emancipation in which we have taken part. It may be mentioned in this connection that the French School at Athens is already organising plans of excavation on other Cretan sites and that a mission with a similar object is being despatched by the Italian Government.

It is intended that the chief results of the excavations shall go to enrich the national Cretan Museum, a very interesting nucleus of which has been already put together. It is proposed to adapt for the purpose the old Venetian Armoury of Candia, and the directors of the fund hope to be able to devote some portion of it to the proper location there of the objects brought to light. A house in Candia has been already secured and furnished to serve as headquarters for the fund. Mr. George Macmillan has kindly undertaken to act as treasurer to the fund, and subscriptions may be paid either to him at St. Martin's Street, London, W.C., or into the account of "The Cretan Exploration Fund" at Messrs. Robarts, Lubbock & Co.'s, Lombard Street, E.C.

GLASGOW INSTITUTE OF ARCHITECTS.

THE annual business meeting was held in the rooms, 187 Pitt Street, on the 6th inst., the president, Mr. George S. Hill, in the chair. The business of the evening comprised the reading of the secretaries', treasurer's and librarian's reports, which were adopted, and the election of new office-bearers for the ensuing session. The following gentlemen were elected to office:—President, Mr. John Fairweather; vice-presidents, Mr. Chas. E. Whitelaw, Mr. Wm. J. Blain; secretaries, Mr. Alex. Wingate, Mr. Thos. Ramsay; treasurer, Mr. Walter S. Tucker; librarian, Mr. Andrew Rollo; general committee—Messrs. Geo. S. Hill, Jas. Lochhead, Alex. M'Gibbon, Jas. M'Kissack, Alex. Davie, Wm. Vickers, Wm. S. Lukeman and Robert J. Walker. A vote of thanks to the retiring president, Mr. Geo. S. Hill, concluded the business.

GENERAL.

The London County Council have agreed to appoint an assistant architect at a salary of 800*l*. a year.

A Pavilion of novel design is to be constructed for the Principality of Monaco in connection with the Paris Exhibition. The architects are MM. Medecin and Marquet. The contract was arranged on Saturday last.

The Society of Architects propose to hold provincial meetings at Sheffield and possibly other provincial centres towards the end of June, with a view to bringing forward the question of the Architects' Registration Bill, and also matters affecting the state of the law in regard to "light and air" cases.

The Conversazione of the Society of Arts will take place at the Natural History Museum, Cromwell Road, S.W., on Tuesday next. The reception by Sir John Wolfe Barry, K.C.B., F.R.S., chairman, and other members of the Council will commence at 9 P.M.

The Dean of Christ Church Cathedral, Dublin, appeals for funds to meet the unusual expenditure for the removal of the monuments in the crypt, hot-air system of heating the cathedral, extensive improvement of drainage and sewage, and the better heating and lighting of the Grammar School.

A Laboratory for pathological studies is to be erected in Oxford at a cost of 10,000*l*., towards which an anonymous donor has contributed 5,000*l*.

A Statue of Charles Darwin, by Mr. Hope-Pinker, presented to the University of Oxford by Professor Poulton, and placed in the central court of the museum, was unveiled by Sir Joseph D. Hooper on Wednesday afternoon.

The Naval Barracks which are to be built at Portsmouth will accommodate 5,000 men. They are to cost 400,000*l*., and will have to be completed in three and a half years. The Anglesea barracks and the military hospital will be demolished in order to make room for the new buildings.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to rise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-Rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed 5000*l.* Mr. S. Stead, Municipal Offices, Harrogate.

PLUMSTEAD.—July 27.—Designs are invited for proposed new municipal buildings and public library, at a cost of about 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ALNWICK.—June 26.—For repairs to various highway bridges. Mr. James Short, highway surveyor.

BARROW-IN-FURNESS.—June 28.—For extensions to the sewage pumping-station at Salthouse. The Borough Engineer, Town Hall, Barrow-in-Furness.

BARROW-IN-FURNESS.—June 28.—For extensions to the existing electricity works in Buccleuch Street. The Borough Engineer, Town Hall, Barrow-in-Furness.

BASINGSTOKE.—June 21.—For erection of a joint isolation hospital. Mr. James Gibson, 3 New Street, Basingstoke.

BECKENHAM.—June 19.—For erection of a technical institute and public swimming-baths, including a covered bath 100 feet by 30 feet, an open-air bath 80 feet by 25 feet, 15 slipper baths, together with administrative laundry, boiler-house, &c., in Beckenham Road. Mr. F. Stevens, clerk to the District Council.

BEDFORD.—June 30.—For conversion of the old vagrant wards into receiving wards, and for the construction of new closets, &c., at the workhouse. Mr. Henry Young, architect, 35 Maitland Street, Bedford.

BIRKENHEAD.—For laying of a new wooden floor in the imbecile wards at the workhouse, Church Road, Tranmere. Mr. John Carter, Union Clerk, 45 Hamilton Square.

BODMIN.—June 24.—For additions, alterations and repairs to the headquarters of the Cornwall county constabulary. Mr. H. J. Snell, architect, Plymouth.

BRADFORD.—June 20.—For extension of carcase market and erection of cold storage at St. James's Abattoirs. Mr. J. H. Cox, city surveyor, Town Hall, Bradford.

BRIDLINGTON QUAY.—June 21.—For erection of dwelling-houses and a detached villa residence on the north side of Lansdowne Road and west side of Lansdowne Crescent. Mr. Samuel Dyer, architect, Bridlington Quay.

BRIGHTON.—June 30.—For construction of an underground convenience, with works connected therewith, around the base of the clock tower, Queen's Road, Brighton. Mr. Francis J. C. May, Town Hall, Brighton.

BRIGHTON.—July 27.—For alterations and additions to the public library, museum and art gallery on the Pavilion estate. Mr. Francis J. C. May, Town Hall, Brighton.

CARLISLE.—June 26.—For alterations to w.c. accommodation to ward annexe and doctor's house. Mr. Geo. Dale Oliver, county architect, 5 Lowther Street, Carlisle.

CHATHAM.—June 30.—For erection of a post office at Chatham. Messrs. Widnell & Trollope, architects, Broad Sanctuary Chambers, Westminster, S.W.

CORNWALL.—June 19.—For erection of six coastguard houses and an officer's house at Mullion. Mr. Alfred H. Jenkin, solicitor, 1 Alma Place, Redruth.

CORNWALL.—June 28.—For restoration of the tower of St. Odulph's Church, Pillaton. Mr. Henry Geo. Luff, architect, 64 Chapel Street, Devonport.



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CORNWALL.—June 19.—For erection of a fog-signal house, dwellings, &c., at Penlee Point, near Cawsand. Mr. E. G. Verity, 31, Golden Square, London, W.

CROYDON.—June 20.—For repairs and painting at the public slaughter-houses, Pitlake. Mr. E. Mawdesley, town clerk, Town Hall, Croydon.

DARLASTON.—For erection of a new police station at Darlaston, near Wednesbury, in the county of Stafford. Mr. C. W. D. Joynson, architect, Butcroft, Darlaston.

DENHOLME.—June 21.—For erection of new billiard-room at the Mechanics' Institute. Mr. Geo. H. Knowles, architect, Burlington Chambers, Keighley.

ECCLESHILL.—For additions to Undercliffe infants' school. Mr. J. Crawshaw, architect, Shipley.

EDINBURGH.—June 26.—For extension of boiler-house, central station. Mr. Thomas Hunter, W.S., town clerk, City Chambers, Edinburgh.

GLASGOW.—June 22.—For alterations to Polmadie old police buildings. Mr. John Lindsay, interim clerk, City Chambers, Glasgow.

GLOUCESTER.—June 26.—For erection of two cottages on the Box farm, Awre. Mr. Thomas Cadle, surveyor, Lynwood, Denmark Road, Gloucester.

GREAT HORTON.—June 27.—For erection of a shop and house in High Street. Mr. Sam Spencer, architect, 344 Great Horton Road, Great Horton, Bradford.

GUIDE BRIDGE.—June 22.—For erection of waiting-rooms, platform-roofing, &c., at Guide Bridge station. Mr. O. S. Holt, Secretary, Great Central Railway Company, London Road Station, Manchester.

HALESWORTH.—June 24.—For erection of a three-storey warehouse (65 feet by 35 feet), with office and shop. Mr. Arthur Pells, architect, Beccles.

HALIFAX.—June 20.—For erection of eleven houses at Ovenden Wood. Messrs. Jackson & Fox, architects, 7 Rawson Street, Halifax.

HALIFAX.—June 23.—For taking down old cottages and erection of stabling and caretaker's house off Square Road. Mr. Joseph F. Walsh, architect, Lancashire and Yorkshire Bank Chambers, Halifax.

HALIFAX.—June 27.—For erection of 11 houses at Ovenden Wood, adjoining Wheatley station. Messrs. Jackson & Fox, architects, 7 Rawson Street, Halifax.

HALIFAX.—June 28.—For erection of a detached villa residence on the Greenroyd estate. Mr. Medley Hall, architect, 29 Northgate, Halifax.

HALWELL.—June 19.—For erection of two cottages at Halwell, Devon. Mr. W. F. Tollit, architect, Gate House, Totnes.

HEREFORD.—For erection of twelve houses in White Cross Street. Mr. James Taylor, architect, Corn Exchange Chambers, Hereford.

IRELAND.—June 22.—For erection of a new coastguard station at Lawrence Cove, co. Cork. The plans and specification can be seen at the office of the carpenter-in-charge, Queen's College, Cork.

IRELAND.—June 27.—For erection of stationmasters' houses at their Bundoran and Belleek stations, for the Great Northern Railway (Ireland) Company. Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

ISLE OF THANET.—June 21.—For erection of cottage homes buildings at Manstone, and additions to the school at that place. Mr. Leonard Grant, architect, High Street, Sittingbourne.

KELVEDON.—June 23.—For erection of four almshouses at Kelvedon, Essex. Messrs. Chancellor & Son, architects, Chelmsford.

LEEDS.—June 23.—For painting, colouring, &c., required in the schools of the Leeds School Board during the summer vacation from July 21 to August 21. Mr. W. Packer, clerk, School Board Offices, Leeds.

LEEDS.—June 26.—For slating the roof of the new coal store at the New Wortley Gasworks. Mr. R. H. Townsley, general manager, Municipal Buildings, Leeds.

LONDON.—June 29.—For the performance of certain works at the Highbury Relief Offices, 10 Corsica Street, St. Paul's Road. Mr. William Smith, architect, 65 Chancery Lane, W.C.

LOSTWITHIEL.—June 22.—For erection of a United Methodist Free church, with classrooms, and alterations to schoolroom. Mr. Sampson Hill, architect, Green Lane, Redruth.

LOUGHBOROUGH.—June 19.—For alterations and extensions to the Corn Exchange. Mr. A. H. Walker, borough surveyor, Town Offices, Loughborough.

MANCHESTER.—July 1.—For the erection of the following buildings at Monsall Hospital:—Erysipelas block, dining halls, kitchen, &c., and servants' bedrooms. The City Surveyor, Town Hall, Manchester.

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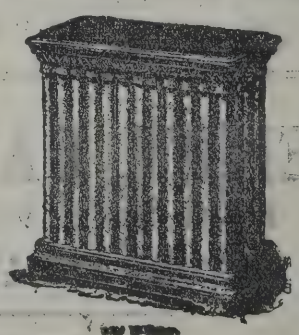
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MIDDLETON.—For erection of branch shops in Cheapside, Middleton. Mr. F. W. Dixon, architect, Trevelyan Buildings, Manchester.

NANTWICH.—June 23.—For erection of a bridge over the Crewe Brook in Butterton's Lane. Mr. Joseph Bebbington, district surveyor, Willaston, Nantwich.

NEW BENWELL.—For erection of laundry, stables and caretaker's house. Mr. T. P. Bennett, architect, 32 Ridley Place, Newcastle.

PERTH.—June 21.—For erection of offices and tenement, for the Royal Bank of Scotland. Mr. David Smart, architect, Perth.

PRESTON.—July 10.—For erection of the new County Sessions Hall. Mr. Henry Littler, architect, County Offices, Preston.

SAXMUNDHAM.—July 13.—For installing gas-mains and fittings in the schools and painting outside of schools, and including other works. Mr. George Peskett, clerk, Saxmundham.

SCOTLAND.—June 19.—For erection of a hospital at Springvale, Ardrossan. Messrs. Fryers & Penman, architects, Largs.

SEDBERGH.—June 27.—For extensions and alterations to the Black Bull Royal Hotel. Mr. Stephen Shaw, architect, Kendal.

SELBY.—June 24.—For erection of a steam laundry, manager's house, stable and coach-house. Mr. G. F. Pennington, architect, Central Chambers, Castleford.

SHEFFIELD.—June 19.—For erection of a large dining-hall at the Wadsley Asylum. Mr. J. Vickers Edwards, County Hall, Wakefield.

SHEFFIELD.—June 20.—For erection of infectious diseases hospital at Lodge Moor, comprising six pavilions for scarlet-fever patients, two isolation pavilions, one receiving pavilion, administrative buildings, nurses' and maids' homes, water-tower, &c., also for heating apparatus and for cooking apparatus, &c. Messrs. Flockton, Gibbs & Flockton, architects, 15 St. James's Row, Sheffield.

SOUTHALL.—June 19.—For erection of infirmary and probation cottages at the schools. Mr. A. Saxon Snell, architect, 22 Southampton Buildings, Chancery Lane, W.C.

ST. ALBANS.—June 27.—For erection of farm buildings and farm block, an isolation hospital, and six cottages on the asylum estate at Hill End. Mr. George T. Hine, architect, 35 Parliament Street, Westminster.

STAMFORD.—July 17.—For erection of the new workhouse. Mr. J. H. Morton, architect, 50 King Street, South Shields.

STOCKPORT.—June 29.—For erection of a fire station, including engine-house block, stable block, hose-drying tower, cottages for firemen, workshops and other buildings, paving, &c., at the Mersey Mill site, Wellington Road. Mr. John Atkinson, surveyor, St. Petersgate, Stockport.

SWINDON.—June 30.—For painting and repairs at several schools, for the Swindon School Board. Mr. J. Clark, 130 Princes Street, Swindon.

THORNHAM.—June 26.—For repairing and slating the roof of Thornham Church. Specifications may be seen on application to the Vicar or Churchwardens.

TUNBRIDGE WELLS.—June 19.—For erection of fifty-three four-roomed cottages and five blocks of tenements. Mr. W. C. Cripps, town clerk, Town Hall, Tunbridge Wells.

ULVERSTON.—For alterations to Bryers's smithy. Messrs. Settle & Farmer, architects, Ulverston.

ULVERSTON.—For alterations to No. 13 Market Street Messrs. Settle & Farmer, architects.

WAKEFIELD.—June 20.—For erection of epileptic wards for males at the West Riding Asylum. Mr. J. Vickers Edwards, county surveyor, County Hall, Wakefield.

WAKEFIELD.—June 21.—For erection of vagrant wards at the workhouse, Hemsworth, Yorks. Mr. T. H. Richardson, architect, Hemsworth.

WALES.—July 12.—For erection of an infectious diseases hospital at Cymmer. Mr. George F. Lambert, architect, Bridgend.

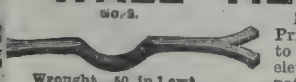
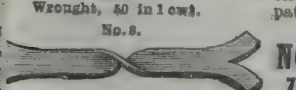
WALES.—June 25.—For erection of a new schoolroom and alterations to present schoolroom; also the heating and ventilating of the chapel, for the Trustees of the English Congregational church, Blaina. Mr. W. S. James, secretary, 77 High Street, Blaina.

WALES.—June 26.—For erection of three classrooms, cloakroom and other works to the Cwmyrdderch infant school, Cwm, near Ebbw Vale, Mon. Mr. R. L. Roberts, architect, Victoria Chambers, Abercarn.

WALES.—June 26.—For erection of a new Wesleyan church at Llandilo. Mr. J. W. Jones, architect, Llandilo.

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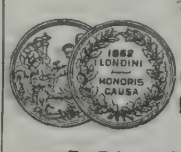
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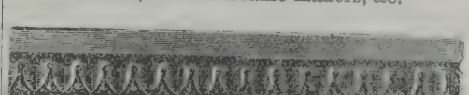

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WALES.—June 26.—For erection of a small addition to the Carmarthenshire Infirmary, Pontcarreg. Mr. Howell Howell, secretary, Pontcarreg.

WALTON-ON-THE-NAZE.—June 28.—For erection of a floral hall and conservatory buildings in the Round Garden. Mr. Chas. H. M. Mileham, architect, 1 Lincoln's Inn Fields, London, W.C.

WARDLE.—June 26.—For slating of one side of the Board-room, Wardle, Lancs., and pointing of two other sides thereof, and other work in connection therewith. Mr. Samuel Brierley, surveyor (*pro tem.*) to the Council, Board-room, Wardle.

WEST HAM.—July 4.—For cleansing, repair and painting of fourteen schools, to be executed during the summer vacation from July 28 to August 28, 1898. Mr. William Jacques, architect, 2 Fen Court, E.C.

WINCHESTER.—June 26.—For erection of a workhouse for the Hursley Union. Messrs. Cancellor. & Hill, architects, 12 Jewry Street, Winchester.

WICKHAM MARKET.—July 3.—For reconstruction of the sanitary and rainwater arrangements at the union house, Wickham Market. Mr. Henry J. Wright, architect, 4 Museum Street, Ipswich.

WIGMORE.—June 24.—For alterations at the police court. Mr. A. Dryland, county surveyor, Shire Hall, Hereford.

WIMBLEDON.—June 19.—For alterations and additions to the cottage at the pumping station, Durnsford Road. Mr. C. H. Cooper, engineer, Broadway, Wimbledon.

WITNEY.—June 28.—For erection of a blanket manufactory. Messrs. John Kirk & Sons, architects, Dewsbury.

WOOLWICH.—June 27.—For erection of lodge, shelter and mortuary in Sun Street. Messrs. Church, Quick & Whincop, architects, William Street, Woolwich.

YORK.—For alterations and additions to Sledmere Vicarage. Messrs. Brodrick, Lowther & Walker, architects, Hull.

YORK.—June 27.—For alterations and enlargement of the Yorkshire Bank Office in High Ousegate. Messrs. Bedford & Kitson, architects, Greek Street Chambers, Leeds.

A PORTION of the roof of an ancient building in the Abbey Church Lane, Bourne, fell in on Friday. The building is probably a part of the hospitium of the Augustinian canons. The monastry, Tithe-burn, is close by, intact.

TENDERS.

ABERDEEN.

For construction of a covered concrete service reservoir containing 800 cubic yards of concrete, and for concrete and cement work, at Kirkton, Dyce. Mr. JOHN D. WATSON engineer, county buildings, Aberdeen.

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H. Weldon	3,256 3 0
CURRALL, LEWIS & MARTIN, Birmingham (*accepted*)	2,829 7 1

BROMLEY.

For erection of a house on the Sundridge Park Estate. Messrs. NIVEN & WIGGLESWORTH, architects, 34 Mecklenburg Square.

L. Evans	£1,600 0 0

BURNLEY.

For construction of a storage reservoir at Briercliffe. Mr. S. EDMONSON, surveyor.

W. SUTCLIFFE, Burnley (*accepted*)	£678 12 0

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For erection of four dwelling-houses, Charles Street. Mr. ARTHUR HARTLEY, architect, Carlton Chambers, Castleford.

Accepted tenders.

J. W. Austerberry, builder.
F. S. Gregory, joiner.
S. Evison, slater.
J. Lockwood, plasterer.
H. Forster, plumber.

CLAPTON.

For mission church at Chatsworth Road, Lower Clapton. Mr. F. FARROW, architect.

Roome & Co.	£1,754 0 0
W. Shurmur	1,692 0 0

DARTMOUTH.

For repairing and painting the market buildings. Mr. T. O. VEALE, borough surveyor.

Michelmore Bros.	£20 18 0
R. Watts	20 9 6
S. Ryder	19 18 0
J. Back	18 18 6
G. MAUNDER, Dartmouth (*accepted*)	18 10 0

GUISELEY.

For erection of a meeting-room at Guiseley. Mr. A. E. DIXON, architect, 5 Park Lane, Leeds.

Accepted tenders.

J. Hobson, mason, bricklayer and slater	£147 10 0
J. J. Atkinson, carpenter and joiner	75 19 0
W. Bruce, Leeds, heating	23 11 0
J. Lockwood, plumber	18 11 0
J. F. Walsh, plasterer	11 7 0
S. Bowden	7 10 0

HIGHGATE.

For repairs and renovations at the infirmary, Dartmouth Park Hill. Messrs. BROWETT & TAYLOR, surveyors, 9 Warwick Court, Holborn.

J. W. DIXON, South Grove, Highgate (*accepted*)	£495 0 0

HAGGERSTON.

For mission hall at Dove Row, Haggerston. Mr. J. HAMILTON, architect.

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Chessum & Son	2,076 0 0
Godfrey	1,977 0 0
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For converting three dwelling-houses into an hospital. Mr. VINCENT SMITH, surveyor, Council Offices, Newbottle Street, Houghton-le-Spring.

R. D. Harrison	£619 0 0
PRINGLE, BALMER & SONS, Houghton-le-Spring (*accepted*)	597 0 0

IRELAND.

For erection of bank premises at Fermoy, co. Cork, for the Provincial Bank of Ireland, Limited. Messrs. KAYE, PARRY & ROSS, architects, Palatine Chambers, 65 Dawson Street, Dublin.

T. Mahony	£3,550 0 0
McLoughlin & Harvey	3,155 15 7
J. SISK, Cove Street, Cork (*accepted*)	3,110 0 0

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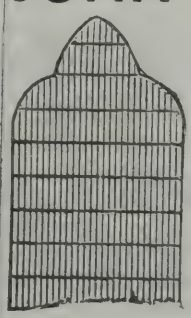
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For pulling-down and re-erection of the fronts of two houses and shops and setting back of boundary walls, &c., in Cooke Lane. Messrs. J. JUDSON & MOORE, architects, York Chambers, Keighley.

Accepted tenders.

M. Sunderland, Manville Road, contractor.
Driver & Son, South Street, joiner.
H. Emmott & Co., Sandywood Street, plasterer.
J. Harrison, Bridge Street, plumber.
W. Thornton, Bingley, slater.

LEEDS.

For erection of a villa residence at Garforth. Mr. ARTHUR HARTLEY, architect, Castle Chambers, Castleford.

Accepted tenders.

R. Walker & Sons, bricklayer.
T. G. Wright & Sons, joiner.
W. P. Allison, slater.

PLUMSTEAD.

For construction of about 500 feet run of 9-inch pipe sewer, manholes, &c., in Church Manorway. Mr. W. C. GOW, surveyor.

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G. Foreman	233 3 10
S. Watts	195 4 4
H. Bentham & Co.	185 4 4
W. SWAKER, Camberly (*accepted*)	122 3 8

MORECAMBE.

For alterations of house at corner of Regent Road and Erving Terrace into lock-up shops and house. Messrs. MARSHALL BROS, architects, Back Crescent, Morecambe.

Accepted tenders.

D. Hinchcliffe, Sandylands, mason	£787 18 0
R. Bennett, Thornton Road, joiner	196 0 0
W. J. Cross, Edward Street, slater, &c.	171 12 0
R. B. Abbott, Victoria Street, plumber	168 0 0
Barrett & Son, Bradford, ironwork	129 0 0

MORECAMBE.—*continued.*

For erection of a house and shop in Cross Street. Messrs. MARSHALL BROS, architects, Back Crescent, Morecambe.
F. P. BURSCOUGH, Lancaster Road (*accepted*) . £396 0 0

For additions and alterations to the National schools. Messrs. MARSHALL BROS., architects, Back Crescent, Morecambe.
E. IRELAND, Lancaster Road (*accepted*).

MITCHAM.

For new roads and outfall sewer for the Mitcham Land Company, Limited, Ravensbury Park Estate. Messrs. POOLEY & FOLLETT, architects and surveyors, 21 John Street, Adelphi, W.C.

Chafen & Newman	£2,852 0 0
Thomas Adams	2,745 0 0
C. W. Killingback & Co.	2,510 0 0
William Langridge	2,505 0 0
William Neave & Son	2,480 0 0
Stephen Kavanagh, Surbiton *	2,298 15 0
Surveyor's estimate	2,400 0 0

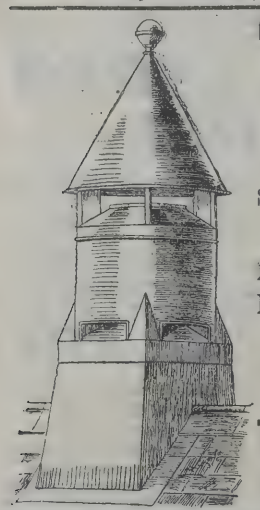
* Accepted subject to the approval of the plans by the local authority.

NOTTINGHAM.

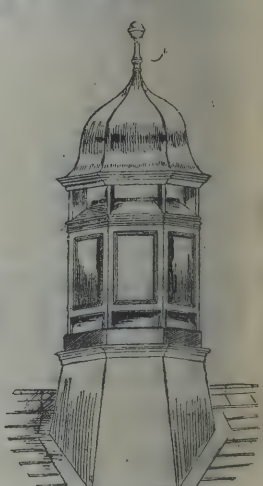
For erection of three villas on Wiverton Road. Messrs. COLLYER & SLATER, architects, 8 Bridlesmith Gate, Nottingham.

T. Caunt	£1,050 0 0
E. Woodward	1,021 13 3
J. Shaw	980 0 0
J. Attenborrow	968 12 8
T. Cuthbert	966 10 0
G. A. Pillatt	960 0 0
A. G. Bell	958 0 0
J. W. Boyfield	950 15 0
W. Appleby	950 0 0
J. Musson	945 0 0
A. & R. Fisher	943 0 0
W. Maule	935 0 0
W. Richards	914 0 0
T. Whittaker	910 0 0
W. T. Norris	899 0 0
C. Hinson	886 0 0

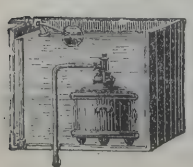
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PADDINGTON.

For additions and alterations to Paddington chapel, Marylebone Road, London, W. Mr. ALFRED CONDER, architect, 19 Bridge Street, Westminster. Quantities by Mr. E. J. PAINE, F.S.I., 11 Great James Street, Bedford Row, W.C.

		A
Higgs & Hill	£10,760 0 0	£300 0 0
G. H. & A. Bywaters	10,566 0 0	364 0 0
L. H. & R. Roberts	10,295 0 0	300 0 0
John Grover & Son	10,175 0 0	397 0 0
John Greenwood	10,119 0 0	430 0 0
Holloway Bros.	10,037 0 0	405 0 0
J. Smith & Sons	9,739 0 0	350 0 0
Wm. Akers & Co.	9,533 0 0	280 0 0
Edmund Toms	9,300 0 0	530 0 0
Stimpson & Co.	9,100 0 0	486 0 0
T. H. Kingerlee & Sons	8,990 0 0	500 0 0

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SCOTLAND.

For erection of the Brydekirk Library hall, Annan.
Accepted tenders.

Watret & Sons, Kirkmahoe, Dumfries, builder	£143 12 0
S. & J. D. Thomson, Brydekirk, Annan, joiner	130 0 0
J. Richardson, Wellington Street, Annan, slater	35 9 0
J. Laidlaw, Ecclefechan, N.B., plasterer	9 3 6
W. & R. Underwood, High Street, Annan, plumber	6 18 6

For erection of a villa at Boat of Garten. Mr. J. GILBERT, architect, The Square, Granton.
Accepted tenders.

J. Grant, Ballintna, Grantown, mason	£740 0 0
E. Mackintosh, Boat of Garten, carpenter	533 0 0
W. Duffes, Grantown, plasterer	287 17 6
F. H. Weeck, Nairn, plumber	100 0 0
Dixon & Bain, Grantown, painter	100 0 0
R. Bain, Grantown, slater	91 15 0

For alterations and additions to offices, Mill of Cavil, Disblair.
Accepted tenders.

A. Gibb, Disblair, Summerhill, carpenter	£158 19 0
G. Catto, New Machar, builder	90 5 0
Moir & Scorgie, Newburgh, Aberdeen, slater	54 15 0

SILSDEN.

For erection of a Conservative club at Silsden, Yorks. Mr. J. W. BROUGHTON, architect, 19 High Street, Skipton.
Accepted tenders.

Driver & Lee, mason	£555 0 0
R. Wade, joiner	260 0 0
J. & W. C. Gill, plumber and painter	98 0 0
C. & J. Laycock, plasterer	64 15 0
W. Thornton, slater	40 0 0

SKELTON-IN-CLEVELAND.

For reconstruction and repair of John and Thomas Streets, &c. Mr. W. P. ROBINSON, surveyor, Skelton-in-Cleveland.

T. Ridsdale	£379 10 4
F. LIDDELL, Moorsholm (*accepted*)	315 5 4

SOMERTON.

For erection of premises in Broad Street, Somerton. Messrs. BOWRING & HAWKINS, architects, Post Office Chambers, Glastonbury.

Bartlett & Sons	£920 0 0
F. Huish	675 0 0
D. Dunthorn	645 0 0
W. & J. COX, Somerton (*accepted*)	638 0 0

SOUTHALL.

For alterations, repairs and painting at the St. Marylebone schools, Southall, for the Guardians of St. Marylebone.

J. J. RICHARDS, Brixton (*accepted*)	£505 13 0

SOUTHAMPTON.

For erection of a shop and dwelling-house in Shirley Road. Messrs. JURD & SANDERS, architects, Portland Street, Southampton.

T. HOWELL (*accepted*)	£450 0 0

For erection of a cook's room at the workhouse in Westend.

Stevens & Co.	£130 0 0
Jenkins & Sons	127 0 0
Rashley	115 0 0
Haines Bros.	112 0 0
Witt Bros.	108 15 0
NICOL, Southampton (*accepted*)	106 0 0

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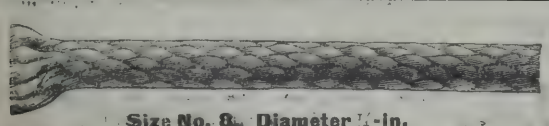
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T. Morgan	£11 15 0
H. Bellas	11 0 0
T. Mann	8 5 0
M. A. MANN, North Road, Wingate (*accepted*)	8 0 0

WALES.

For erection of an office and stores and alterations and extension to house at the gasworks, Quaker's Yard, Glamorgan.

S. Jones	£506 10 0
H. Ingleson	498 0 0
E. Price	481 10 0
W. MORGAN, Treharris (*accepted*)	437 18 0

For restoration of Ship inn, Penmaenbach, Conway. Mr. RICHARD DAVIES, architect, Bangor.

W. Hughes	£1,166 10 0
T. P. Thomas	1,120 0 0
E. Thorp & Son	995 10 0
ROBERTS & EVANS, Conway (*accepted*)	764 16 0

For erection of eighteen houses at Argoed, Mon., at per house. Mr. NORMAN T. PRICE, architect, 32 High Street, Argoed.

W. T. Morgan	£173 0 0
Williams & Sons	158 0 0
D. Morgan	156 0 0
James Bros.	156 0 0
W. MORGAN, Tredegar (*accepted*)	154 10 0

For alterations and additions to Ebenezer English Baptist chapel, Cefn Mawr. Mr. J. W. JONES, architect, Brooklea, Acrefair, Ruabon.

R. Hopley	£1,089 12 7
J. T. Jones	1,057 0 0
W. F. HUMPHREYS, Ruabon (*accepted*)	925 10 0

For erection of nine houses on the Powell-Duffryn estate Aberaman, Aberdare. Mr. J. LLEWELLIN SMITH, architect, 20 Commercial Street, Aberdare.

W. E. Willis	£1,980 0 0
WILLIAMS & WILLIAMS (*accepted*)	1,638 0 0
Hopkins & Prosser	1,620 0 0

For erection of a schoolroom at Abercrave.

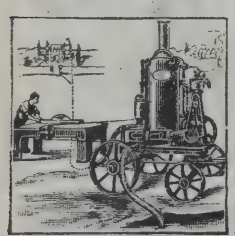
Davies & Powell	£550 0 0
Thomas & Jones	486 0 0
J. J. LEWIS, Abercrave (*accepted*)	415 0 0

ST. MARY, STRATFORD-LE-BOW.

THE parish church of St. Mary, Stratford, Bow, was reopened after having been closed for upwards of two years. In October 1895 a portion of the chancel roof subsided, and it was then found that the whole church was practically tumbling down. Consequently it had to be closed. The origin and date of erection of this church have been matters of dispute, but in 1311 Bishop Baldock granted the inhabitants of Stratford and Old Ford a license authorising them to erect a church in the king's highway, on account of the distance of their residences from the mother church of Stepney. The architecture of the church points to the fact that the building is not of an earlier date than the latter part of the fifteenth century, but it is believed the present church took the place of a chapel which had previously existed on the site. Sir Walter Besant, in his book "London," wrote :—"It was formerly the church of a nunnery founded at Stratford-le-Bow by William the Conqueror; it was augmented by Stephen, enriched by Henry II. and Richard I., and lasted till the Dissolution." The church remained a chapel of ease to Stepney until 1719, when it was consecrated as the parish church. A new roof has now been provided to the nave, while the gable roof of 1755 has practically been renewed. The brick gable has been rebuilt, but the old timbers have been left. The tower is now the only part of the church to be repaired, and before that can be done a sum of about 1,800*l.* must be collected. The opening service was conducted by the Rev. Manley Power, the rector, assisted by many of the local clergy, while the Bishop of London preached the sermon. Messrs. W. A. Hills & Son were the restoration architects.

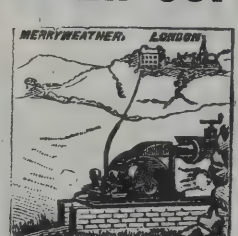
A MEETING of the St. Helens' Corporation parliamentary and official staff committee was held on Saturday, when the eight candidates for the vacant town-clerkship selected to appear before them were interviewed. Ultimately Mr. T. B. Blackburn, assistant registrar of the Chancery Court of the County Palatine at Liverpool, and Mr. G. W. Bailey, town clerk of Eccles, were selected to appear at the next meeting of the Town Council, when the appointment will be made. The other candidates interviewed were gentlemen connected with the corporations of Blackpool, Cheltenham, Bootle, Congleton, Southport and London.

MERRYWEATHER on WATER SUPPLY TO COUNTRY MANSIONS, &c.

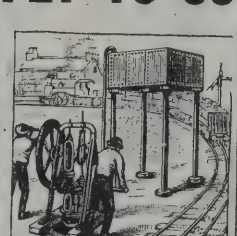

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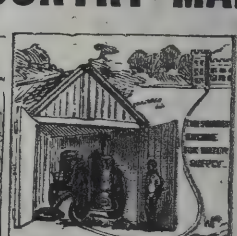


Light Pumping Engine and Boiler.



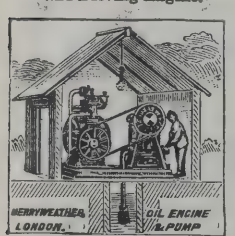
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"India" Pattern Pumping Engine.


"Squire" Portable Fire Engine.



Windmill Pump.



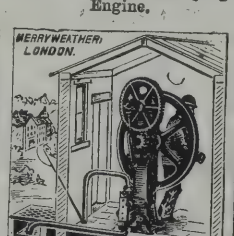
Oil Engine and Pump.



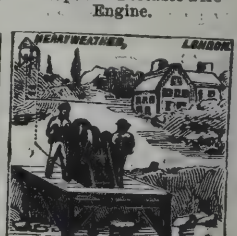
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TRADE NOTES.

THE reglazing of the Crystal Palace roofs has been entrusted to Messrs. Mellowes & Co., of Sheffield and London (28 Victoria Street, Westminster, S.W.), on their "Eclipse" patent imperishable system.

MESSRS EDGAR KEELING, TEALE & CO, LIMITED, have been entrusted with the execution of the wrought-iron staircase and railings at Kensington Town Hall extension.

THE heating of the new P. M. chapel, Nelson, is to be by Spencer's patent "Ventilo" radiators. The patentee and sole maker is Mr. W. F. Spencer, Cross Bank Works, Oldham, and 145 Queen Victoria Street, London, E.C.

IN the ventilation of St. Peter's Episcopal Church, Glasgow, now in course of erection, Mr. James Chalmers, architect, "Cousland's improved Climax" patent direct-acting invisible roof ventilators are being used.

THE Angel Hotel, Peterborough, is being fitted with an entirely new installation for its complete warming and ventilation, by John King, Limited, engineers, Liverpool, by means of their "Rajah" ventilating radiators and their patent "Tubular" exhaust ventilators.

MESSRS E. H. SHORLAND & BROTHER, of Manchester, have recently supplied their patent Manchester grates to the Isolation Hospital, Braintree.

THE Silicate Paint Company (J. B. Orr & Co., Limited) inform us that the recently opened Hotel Great Central has been decorated throughout with their enamel paint, and nearly all in white.

ELECTRIC NOTES.

AT a meeting of the Scarborough Town Council on Monday evening it was decided to purchase the old gaol site for the erection of the proposed refuse destructor.

THE Local Government Board have sanctioned powers for the Corporation to borrow another 28,870*l.* for extending the electric-lighting works and cables for both public and private lighting. The committee have agreed to accept a tender of Mr. J. O. Brettell, of Worcester, for 2,218*l.*, for the construction of a new battery-room at the works

THE purchase of the Sheffield Electric Light and Power Company by the Sheffield Corporation was completed on Monday, the 12th inst, when the shareholders in the company received a final distribution of assets. The purchase money has been sufficient to pay 17*l.* 19*s.* on every 7*l.* share.

AT a special meeting of the Oswestry Town Council on Tuesday evening, it was resolved to acquire the Oswestry Electric Light Company's undertaking at a sum not exceeding 11,750*l.*, which is the price asked by the company. Mr. Hawtayne, an electrical expert called in by the Council, valued the property at 8,250*l.* Several members severely criticised the proposal on the ground that the price was extravagant, and a poll of the ratepayers was demanded.

THE Southampton Corporation electrical engineer has reported to his committee that the number of units sold during the month for private lighting and power was an increase of 70 per cent. on the number sold in May 1898, and that the equivalent to 717 8 candle-power lamps was connected during the same month, and that applications continued to come in freely, especially from the districts supplied from the new mains.

MR. W. O. E. MEADE-KING, C.E., opened an inquiry at the Council Chamber, Darlington, on Friday last, into an application on the part of the Corporation of Darlington for sanction to borrow 30,000*l.* for the purpose of electric lighting, and 591*l.* for the purchase of land in Haughton Road for the extension of the depot. The Town Clerk stated that a provisional order had been obtained. It was not intended at the outset to spend the whole of the 30,000*l.* by 4,215*l.*, which balance would be left for future extension.

THE streets electric-lighting sub-committee of the Glasgow Corporation have considered proposals from the electricity committee offering to supply the current for street lamps at the rate of 14*l.* per lamp for all-night lighting, or 12*l.* per lamp should each alternate lamp be extinguished at 11.30 P.M., on the understanding that the minimum number of electrically-lighted street lamps in the city be raised to 400. The sub-committee remitted to Mr. Hamilton, the inspector of lighting, to prepare a report on the requirements of the leading thoroughfares for presentation to the watching and lighting committee, with a view of making recommendations for the extension of the system.

THE lighting committee of the Wolverhampton Corporation, in their annual report, state that their operations in regard to the electric-light undertaking have again been successful, a profit of 1,004*l.* having been made after payment of interest and

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sinking fund charges. Of this amount 588*l.* has been applied to clear the deficiency on the working of the previous years, and the department has now in hand 416*l.*, which it is proposed to carry forward to revenue account for next year's working. During the four years the number of lamps connected has increased from 8,941 to 19,932, the consumers from 113 to 276, and while there was a loss on the first year's working a progressive profit has since been earned. There are satisfactory signs that progress will be continued. Up to the present date two alterations have been made in the tariff charged to consumers. The first of these resulted in 71 customers out of 164 (or 43 per cent.) obtaining a rebate. The second alteration has resulted in 176 out of 267 (or 65 per cent.) obtaining a rebate. The average price paid by the consumers for lighting during the past year was 5·24*d.* per unit, and for power and heat 1·7*d.* per unit. The object of the committee in effecting these alterations has been to encourage the use of electric lighting by those people who use artificial light for periods of several hours daily, and also to encourage shopkeepers to extend the light into the back part of their shops and residential quarters, many shopkeepers only using the light in their windows.

VARIETIES.

MR. ANDREW CARNEGIE has offered 1,000*l.* for the purpose of building a free library in the burgh of Banff. The Free Libraries Act was adopted by the burgh a few weeks ago.

AN excellent sixpenny treatise on sanitation has been issued by the St. Bride's Press, Limited. It is entitled "Examinations in Sanitary Science." The author, Mr. E. R. Matthews, has collected various examination papers, and has given explicit answers to the questions. Beyond its use to candidates it serves as a useful manual of information on an important subject.

THE Phœnix Bridge Company of America has received a contract to build a large steel bridge for the Imperial Railway of Japan. The bridge will be in six spans, and will be one of the largest steel bridges ever contracted for by American builders. As soon as the plans are completed work will be begun, and the bridge is to be ready for shipping by September 1.

ON the body of one of those who perished in the loss of the *Stella* was found an insurance ticket for 500*l.*, granted on the morning of the wreck by the Railway Passengers' Assurance Company. The body had been floating in the Channel for nearly two months. The ticket was found intact. This fresh claim makes the total amount claimed from the company in respect of deaths by the *Stella* 5,000*l.*

A CARVED oak reading-desk has just been placed in the parish church at Little Wenlock, Shropshire, in memory of the late Rev. Canon Nash, for nine years rector of the parish, who died last year. It has been erected by the parishioners, with the help of Lord Forester, patron of the living, and other friends of the late Canon. The reading-desk has moulded and panelled standards and open tracery between, surmounting a closed panel, which bears a suitable inscription cut in the oak. The whole is of very solid workmanship. It has been designed by Mr. W. Arthur Webb, of 2 Colville Square, W., and carried out by Mr. T. Martin, of 118 Victoria Street, S.W.

THE new church of All Saints, Farnworth, Bolton, was dedicated on the 8th inst. The new building is the outcome of a movement started about three years ago by the Rev. H. E. Burgess, curate-in-charge, to increase a sum of 1,000*l.* bequeathed by the late Mr. John Greenhalgh to the wardens of St. John's, Farnworth, towards the cost of erecting a new church at All Saints. Already the sum raised represents about three-fourths of the entire cost. The church will for the present provide accommodation for 450 persons. It has been built from the plans of Mr. R. K. Freeman, Bolton.

THE Caledonian Railway Company have effected an extensive purchase of property in Glasgow immediately to the north and east of their Buchanan Street terminal station. It is understood, says the *Scotsman*, that the purchase includes the whole of the area enclosed by Port Dundas Road, East Milton Street and Dobbie's Loan, and the frontage to these streets is over 700 yards. Although not officially announced, there is no doubt that the directors of the Company now recognise the impossibility of concentrating the whole of the traffic at the Central Station, and the new acquisition of property may be taken as the preliminary to a scheme for the reconstruction of Buchanan Street passenger station on a scale worthier of the reputation of the company than the present old and somewhat dilapidated buildings.

THE new Free church at Carnock, N.B., which was formally opened by the Rev. Principal Rainy on the 7th inst., has been erected from plans prepared by Mr. A. Scobie, Dunfermline, and is a neat Gothic structure seated for 300 persons. There is a hall at the back for Sunday school and other meet-

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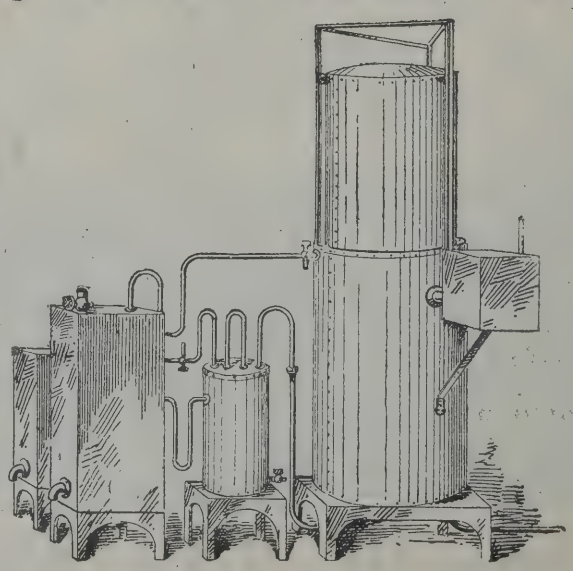
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ings. The contractors were:—William Templeman, Cairneyhill, mason; David Graham, Dunfermline, joiner; Messrs. M'Gregor & M'Ouan, Inverkeithing, slaters and plasterers; Messrs. Muir & Gillan, Dunfermline, plumbers; Alexander Lowe, Dunfermline, glazier; D. Lowe & Sons, Edinburgh, heating engineers; Charles Wilson, Carnock, iron-work (gates and railings); Henry Hoggan, Dunfermline, painter.

ST. PETER'S Presbyterian Church, Upper Tooting, which was on the 8th inst. dedicated to public worship, introduces into this country a somewhat new departure in church architecture. The church has been built from American designs, which are said to combine the most practical seating arrangements with excellent acoustic properties. The method of construction, which is now popular in the United States and Canada, solves what an Irish divine once called "the problem of having a central pulpit in a corner," the pulpit, with the organ behind, being placed in one of the corners, and the pews being arranged therefrom in concentric lines. The new church, which has a spacious gallery, will seat over 700 persons. Presbyterianism has been making rapid strides in this district, and a long-felt want has been supplied by this important extension of church accommodation.

A NEW swimming-bath, which has been erected at Wantage as a memorial of the Diamond Jubilee of the Queen, was opened on the 1st inst. The inside dimensions are 48 by 30 feet, the depth of water being 3 feet 3 inches at the shallow end, and 5 feet 6 inches at the deep end. The supply of water is brought down in cast-iron pipes from the pond in the Market Place, which is supplied from the conduit in Newbury Street. A small filter is fixed in the pond, so that all water entering the bath is passed through a bed of gravel. Two inlets are provided with the necessary valves for shutting on or off and emptying the main. The capacity of the bath is 39,375 gallons, the weight of water being 176 tons. An entrance lobby, attendance-room, six enclosed dressing-boxes, and an open shed with seat have been built. The bath, which has cost about 400*l.*, was built by Mr. W. A. Wheeler, from the design and under the superintendence of Mr. W. Hanson.

BUILDING AND BUILDERS.

THE Prince of Wales visited Winchester on the 8th inst., and l id the commemoration-stone of the new barracks which are t be constructed on the site of the old King's House.

ILLUSTRATIONS.

CATHEDRAL SERIES.—ROCHESTER: NAVE, LOOKING WEST.—DOORWAY IN SOUTH CHOIR TRANSEPT LEADING TO CHAPTER-HOUSE.—DETAILS OF WEST DOORWAY.

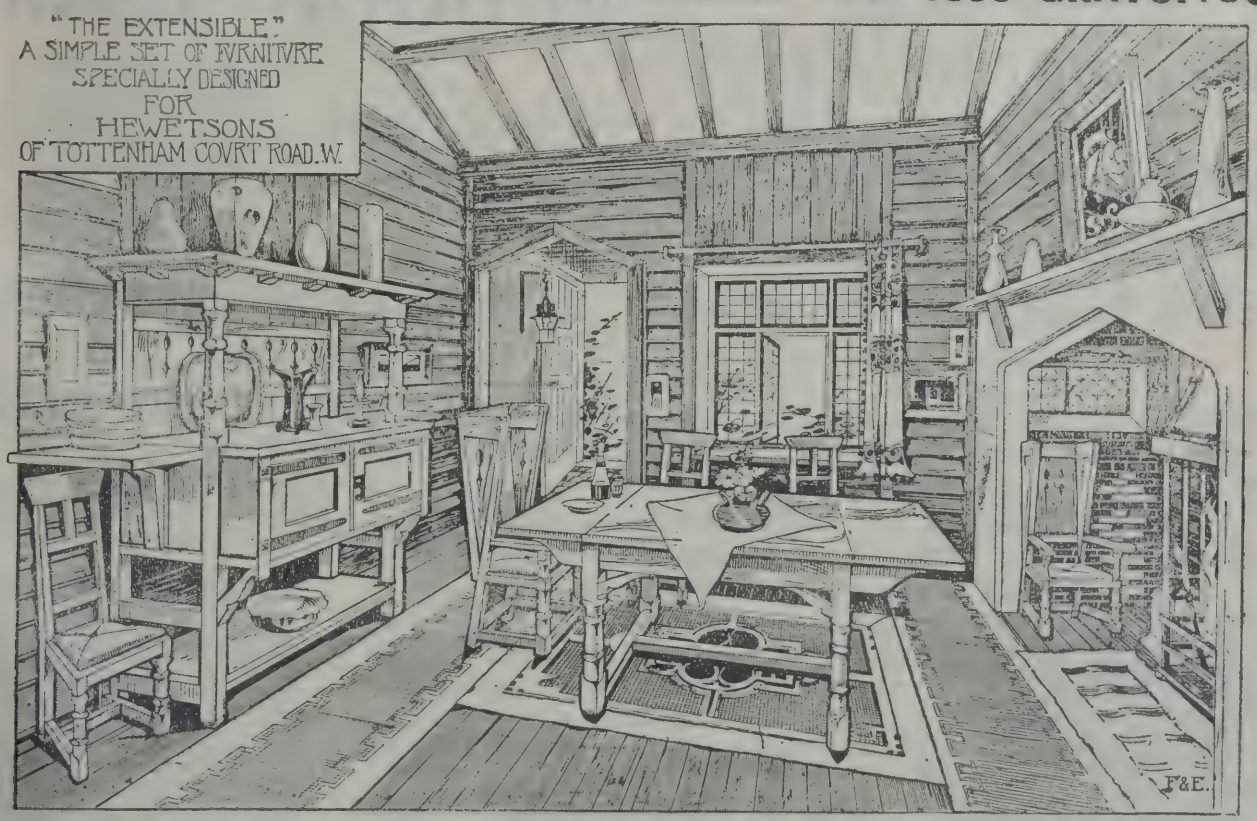
QUEEN'S HOTEL, LEICESTER SQUARE.—GRILL ROOM.

ON Wednesday afternoon the foundation-stone was laid of the new church of St. Barnabas, at Ladypool Road, Birmingham. When completed the church will take the place of a small iron building, which has accommodation for only about 600 persons, and is found to be totally inadequate for the requirements of the large and populous district in which it is situated. The plans, prepared by Mr. T. Frederick Proud, architect, provide at present only for the erection of a chancel with organ-chamber and vestries, but when complete the church will consist of a wide nave, aisles, transepts and morning chapel. The chancel will be 24 feet wide with apsidal end, the morning chapel and organ-chamber being separated by richly-moulded arches. At the corner of Ladypool and Clifton Roads a tower will be erected, under which is the main entrance. A projecting octagonal baptistery adjoins, and above rises the end of the nave with a group of lofty traceried windows. The south side shows a range of traceried clerestory windows and bold buttresses. The style is Late Perpendicular, and the whole building both inside and outside will be constructed of red brick, with moulded terra-cotta arches and tracery, and covered by a bold open timber roof and green slates. The church will hold 900 people, and the cost, exclusive of the tower, will be 6,000*l.* The builders are Messrs. E. Giles & Son, of Camp Hill.

AT a special meeting of the Bridlington Urban Council the sanitary and foreshore committee had before them tenders for carrying out improvements to the northern outfall, which runs on to the beach. One tender was from Mr. Brumby Robinson, Hull, and his price was 920*l.*, but a second price of 788*l.* was given if the work was done 6 yards further south. Mr. Sawdon moved that the latter tender be accepted, and the motion was carried.

A LABOURER named Peter Halsall, aged 28, met with his death under shocking circumstances at Bolton on Friday

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morning. Repairs are being carried out on the Lancashire and Yorkshire railway viaduct at Turner Bridge, and Halsall, whilst engaged at a crane, lost his footing and fell over into the valley below, a drop of 90 feet. He was conveyed to the infirmary, but died at noon.

A SAD accident occurred on Tuesday evening at North Shields. A gang of men were taking down a large building when one of the gables collapsed, and the men were buried in the débris. They were all got out safely except one man, named William Marcer, who was found to be dead. His son, who happened to be near the building at the time of the accident, was struck by the falling masonry and badly injured.

A PROVISIONAL agreement having been signed to build a dock at Workington, conditional upon the rejection of the Maryport Harbour Bill, the scheme will, now that that measure has been defeated, be pushed forward. It is understood that the parties to the agreement are the Corporation, a London syndicate and the trustees of the Lowther estates, who own the present dock. The Corporation is to provide 150,000*l.*, half to rank as Four per Cent. Preference shares and half as Ordinary shares.

THE fortnightly meeting of the Liverpool Select Vestry was held at the public offices, Brownlow Hill, on Tuesday, when the special committee on hospital accommodation at Highfield reported that they had consulted with the architects upon the modifications of plans advised by the Local Government Board, and they considered that the recommendations relative to the bay windows of the pavilions on the east side of the administrative block and to the dining-room and the nurses' home might be advantageously adopted. Instructions had been given to the architects to modify the plans to this extent. As to the suggestion that the pavilions should be two-storeyed instead of one-storeyed the committee could not accept it, and the medical officers were strongly of opinion that it was not desirable. The saving would not amount to more than 4,000*l.*, and this would not compensate for other serious disadvantages. Mr. Pickthall moved the adoption of the committee's report, and the motion was seconded by Mr. Laurence and carried.

AT a meeting of the Paisley Police Commissioners on Monday night, the report on the proposed refuse destructor works, prepared by Mr. Santo Crimp at the request of the Commissioners, was submitted. The destructor is to be of the Horsfall type. Dealing in his report with the question of sewage disposal, Mr. Santo Crimp explains the position of the Glasgow system on the south side of the Clyde, and instances how the burgh of Paisley will benefit by the construction of the Glasgow works, inasmuch as they will remove from the river Cart the pollution now discharged into it from districts on the upper reaches of the river. In this connection it is pointed out that certain advantages might accrue to Paisley if the town were joined with the Glasgow scheme. Two schemes are submitted—one for the burgh itself, and the other as joined with the city. The cost of the separate works would likely be 45,650*l.*, and it is estimated that the cost of purifying the sewage would be 1*s.* per head per annum, whilst the alternative scheme is estimated at 51,000*l.*, and to the interest of that sum the Commissioners would have to add the charges of the Glasgow Corporation for pumping and treating the sewage. The report, it was agreed, should be considered in committee. A further minute was read stating that the committee had visited a site in Underwood Road. Afterwards the Commissioners met in committee, and by a majority approved of the minute. After some discussion, and on a vote being taken, it was agreed by 12 to 7 to purchase the Underwood site, and it was remitted to the refuse destructor committee to carry out the arrangements.

AT Glasgow, Sheriff Spens, in a judgment just given, has dealt with several curious points of law under the Workmen's Compensation Act James M'Donald, house painter, 71 Reid Street, Bridgeton, sued Messrs. Hobbs & Samuel, house painters, 70 Anderston Quay, Glasgow, for compensation for serious personal injuries sustained by him while in the defenders' employment. On November 21 last he was engaged painting iron joists in the Dead Meat Market, Moore Street, and was using a ladder while doing so. While he was so employed the occupier of one of the stands in the market close to the ladder swung round the carcase of a bullock for the purpose of showing it to an intending purchaser, and the carcase coming against the ladder, the pursuer was knocked off and fell to the ground, sustaining a fracture of the skull and other serious injury. His lordship found that the Dead Meat Market is a building over 30 feet in height; but that, as a matter of law, the said building was not being "repaired by means of a scaffolding," and therefore that the accident was one which did not fall within the provisions of the Act. His lordship in consequence dismisses the claim, awarding no expenses. In a

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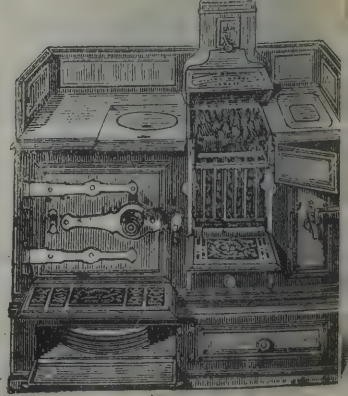


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ote he says that a ladder must be found to be "scaffolding" efore the claim could be sustained. In his view a scaffold vas a staging for the temporary use of workmen, and did not nclude a ladder, which was of a permanent character *per se*, nd not intended to be demolished when the job for which it vas used was finished.

THE foundation-stone of the new municipal buildings which re to be erected at Henley-on-Thames, was laid on the th inst. The new buildings, which are in the Renaissance yle, will contain in the basement a large drill hall and a orough surveyor's office. On the ground floor there will be vo committee-rooms and a council chamber, and upstairs will e a large hall, 60 feet by 40 feet, with seating accommodation or 450 people. The whole cost will be a little over 10,000*l.* he ceremony of laying the stone was performed by the Hon. *V.* F. D. Smith, M.P., and in asking him to do so the mayor Henley (Mr. Lidderdale) said the real foundation-stone was id some weeks ago, when they received such a handsome onation from Mr. Smith. After the foundation-stone had een laid the mayor laid a memorial-stone, setting forth the bject which the building was to commemorate, which was the mpletion of the sixtieth year of the reign of Her Majesty the ueen. The corner-stone was then laid by the Earl of Jersey, e lord-lieutenant of the county, with full Masonic ceremony, d the proceedings terminated. After the ceremony a pro- ssion was formed to Northfield House, the residence of the ayor, where lunch was served in the grounds, the mayor ing in the chair and Mr. R. T. Hermon-Hodge, M.P., in the e-chair.

GLASGOW'S new central fire-brigade station is now rapidly proaching completion, and is expected to be ready for ccupation in course of a month or so. In shape it is some- at like the letter L, one end abutting on Ingram Street and e other on High Street. A site better fitted for the use to hich it has been put could not have been found anywhere. shape has enabled the builders to place the various blocks buildings where they will be of most advantage. There are ree main structures, each separate from the other. The one Ingram Street, where the chief entrance is, has not yet been mpleted, but it is sufficiently far advanced for one to get an ea of what its general appearance will be when finished. e façade is 119 feet long and four storeys in height, and the ilding extends backwards from the street 40 feet. The vation, which is in Italian Renaissance, is divided into three mpartments, each surmounted by an ornamental gable, which agreeably breaks the sky-line. As far as the upper storey the building is constructed of polished Peterhead granite, which, in conjunction with the Dumfries red stone used for the rest of the structure, has a very handsome appearance. The effect is further enhanced by the chief rooms in the upper storeys having oriel windows, and the front, on the street level, being pierced with numerous arched openings. In the centre is the watch-room, an apartment 16 feet square, where men will always be in waiting to receive alarms of fire. On the right is the machine or fire-engine room, measuring 46 feet long by 36 feet wide, and lined with marble and granite in courses. Behind this is what is known as the "running stable," where eight horses in readiness for a "turn-out" will be kept. Above the engine-house is the "duty-room," from which access is had to the floor below by means of trap-doors with brass rods extending to the street level. On the left of the central compartment is the general entrance to the administrative department, in passing through which everyone must come under the observation of the watchman on duty. The other rooms on the street floor are occupied as an office, chief officer's room, officers' room, clerks' room, &c. At the extreme left of the Ingram Street front is the private entrance to the chief officer's dwelling-house of ten apartments. There are also in the block two officers' houses of six rooms, one of five, and other two houses of three rooms. The second block of buildings, which faces the High Street, has shops on the street floor with basements, which are quite separate from the fire establishment. The upper storeys are divided into sixteen houses of three apartments, with bathrooms. They are exceedingly well fitted up. Hot water is laid on throughout from a central boiler, and electric light will be furnished to the tenants. The elevation to High Street, while not so elaborate as the one in Ingram Street, is also of red sandstone, and is pleasingly decorated. The third block of buildings is across a courtyard. It is built of pressed terra-cotta brick and contains workshops of various descriptions, and above are fifteen dwelling-houses, each of two apartments, with bath-room, scullery and pantry. The accommodation provided for the men will make them more comfortable than they could ever have been in the old premises in College Street. Provision is made for drying their clothes when they return wet from a fire. There is a large general washing-house, fitted up with the same completeness as the public washing-houses of the city, with hydro extractors and a drying-room, and there is also a spacious laundry. A recreation-room has been built and there is also

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a gymnasium 56 feet long by 24 feet wide. In case the wives of the men may be from home at any time a kitchen has been fitted up so that the men in the duty-room can cook their own food. At the south-west corner of the site a square tower 90 feet high has been built to dry the canvas hose, which rapidly deteriorates if it is stored away in a damp state. The top of the tower has been made flat to receive the standards for the telephone and telegraph wires connecting the central office with the district offices, and the street and other fire-alarms. The cost of the new establishment when completed will be about 66,000*l.*, of which 22,000*l.* was paid for the ground on which it is erected.

ROUS'S FIRE-RESISTING PLASTER.

ON Friday last a demonstration was given at Willesden of the practical utility of Rous's patent fire-resisting and non-conducting material for plastering, from which it was evident that the material in question will effectually arrest for a considerable time the progress of a fire, and protect the wood or iron which is plastered with it from the action of the flames for a sufficient length of time to allow them to be subdued by the ordinary means.

GREAT CENTRAL GOODS STATION.

AN interesting visit was made by the members and associates of the Society of Engineers on Wednesday, June 14, 1899, to the London station and goods depôt of the Great Central Railway, Marylebone.

Among those present were:—Mr. John Corry Fell, president; Mr. Charles Mason, vice-president; Messrs W. W. Beaumont, A. T. Walmisley, J. W. Wilson and Henry Adams, past presidents; Mr. Maurice Wilson, member of council; Captain Walter Wood, Messrs. S. Cowper-Coles, J Waddington, A. R. Burch, H. Conradi, William Sugg, John Samson, H. O. Carr, C. W. Wales, G. S. South, H. Stopes and E. Hulburd, members; Mr. Perry F. Nursey, secretary.

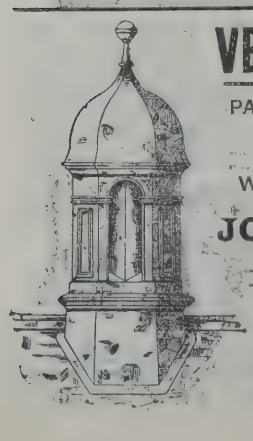
The Passenger Station—The passenger station consists of a brick and terra-cotta building having a frontage of about 325 feet, and containing the booking hall, waiting rooms, refreshment rooms, cloak room, parcel office, and other rooms with general offices overhead on the first and second floors. These rooms are all entered from the promenade, and the booking hall has also an entrance from the street under a covered way, which extends from the station to the hotel across the intervening roadway, which has a total width of 90 feet. The promenade has a width of 100 feet by about 250 feet, and from it the various platforms and lines of rails extend northwards. The promenade and the platforms and rails for a length of 500 feet are roofed over with a steel roof glazed with Mellowes' glazing, and supported upon steel stanchions. None of the spans exceed 50 feet in width, and the total width at present roofed over for platforms and rails is 155 feet. The company, however, owns the block of land lying to the west of the station, and between it and the new street called Harewood Avenue, for future extension by which the area of platforms and rail accommodation can be made double its present size. The platforms from the hydraulic buffer stops to the north end are about 1,000 feet in length. Owing to the fact that in former years the sand and gravel on the site of the building had been excavated and the space filled in with refuse, the foundations of the station had to be carried down about 25 feet below the platform level, and a basement was therefore constructed under the whole of the building. The portion under the refreshment-rooms has been made available for kitchens, &c., in connection with that department.

The Goods Depôt.—The goods depôt is situate with a frontage on one of the new streets made by the company, and called Rossmore Road, and extends northwards therefrom. The main building has a length of 384 feet by a width of 255 feet, and is constructed of brick walls with steel stanchions and girders carrying the various floors internally. There are five floors, consisting of the basement, ground and three upper floors. The ground floor is made at rail level, but trucks can be lowered into the basement by means of hydraulic waggon hoists. The whole of the machinery of cranes, hoists, traversers, capstans, &c., is worked by hydraulic power, and the building is lighted by electricity, the power and light being both provided from the hydraulic and electric power house belonging to the company in the vicinity. There is, in addition to the goods depôt proper, a large vault area under the road approach, a considerable amount of roofing on the east, west and sides of the building, and a large range of goods offices, with mess-rooms, &c., for the men fronting upon Lisson Grove, where the principal entrance to the goods yard and depôt is situated. It will be noticed in regard both to passenger and goods lines that the level of rails has been so arranged that at each place they are at the proper level for the most convenient access to the adjoining streets.

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THE IRON AND STEEL INSTITUTE.

THE autumn meeting of the Iron and Steel Institute of Great Britain will be held in Manchester on August 15 to 18 inclusive. The meetings on August 15 and 16 will be held in the Town Hall. The programme embraces numerous visits to engineering and other industrial establishments. Thus on August 15 there will be a visit to the Lancashire & Yorkshire Railway Company's locomotive works and steel foundry at Horwich, and, alternatively, to the Simon-Carvès coke ovens at the Barrow Steel Company's collieries and at the Wharncliffe Silkstone Collieries, near Barnsley. On the following day there will be a trip on the Manchester Ship Canal, and on August 17 visits will be made to the works of Messrs. Platt Brothers and to the Pine Company's cotton mill at Oldham, and to Messrs. Galloway's boiler works at Ardwick and Messrs. Haworth's mills at Ordsall. Other excursions have been arranged, and receptions will be given by the Lord Mayor of Manchester and the Mayor of Salford.

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MR. JOHN THOM, Canal Works, Patricroft, has for many years devoted his energies to the formation of deep bores and shafts with surprising facility and speed, and in this he has been aided by rock-boring tools and other appliances of his own design and construction. His works at Patricroft are engaged solely in the manufacture and repair of tools for boring and sinking mines and wells.

Mr. Thom has successfully carried through numerous projects, and has recently completed one of the largest bore-holes (7 feet in diameter) in the United Kingdom, and has executed bores for most of the leading civil and mining engineers, colliery companies, breweries, &c., in this country as well as abroad By means of his special tools and machinery exceptionally difficult bores are now possible, and they can be executed at very much less cost than formerly. Various systems of boring are used according to the circumstances of the case. In very hard rock, and when it is important to have samples of the strata through which the bore is made, the diamond drill is used. This is a cylindrical tool which forms the end of a tube made in various diameters. The cutting end of hard steel is studded at close intervals with veritable diamonds, and thus it forms a crown drill, acting very much like the drill which cuts out the bore of an Armstrong gun. It is revolved by an engine and special machinery at the surface, and so cuts its way into the hardest rock. A core of stone rises within the tube, and is brought up whenever the drill is withdrawn. This is effected by an ingenious arrangement within the tube. A steel ring, with a small gap cut out of its periphery, is drawn down to a smaller diameter by a gradual taper inside the tube, and as it descends it closes tightly upon the core, and thus breaks it off. Another system of boring, called the "Canadian," is better suited for soft strata, or for piercing through alternate layers of hard and soft substances. Penetration is done by a hard steel chisel of peculiar form working on the percussion principle, and is operated at the surface by a species of steam hammer and lever, which give about eighty strokes per minute. Acting with a water jet, it quickly reduces the matter to a pulp, and is generally very rapid in its descent.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT the meeting of Monday the 12th inst., the Council for the year of office 1899-1900 were declared duly elected as follows :—

President.—William Emerson.

Vice-Presidents.—John McKean Brydon, W. M. Fawcett, M.A., H. L. Florence, E. A. Gruning.

Hon. Secretary.—Alexander Graham, F.S.A.

Members of Council.—F. T. Baggallay, T. Blashill, James Brooks, J. J. Burnet, A.R.S.A. (Glasgow), W. D. Caröe, M.A., T. E. Collcutt, J. A. Gotch, F.S.A. (Kettering), E. T. Hall, H. T. Hare, E. W. Mountford, Beresford Pite, John Slater, B.A., R. Phenè Spiers, F.S.A., H. H. Statham, Leonard Stokes, Sir John Taylor, K.C.B, Paul Waterhouse, M.A., Aston Webb, A.R.A.

Associate Members of Council.—James Sivewright Gibson, Henry Vaughan Lanchester.

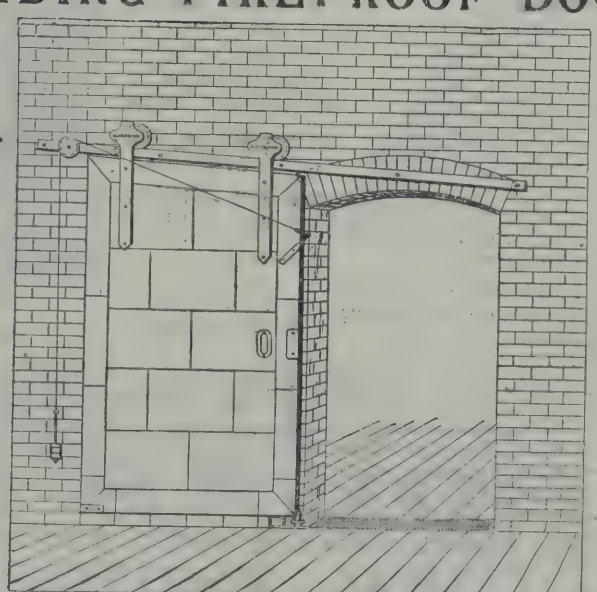
Representatives of Allied Societies.—David Barclay (Glasgow Institute of Architects), R. I. Bennett (Manchester Society of Architects), J. Crocker (Devon and Exeter Architectural Society), T. Drew, R.H.A. (Royal Institute of the Architects of Ireland), R. Evans (Nottingham Architectural Society), C. B. Fowler (Cardiff, South Wales and Monmouthshire Architects' Society), W. Glover (Northern Architectural Association), A. E. Sawday (Leicester and Leicestershire Society of Architects), Joseph Smith (Sheffield Society of Architects).

Representative of the Architectural Association (London).—G. H. Fellowes Prynne.

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CITY OF LONDON ELECTRIC LIGHTING.

ON Monday Sir Courtenay Boyle sat at the Board of Trade for the purpose of considering the amendments proposed by the City to the provisional order granted to the Charing Cross and Strand Electricity Supply Corporation, Limited, in respect of the City of London. After the inquiry held at Easter, Sir Courtenay Boyle reported to the Board that the order should be granted, but that within two years the company should be required to establish a separate generating station for the purpose of the City undertaking, and that the City Corporation should have power to purchase the City undertaking "at any time after the expiration of a reasonable time to be hereafter settled." The Corporation now suggested that the date of the purchase should be December 31, 1907, and that they should be at liberty to purchase the undertaking at its cost plus 10 per cent., a guarantee being given to the shareholders to make up their dividends in the interim to an average of 4 per cent. per annum. The Corporation also suggested that they should have the right to purchase part only, and not necessarily the whole, of the undertaking in the City, their main object being not to be compelled to purchase the generating station if it were erected outside the City boundary. Sir Courtenay Boyle said he should amend the order by making the date of the purchase 1914, and by giving the Corporation the power of approving the site of the generating station, but in return making it obligatory upon them to buy the generating station wherever situated in the event of their purchasing the City undertaking of the company.

ARCHITECTURAL MUSEUM SCHOOL OF ART.

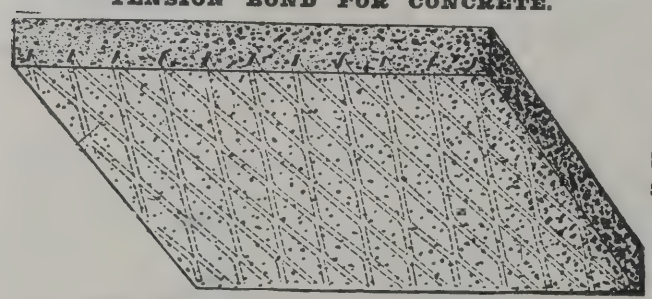
THE annual general meeting of this Institution was held on the 9th inst. at the museum, Tufton Street, Dean's Yard, Westminster. The president (the Duke of Westminster) was announced to preside, but was detained at the House of Lords, and Mr. J. P. Seddon, a member of the council, took the chair. The report stated that during the year the new classrooms added to the museum on the south side had been completed, furnished and occupied, and had been found extremely useful. The results of the examinations held in 1898 were, on the whole, very satisfactory. In 1897 the number of candidates from the Westminster School of Art who were presented the most advanced subject—drawing from the life—was sixt one, of whom only two failed. It was scarcely to be expecte that this remarkable result could be repeated, but in 1898 the were sixty-four candidates in the same subject, and again on two failed, which showed that the proportion of failures in th subject mentioned was only one in thirty for the school compare with one in four for the whole of the United Kingdom. In th national competition also the work sent up from the School Art was more than usually successful, six students havir obtained prizes, including a gold medal, which was awarded Mr. H. J. Strutt for modelling. Notwithstanding the heav and exceptional expenditure of the last two years, the financ of the Institution were in a satisfactory condition. But 375 of the loan of 500*l.* from the Technical Education Board the London County Council towards the enlargement of th School of Art remained to be paid off. The report and stat ment of accounts were adopted, and on the motion of M J. H. Pollen, seconded by Mr. C. F. Hayward, the Duke Westminster was re-elected president of the Institution for th ensuing year. The vice-presidents were also re-elected, wit the addition of the name of Sir A. Blomfield, A.R.A. Th council were next reappointed, after which Sir Wyke Baylis president of the Royal Society of British Artists, read a pape entitled "The Bogey in the Studio: an Address to A Students on the Questions of the Day." The hall was we filled by students, and at the conclusion of the address cordial vote of thanks was passed to the lecturer on the motio of Mr. Aston Webb, A.R.A.

CONTINENTAL TRAMWAYS.

A REPORT has been prepared by the tramways committee of th Brighton Corporation on various tramways in this country an on the Continent.

Rouen, it is pointed out, is essentially a commercial city and can in no sense be compared with Brighton. It is explaine that steep gradients are frequent, and the steepest is 1 i 13. There are many sharp curves, the sharpest having radius of 45 feet, while the others vary from that to 60 fee The whole of the tramways are worked on the overhead wir or trolley system; the work was finished and the lines opene in February 1896. The work was carried out by the Frenc

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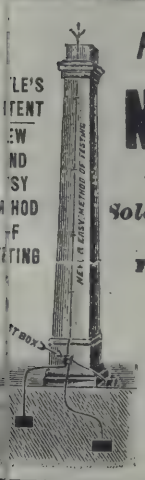
Thomson-Houston Company upon the usual American methods, but with sundry improvements in detail. Up to February 1896 there were about 15½ miles of single tramways worked by horses, but these were converted to the electric system, and new routes added, making a total of 27 miles. The gauge was 4 feet 8½ inches, and most of the routes are single lines and often laid on one side of the road and not in the centre. Fifty poles per mile was the usual quantity estimated for, and they were placed, as near as circumstances permitted, about 40 yards apart. The cost of the system in Rouen is said to have been from 1,300*l.* to 2,000*l.* per mile, about one-third of the line being double track and two-thirds single track. The electric lighting is in the hands of a separate company, therefore the tramway company built and work their own power station. The company is in possession of seventy-five cars and 34 trailers, and some of the former, which are two-deckers, carry fifty passengers. In 1895 the number of fares was 5,162,096, receipts 897,642 francs, and the expenses 738,040 francs, while the corresponding figures of 1898 were 15,096,042, 1,792,053 francs, and 1,063,444 francs respectively. The receipts for fares were equal to 8*d.* per car mile. In the year 1898 the company had a capital of 10,000,000 francs, which has since been increased to 12,000,000 francs (180,000*l.*). The net profits of the company during the year ended December 31, 1898, amounted to 670,448 francs (26,800*l.*), and enabled them to pay a dividend of 4*l.* per cent. There is no doubt, says the report, that the overhead system as adopted and worked at Rouen is, from a commercial point of view, very efficient and successful.

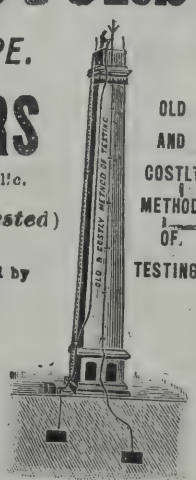
In Paris there is a very extensive system of tramways. Horse tramways prevail very generally, and are owned by three large companies. There are, too, three systems of steam tramways, namely, the ordinary locomotive, the fireless and the "Serpollent" tube boilers. There is also a cable and one line worked by compressed air. The electric systems were the accumulator, the open conduit, the surface contact and the overhead trolley wire system. With regard to the cable, it was laid in a poor district, and was constructed by the Municipality of Paris, and afterwards leased to a company, by whom it was being worked. The line cost 52,000*l.* and was leased for 2,000*l.* per annum, its capital being 80,000*l.* Its length was about 1¼ miles single line, and the receipts for 1898 were 18,633*l.* 12*s.* 6*d.* The line is a profitable one, paying 14 per cent. on the capital. There are about 9 miles of line worked on the compressed air car system, the heavy gradients being 1 in 13, 1 in 25 and 1 in 37. The company pays a dividend of 3½ per cent. The accumulator cars run a length of 6¾ miles, and the worst gradient is 1 in 27, the speed on which does not exceed 2 miles per hour, and the system did not seem suited to steep gradients. It was said that 5½*d.* per mile covered the working expenses, inclusive of maintenance of road and interest on capital. As to the underground conduit system and overhead trolley wire on the Clarenton line, the committee were unanimously of opinion that it was the best form of overhead work they had seen. The length of the line was about 3¾ miles of double track. The system was very good, but is nearly double the cost of the overhead trolley wire system. The surface contact system already covers 4½ miles, and 10 miles are in course of construction. The line is undulating, but practically a continuous rising gradient, the steepest being 1 in 16½, 1 in 18, and 1 in 21. The cost of working is 1*d.* per mile, and repairs to cars, permanent way, rather more than ¾*d.* The total receipts for 1898 were about 31,750*l.*, and the expenditure about 23,075*l.*

In Brussels there are four systems of tramways—electric overhead trolley wire, electric underground conduit, steam and horses. Accumulator cars have been tried and abandoned. The total length of all the tramways is about 50 miles, and they are worked by various companies, but will revert to the local authorities at the expiration of the term of years of which they have been granted. The most important company is the National Company of Local Railways. All the lines partake largely of the character of light railways, and the cost of construction averaged 1,222*l.* per mile. In the system of the Brussels Tramways Company there are 34 miles, worked partly by horses and partly by electricity, the latter section consisting of five lines having a total of 17 miles of double track and 1½ miles of single track. On the electric lines considerable gradients are encountered, the steepest being 1 in 10. The cost of constructing the underground conduit lines was about 19,600*l.* per mile of double track, including everything, and of overhead lines 5,410*l.* per mile inclusive.

At Boulogne there is only one system, the overhead trolley wire, 2½ miles in extent. There are some sharp curves and steep gradients, the steepest being one in nine, which is the same as that of Church Hill, Dyke Road, but the length of the hill is nearly double that of Church Hill. Owing to the steep gradients special precautions have been taken to keep the cars well under control in case of emergencies. As the line has not yet been in operation for one year, the financial results cannot yet be given. There are 3¾ miles of electric tramways.

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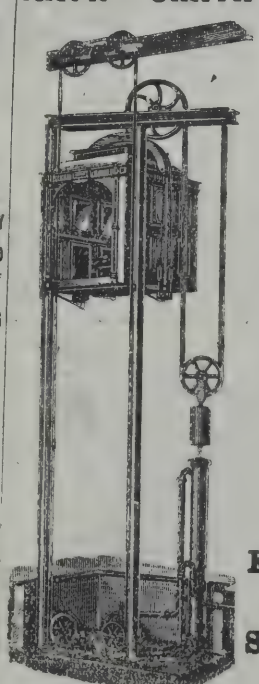


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THE SANITARY INSTITUTE.

THE preliminary programme of the eighteenth Congress, to be held in Southampton from August 29 to September 2, has now been issued. The president of the Congress is Sir W. H. Preece, K.C.B., F.R.S., Pres.Inst.C.E.

Mr. Malcolm Morris, F.R.C.S. Edin., M.R.C.S. Eng., will deliver the lecture to the Congress, and Bailie J. Dick, J.P., chairman of the health committee, Glasgow, will deliver the popular lecture.

Excursions to places of interest in connection with sanitation will be arranged for those attending the Congress. A conversazione will be given by the mayor (Councillor G. A. E. Hussey).

It appears from the programme that over 300 authorities, including several county councils, have already appointed delegates to the Congress, and as there are also over 2,200 members and associates in the Institute, there will probably be a large attendance in addition to the local members of the Congress.

In connection with the Congress a health exhibition of apparatus and appliances relating to health and domestic use will be held as a practical illustration of the application and carrying out of the principles and methods discussed at the meetings. It not only serves this purpose, but also an important one in diffusing sanitary knowledge among a large class who do not attend the other meetings of the Congress.

The Congress will include three general addresses and lectures. Three sections meeting for two days each, dealing with (1) sanitary science and preventive medicine, presided over by Sir Joseph Ewart, M.D., F.R.C.P., J.P.; (2) engineering and architecture, presided over by James Lemon, M.Inst.C.E., F.R.I.B.A.; (3) physics, chemistry and biology, presided over by Professor Percy F. Frankland, Ph.D., B.Sc., F.R.S. Eight special conferences—Municipal representatives, presided over by Alderman T. Walton, J.P., chairman of the health committee, Southampton; port sanitary authorities, Millar Wilkinson, chairman Port of London Sanitary Authority; medical officers of health, presided over by T. Orme Dudfield, M.D., L.R.C.P., M.R.C.S.; medical officers of schools, C. G. Shelly, M.A., M.D.; engineers and surveyors to county and other sanitary authorities, presided over by E. Purnell Hooley, Assoc.M.Inst.C.E.; veterinary inspectors, W. Hunting, F.R.C.V.S.; sanitary inspectors, presided over by C. MacMahon, chief sanitary inspector, Torquay; domestic hygiene, presided over by Mrs. Patey.

The local arrangements are in the hands of an influential local committee, presided over by the Mayor of Southampton, with A. Wellesley Harris, M.R.C.S., D.P.H.; W. B. G. Bennett, Assoc.M.Inst.C.E.; W. Matthews, M.Inst.C.E., and C. H. Russell, M.R.C.S., D.P.H., as honorary secretaries.

METROPOLITAN IMPROVEMENTS.

THE improvements committee of the London County Council, of which Mr. Shaw Lefevre is chairman, have submitted to the Council the annual list of county improvements in respect of which they recommend that Parliamentary powers should be sought next session. The list contains six improvements, several of which are important.

The first relates to the extension of the Thames Embankment between the Houses of Parliament and Lambeth Bridge and the improvement of the district near Millbank. It is proposed that the course of Abingdon Street and Millbank Street shall be altered, that the new street 70 feet wide shall start from a point which will involve the demolition of the corner house of Old Palace Yard and run thence diagonally to a point much nearer the end of Lambeth Bridge than at present. It is proposed further to purchase all the property between this line and the river on the one side and between it and the west of St. John's Church on the other side, to lay out the land between Millbank Street and the river as an addition to the Victoria Tower Garden, and to lay out in a manner suitable for offices and residential houses and with widened streets the land between Millbank Street and St. John's Church. By the recoupment resulting from the alteration of the line of Millbank Street and from the acquisition of the property between the street and St. John's Church it will, in the opinion of the committee, be possible to effect this great improvement—to embank the river, to lay out the garden, to widen Millbank Street and to widen the other streets up to St. John's Church, including a portion of Horseferry Road—at a cost of 530,000*l.*, as compared with 306,000*l.* for the imperfect and unsatisfactory scheme of merely widening the existing Millbank Street, and 498,000*l.* for both widening and straightening the street. This estimate of 530,000*l.* does not include the cost of altering the Abingdon Street block. This, the committee point out, is not absolutely essential to the main part of the scheme. It would be a great public improvement in itself and greatly improve the approach to the Victoria Tower and the Houses of Parliament, but in their opinion it is a matter which concerns

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the Government more than the Council. If carried out by the Council, it is estimated that the net cost would be 130,300*l.* The committee propose, therefore, to leave this part of the scheme to be undertaken by the Government and to confine their specific proposals to the widening of Millbank Street and the embanking of the river. It is estimated that the purchase of property would involve an expenditure of 1,329,000*l.* and the value of the recoupment would be 873,000*l.*, leaving the net cost 456,000*l.*, to which must be added about 74,000*l.* for the cost of the works, making a total of 530,000*l.* With regard to the question of contributions, the committee think that the Westminster Vestry should contribute not less than 100,000*l.* They accordingly recommend the Council to sanction application being made to Parliament for power to carry out the scheme, subject to the Government's agreeing to undertake the Abingdon Street portion of the scheme and to a contribution of 100,000*l.* from the Westminster Vestry. The cost of rehousing the persons who would be displaced by this scheme is estimated at 50,000*l.* There is no suggestion for an extensive levying of an improvement charge.

The second scheme is for the widening of Mare Street, Hackney, to 70 feet between the North London Railway and the Triangle. The total net cost of this scheme is 577,100*l.*, and it is recommended subject to a contribution from the Hackney Vestry of not more than 125,000*l.* The vestry have already offered to contribute this sum. The third scheme proposes to widen Goswell Road to 60 feet between Upper Ashby Street and Great Sutton Street at a net cost of 209,500*l.* It is only to be undertaken if the vestries of St. Luke and Clerkenwell contribute between them the sum of 20,000*l.* towards the cost. The fourth improvement is a widening of Nine Elms Lane to a maximum of 60 feet between Southampton Street West and Battersea Park Road. The net cost of this scheme is 136,400*l.*, to which the Battersea Vestry are to contribute 15,000*l.* The fifth project deals with the Camberwell New Road, which is to be widened between Warner Road and Camberwell Green at a net cost of 52,000*l.*, towards which the Camberwell Vestry are to contribute 5,000*l.* The last improvement is a small widening in the Kentish Town Road.

The estimated net cost of these six improvements, without deducting contributions, is 1,565,000*l.*; after deducting contributions, 1,297,000*l.* If carried out the annual charge involved thereby on the rates for interest on and repayment of debt, calculated on the net cost, would be 57,665*l.*, which is equivalent to a rate of ·374*d.* in the pound.

THE LAW OF TRADE-MARKS.*

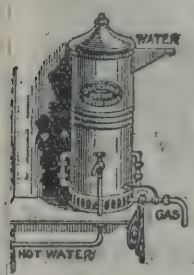
THE subject of "Trade-marks" is not by any means a new one to this Society, and in bringing it once more before the notice of the members I do so with feelings of considerable diffidence, well knowing that the subject has been most ably and exhaustively treated on a number of previous occasions, notably by Sir Henry Trueman Wood some twenty-five years ago, and by Mr. Edmund Johnson in 1881, and by other well-known authorities. At the same time I cannot disguise from myself the fact that when these gentlemen dealt with the subject they did so under conditions differing very widely from those which prevail at the present time. The first-named gentleman read his paper when the first Act was, so to speak, in the chrysalis state, and the latter after some five years' experience of its working. Since that date the subject, and also the commercial value of trade-marks, have advanced to an enormous extent, and it is now felt by the great bulk of the manufacturers and merchants of this country—owners of trade-marks—that some amendment of the existing law is absolutely necessary if the trade of the country is not to be curbed and weighed down by vexatious restrictions, which may possibly at one time have been advisable and salutary, but have now, by the expansion of trade methods and foreign competition, become irksome and dangerous.

It is for this reason that I have thought it advisable to bring the matter once more prominently before this Society, in the hope that some assistance may be forthcoming to further the scheme for an amending Act, which, as a matter of fact, the London Chamber of Commerce, after very mature consideration, has decided to promote, and I do not think it would be outside the scope of this Society's work were it to form a committee to gather and put into form the views and requirements of the trading community on this subject.

I do not think that I am exaggerating when I say that for years past the practice which has prevailed at the Patent Office relating to word marks has been one in which confusion has predominated to an enormous extent, and this state of affairs has arisen from an apparent inability to arrive at anything like a consistent or logical definition of the subsection of the Act as to what constitutes a "word trade-mark."

The decisions in the Law Courts have been so conflicting that it would be somewhat surprising if the officials at the

* A paper read by Mr. J. E. Evans-Jackson at the meeting of the Society of Arts on the 17th ult.



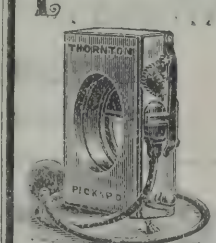
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Patent Office had been able to adopt any consistent line or theory upon which to act when dealing with the applications before them. This fact does not, however, entirely or satisfactorily explain many of the decisions of the Comptroller-General, and I think you will agree with me that this is so when I say that it is within my own knowledge that when a few months ago an application was made to register the word "Jessamine" for soap, this application was refused on the ground that it was a geographical term. The attention of the learned Registrar was drawn to the fact that the Court of Appeal had recently decided that the word "Magnolia" was not a geographical term within the meaning of the Act, notwithstanding that there are a number of places called "Magnolia." The Registrar, acting for the Comptroller, refused, however, to follow the ruling of the Court of Appeal, and refused the application for the word "Jessamine." Within a few weeks a similar application for the registration of the same word "Jessamine" was made by another firm for tobacco, and on this occasion the mark was accepted and registered. I do not profess to say whether or no the word is a word capable of registration under the provisions of the present Act, but I do submit that the Registrar was absolutely wrong in at least one of his decisions in dealing with this word. On the question as to whether such a word should be protected there ought to be no doubt, and the statute should be plain enough to make such a point quite clear.

Looking back we find that until 1875 there was no statute law regulating or providing for the special protection of trade-marks, and up to that date trade-mark owners had perforce to rely on the common law for any protection they might require against fraudulent infringements.

I think I may fairly say that for some thirty-five years or thereabouts, before the passing of the first Act, the Courts had recognised the right of property in, and exercised their authority to grant injunctions against, the wrongful use of trade-marks. The first leading case on this point is that of Millington *v.* Fox, in which Lord Cottenham decided that the defendant could be restrained, notwithstanding that the infringement might have been due to ignorance, fraud being entirely absent. This, so far as I am aware, is the first case in which actual vested property in a trade-mark is recognised, and it is quite clear that since that date this right has never been disputed. Neither will it, I think, be disputed that it was from the establishment of this right and from the subsequent varying decisions in the Courts there arose the imperative necessity for an enactment for the purpose of more clearly defining such rights and for the establishment of a register or record of ownership. This resulted in the Act of 1875, which provides, *inter alia*, that a trade-mark must be registered for a particular class of goods, and that registration as first proprietor is *primâ facie* evidence of the right to the exclusive use of such trade-mark against all comers, and that undisturbed possession for five years is conclusive evidence of the right to a sole property in the said mark.

A trade-mark is defined in the Act as follows:—

"For the purpose of this Act a trade-mark consists of one or more of the following essential particulars, that is to say—

"A name of an individual or firm printed, impressed, or woven in some particular and distinctive manner; or

"A written signature or copy of a written signature of an individual or firm; or

"A distinctive device, mark, heading, label, or ticket;

—and there may be added to any one or more of the said particulars any letters, words, or figures, or combination of letters, words, or figures; also,

"Any special and distinctive word or words, or combination of figures or letters used as a trade-mark before the passing of this Act may be registered as such under this Act."

The Registry was opened on January 1, 1876, under the able management of Mr. (now Sir) H. Reader Lack. The classification of merchandise under fifty heads at that time adopted still remains in force, notwithstanding that it has repeatedly been shown how necessary it is that, in many respects, this classification should be altered; for instance, a manufacturer dealing only in soap must register his mark in, at least, four different classes if he desire to have the sole use of such mark for soap.

The Act of 1875 was followed by an unimportant amending Act in 1877, but it was not until 1883 that any further legislation took place, although, as was speedily discovered, the Act of 1875 contained one great defect, in that it did not provide for the registration or protection of word marks other than those which had been in actual use before August 13, 1875. The greatest dissatisfaction resulted from this, and various tactics were adopted by applicants for the registration of new word marks. In many cases it was alleged, contrary to the fact, that the marks had been in use before the passing of the Act; in other cases trivial designs were added to the word and registration obtained for the word in conjunction with such designs which it was not intended to use. This unsatisfactory state of

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affairs existed until 1883, when a new definition of a trade-mark was adopted, as will be seen from a perusal of section 64 of the 1883 Act :—

1. "For the purposes of this Act a trade-mark must consist of or contain at least one of the following essential particulars :—(*a*) A name of an individual or firm printed, impressed or woven in some particular and distinctive manner ; or (*b*) a written signature or copy of a written signature of the individual or firm applying for registration thereof as a trade-mark ; or (3) a distinctive mark, brand, heading, label, ticket, or fancy word or words not in use.

2. "There may be added to any one or more of these particulars, any letters, words or figures or combination of letters, words or figures, or of any of them.

3. "Provided that any special and distinctive word or words, letter, figure or combination of letters or figures, or of letters and figures used as a trade-mark before August 13, 1875, may be registered as a trade-mark under this part of this Act."

Thus to the clamour from all quarters for some right to register and obtain protection for word marks, the Legislature made the concession that an applicant could register—"a fancy word not in common use"

If the framers of this definition of a trade-mark had with intent determined to use a word which must necessarily lead to litigation, they could not have adopted a better word for their purpose than "fancy." What is a fancy word? There was nothing in the Act to indicate what was meant by the term, and nothing whatever to guide those who were interested in knowing. The word, according to the dictionary, has twenty meanings, but not one of these various meanings relates to words. I fancy a lawyer was at the bottom of that sub-section, and he must have fancied, and rightly too, that a fruitful crop of law suits would result, for such was the case. Many definitions of "a fancy word not in common use" were given, and one of the clearest is that of Lord Justice Lopes, who laid it down that the following conditions were necessary in order that a word should come within the meaning of the term :—

"It must be obviously meaningless as applied to the article in question ; it must be fanciful in its application to the article to which it is applied, in the sense of being so obviously and notoriously inappropriate as to be neither deceptive nor descriptive, nor calculated to suggest deception or description ; and, further, it must have an innate and inherent character of fancifulness, which must not depend on evidence, and cannot be supported by evidence to show, that in fact it is neither deceptive nor descriptive, or calculated to be deceptive or descriptive."

Amongst the words which the Courts decided did not comply with this condition, and consequently were not fancy words, are :—"John Bull" for beer ; "Sanitas," disinfectants ; "Hand Grenade," fire extinguishers; "Gem," guns; "Rokoko," cotton goods ; "Compactum," umbrellas ; "Carnival," cigarettes ; "Melrose," hair restorer ; "Tower," tea ; "Emollio," toilet cream ; whilst amongst those words which have been held to be fancy words and capable of registration are :—"Oomoo," wine ; "Alpine," embroidery, afterwards reversed ; "Bovril," preparation of beef.

Take the last as an example. Does the word "Bovril" fall within Lord Justice Lopes's definition of the term fancy word ? I cannot think it does, and when we remember that such words as "Invincible" for lawn mowers ; "Perfect," furniture ; "Fir Tree Oil," insecticides ; "Japanese," blacklead ; "Walkinease," boots ; "Standard," oil wicks ; "National," boots ; "Artisan," stoves ; "Siveroid," metallic alloy ; "Tip-top," pipes ; "Domestic," tea ; "The Vets," horse powders ; "The Club," matches ; "Universal," kneading machines ; "Reliance," soap ; "Perfection," soap ; and hundreds of others of a similar nature were registered without protest at the Patent Office, it is clear that there was something wrong somewhere, for these marks certainly do not fall within the definition of Lord Justice Lopes. There are to-day numbers of word marks on the register that do not nearly comply with the precedent conditions as defined by the Courts, and the owners of hundreds of such marks are undoubtedly living in a fool's paradise, from which they may emerge with the inevitable notice of motion to rectify the register. The hardship which is entailed by this condition of things is apparent when we consider that a man may without any objection at the Patent Office register a trade-mark, spend thousands of pounds on making it known far and wide, only to find that the Courts willl expunge the same from the register and deprive the owner of any rights he may have possessed or fancied he possessed.

The restrictions placed upon the registration of word marks by the cramped definition of a "fancy word" rendered it almost impossible to obtain word marks at all, or having obtained them, to be at all sure that the Courts would regard them with any respect or allow them to remain on the register. This resulted in a renewed agitation for fresh legislation of a nature which would widen the definition of a trade-mark, so as to meet the well-known requirements of commerce.

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In response to this agitation, Parliament, in the Act of 1888, substituted for "fancy word" or words not in common words, or (*e*) a word or words having no reference to the charac- "use," the following:—(*d*) "An invented word or invented ter or quality of the goods and not being a geographical name."

It is quite certain that the Legislature intended a much wider and more liberal construction to be placed on the provision of the Act of 1883 than the Law Courts thought advisable, and the very restrictive and almost prohibitive construction adopted by the Courts had a disappointing and exasperating effect on the trading community, which was thus hampered and absolutely injured in business. This feeling was to a great extent removed when the Act of 1888 came into force, and it was felt by those most interested that "the morning of our discontent" was gone, and this, no doubt, would have been so, and the trade-mark owners of this country would have secured that which the Legislature most certainly intended them to have if the Courts had adopted a more liberal and reasonable construction of the new terms. Instead of doing so, however, they followed the same course with reference to the provisions of the Act of 1888 as they had previously adopted towards the provisions of the Act of 1883, and placed the most restrictive and at the same time inconsistent construction on the new terms. This caused, as was natural, a feeling of renewed irritation within the commercial community, while the then existing muddle has become a more bewildering maze of contradictions and absurdities, and the demand for a new Bill, such as that which is promoted by the London Chamber of Commerce, will, I am sure, be regarded by all reasonable men as well founded and justified in the highest degree.

Having thus briefly dealt with the history of the subject up to this date, I will endeavour to deal with some of the points which I think call for attention.

In the first place, I think it would be to the advantage of all concerned if the Trade-marks Office were separated from the Patent Office, with the Registrar as sole responsible chief. This would not involve a removal from the present premises, but would enable applicants and their representatives to present their arguments at hearings to the head of the department, instead of, as is now the practice, to the second in command, viz. the Registrar, who, when he is in doubt, terminates the hearing by saying that he will consult the Comptroller, and from the invariable results of such consultations it is reasonable to suppose that the views of the Registrar, rather than those of the applicant, are most prominently presented to the Comptroller.

Further, in an appeal from the decision of the Comptroller, which some few months ago was before the Court of Appeal, the Attorney-General repudiated the statement that the Comptroller had done such and such a thing, asserting that it was the Registrar who had done so, notwithstanding that all the documents bore at the foot the name of the Comptroller. That is, to say the least of it, unsatisfactory, and I submit that there is no occasion for a "buffer state" between the applicant and the head of the Trade-marks Office. For this reason I suggest that the next Act should deal fully with the subject of trade-marks alone, and should repeal all that portion of the Acts 1883-88 dealing with trade-marks, and I would point out that this necessary alteration would not involve one shilling additional cost.

(*To be concluded.*)

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

11142. Herbert Alexander and John Holding, for "An improved mould for brickmaking and such like purposes."

11182. August Rincklake, for "Improvements in the construction of ceilings and walls."

11214. George Clarke, Joseph Clarke and Mark Clarke, for "Improvements in the manufacture of bricks and in machinery therefor."

11237. William Caplen and Frederick Caplin, for "Improvements in apparatus for rubbing bricks and the like."

11256. Theophile Edouard Ayotte and Arthur Albert Charboneau, for "Improvements in machines for the manufacture of bricks."

11270. Alfred Grayson and William James Spratley, for "A new or improved brick for building and other purposes."

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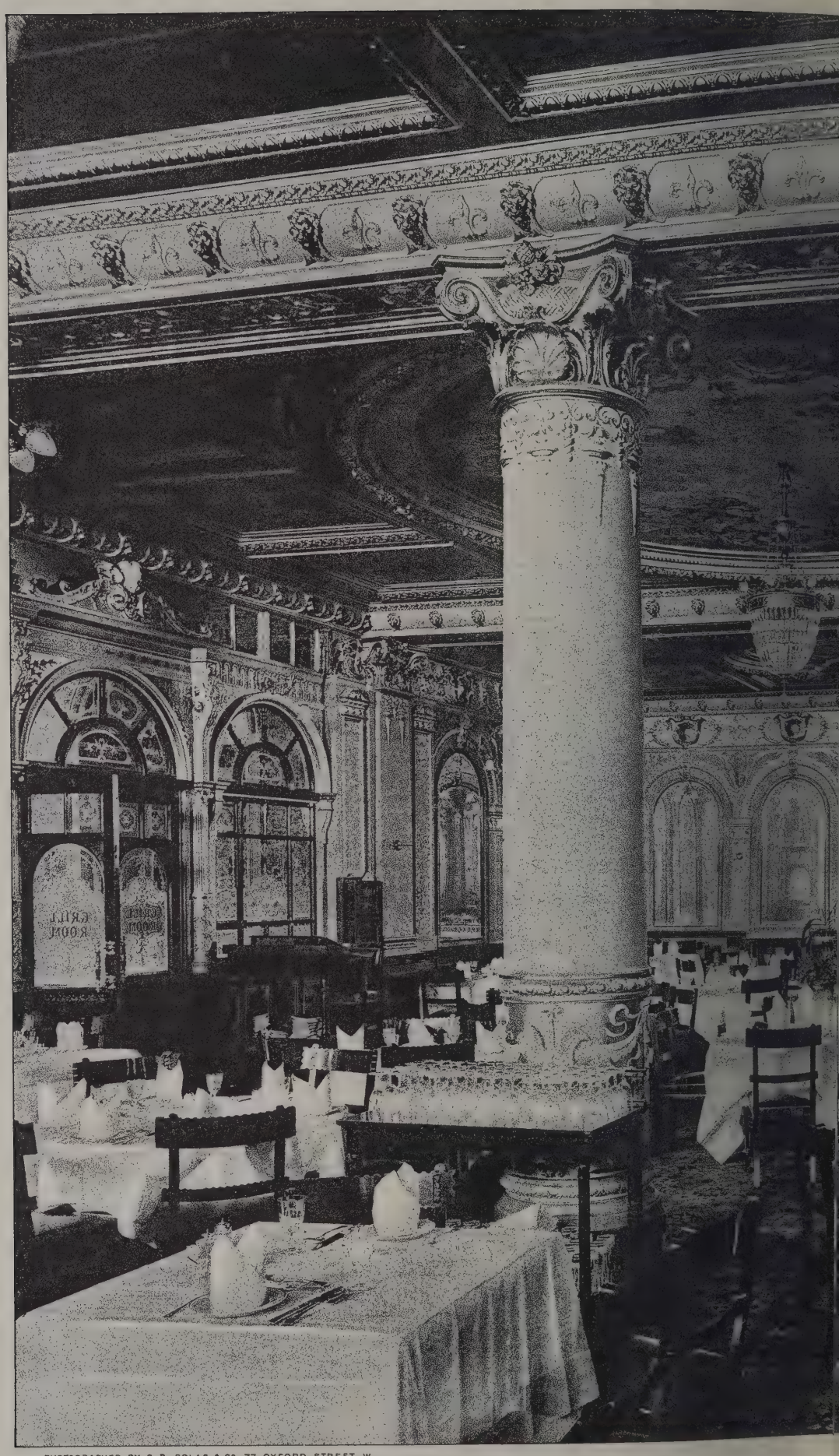
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CATHEDRAL SERIES, No. 235.—ROCHESTER: DETAILS OF WEST DOORWAY

The Architect.

THE WEEK.

ON Tuesday morning a number of passengers left Belfast on what promises to be a most interesting tour for archæologists. That the Irish and Cambrian Societies are united in it suggests the broad way in which investigations are now conducted. The excursion will continue until the 29th inst., and in the course of the ten days the islands on the west and northern coast of Scotland will be visited. An interesting guide has been prepared by Mr. ROBERT COCHRANE describing Sanda, Kildalton, where there are crosses resembling those found in Irish churchyards, Colonsay and Oronsay, Iona, Tirce, Coll, Canna, Skye, the outer Hebrides, the Flannan Isles, North Rona, Orkney, Kirkwall, Caithness and other interesting places. If the weather continues to be favourable the excursion should be a success, and, as far as can be judged by the programme, it has been organised so as to make the whole time profitable. For Irish members who may not care to go so far there will be another excursion started on June 28, in which the north coast of Antrim and the battlefield of the Boyne, the tumuli of Dowth and Newgrange, Mellifont Abbey and the round tower at Monasterboice will be visited.

THE death on the 14th inst. of the last surviving son of Sir MARTIN ARCHER SHEE unites the present with the past in a remarkable way. The father was born in Dublin in 1769. He was therefore only a year younger than the Royal Academy, over which he was destined to preside for twenty years. SHEE came to London in 1788, and it was on the introduction of EDMUND BURKE he became acquainted with REYNOLDS, and was admitted to the schools of the Academy. With many of the celebrities of the time which followed he was a friend. His social and other gifts pointed him out as an eligible President. For he did not confine himself to painting. He wrote a long poem, a tragedy, for which he received 500*l.*, a three-volume novel, and attempted prose and verse in other forms. When, in 1830, he was selected to fill the President's chair, he had been thirty years an Academician. At the Parliamentary inquiry in 1836, to which there was reference a few nights ago in the House of Lords, SHEE was the principal witness. The triumph of the Academy at that time was mainly owing to his tact and knowledge. It is possible his success made him appear as an official partisan, for he did not obtain the commissions he had some right to expect. Moreover, he was generous, and at a no small sacrifice upheld the dignity of his office by lavish hospitality. The President was compelled to accept an allowance of 300*l.* a year from the Academy, with 200*l.* a year from the Crown. But he did not long enjoy the money, for he died in 1850. The lives of father and son comprise a period of 130 years, in which many revolutions were accomplished in art as in other affairs.

WE referred last week to the dispute between the heritors of St. Leonard's Church and the Presbytery of St. Andrews, the question at issue being whether the church should be rebuilt as proposed by the latter, or repaired as the heritors desire. The subject has been since considered by the Presbytery, and a formal order was issued directing the heritors to take immediate steps to provide a church suited to the times and capable of affording comfortable accommodation for two-thirds of the number of examinable persons, *i.e.* for 480 persons, and the heritors were also ordered to lay plans and specifications for such a church on such a site as they may deem most appropriate before a meeting of the Presbytery to be held in St. Andrews on the first Wednesday in September. An amendment was proposed in favour of repairing, but it received little support. An appeal has been lodged, and apparently a stiff contest must be gone through before a settlement can be arranged, and the question is, Who will pay the inevitable expenses?

MANSIONS with a history in the neighbourhood of London are not always sure of attracting generous biddings in the auction rooms. On Tuesday the excellent house at Hampstead known by the modest title of Branch Hill Lodge, and which is on the way from Holly Bush Hill to the Heath, was put up for sale, and as the highest bidding was 23,500*l.* the property was bought in. The mansion is not all of one time. It was in 1745 that Sir THOMAS CLARK, the Master of the Rolls, who then owned it, began additions. A former proprietor was Lord LOUGHBOROUGH, who afterwards owned Rosslyn House, and who seems to have found delight in altering houses. It is, therefore, difficult to say what is the oldest part of Branch Hill Lodge. Lawyers are not usually grateful or generous, but Sir THOMAS CLARK left the lodge to Lord Chancellor MACCLESFIELD, who had befriended him. It was necessary, however, for the new owner to purchase a part which was copyhold and which was considered to be outside the terms of the will. Afterwards it passed to another lawyer, THOMAS WALKER, a Master in Chancery. A son of Sir RICHARD NEAVE purchased it in 1799, and he enriched it with a collection of painted glass which was supposed to be the most important in any private house. It is to be hoped the house will be preserved as a residence, but judges and wealthy lawyers in our time are not as fascinated with Hampstead as WEDDERBURN, ARDEN, ERSKINE, BETHELL and others.

THE Council of the Society of Arts have awarded the Society's silver medal to the following readers of papers during the session 1898-99:—Professor GEORGE FORBES, F.R.S., for his paper on "Long Distance Transmission of Electric Power"; Mr. C. H. BOTHAMLEY, F.C.S., "Photographic Developers and Development"; Mr. DIXON H. DAVIES, "The Cost of Municipal Enterprise"; Mr. JAMES SWINBURNE, "Nernst's Electric Lamp"; Mr. J. H. COLLINS, "Cornish Mines and Miners"; Mr. PHILIP DAWSON, "Electric Traction"; Mr. WALTER HUNTER, M.Inst.C.E., "London's Water Supply"; Sir WILLIAM HENRY PREECE, F.R.S., "Ætheric Telegraphy"; Colonel RICHARD CARNAC TEMPLE, C.I.E., "The Penal System at the Andamans"; Sir JOHN SCOTT, "Judicial Reforms in Egypt"; Mr. ARCHIBALD LITTLE, F.R.G.S., "The Yang-tse Basin and the British Sphere"; Mr. STEPHEN WEBB, "Intarsia, or Inlaying"; Mr. J. STARKIE GARDNER, F.G.S., "The Revival of Tradesmen's Signs."

IT is possible to make stuff which will have the appearance if not the qualities of mortar without going to much expense for lime and sand, but the mortar which is said to be lately employed in Bootle is of so extraordinary a character that we might easily imagine the witnesses were using figurative language. The building inspector of the town a few days ago stated that on the 9th inst., as he was passing some houses and shops which were in course of erection, he was struck by the offensive smell. He examined the mortar, and it did not appear to correspond with the requirements of the by-laws. He spoke to the builder, Mr. GRIFFITH PRICE, who, we learn, informed the inspector that the bricklayers employed had removed pieces of flesh and skin from the mortar. Hair is a common enough ingredient, but why the skin and flesh should be introduced does not appear reasonable. The inspector then submitted a sample of the mortar to the borough surveyor, and he confirmed the conclusion that it did not comply with the by-law. The official examination did not detect fragments of flesh or skin, but there was a substance resembling wool. The conclusion was drawn that the mortar must have been partly made in a tanyard. The organic matter being in an offensive state, a bad odour from it was not remarkable. Mr. PRICE, the builder, was not present at the early part of the proceedings, but when he appeared he denied some of the statements attributed to him and applied for an adjournment. The second day's inquiry did not help the builder, for even the bricklayers admitted the mortar was inodorous. A chemist said it would require three days to make an adequate analysis. The chairman said there was a breach of the by-laws, and fined the builder 3*l.* with 3*l.* 3*s.* costs, adding that if it were not the first case the maximum penalty would have been inflicted.

THE ASSOCIATION SKETCH-BOOK.

THE third volume of the third series of the Architectural Association Sketch-Book, which is edited by Mr. WILLIAM G. B. LEWIS and Mr. W. A. PITE, surpasses its predecessors by its title-page. The design is by Mr. OSMOND M. PITTMAN, and represents two graceful girls contemplating a model of a circular temple or tabernacle, which one of them appears ready to kiss. Outline is mainly relied on, and variety depends on bands of black relieved by ornament in white. At the sides and foot a modern fashion in ornamentation is exemplified by long stalky plants which are without leaves. With such a drawing in front expectation is raised, and the ordinary plates of architectural subjects are likely to be judged with more rigour than is usual.

Seventy-two plates are given. Thirty-four are of English subjects, six are Welsh, and six are from Scotland. There are only two subjects taken from France, five from Belgium, one from Germany, seventeen from Italy, and one from Spain. The attention given to Italian work would appear to suggest the growth of the belief that details from that country can be assimilated with English work, whether original or otherwise.

The series commences with a drawing of the plaster ceiling in the bedroom, Aston Hall, which was occupied by CHARLES I. for a couple of nights before the Battle of Edgehill. The ceiling is divided into curved and rectilinear compartments, and within each is ornament that apparently was derived from metalwork. The drawing is by Messrs. R. S. DODS and HEATON COMYN, and is careful if timid. Mr. E. HOWLEY SIM gives three plates of the "Church of St. Kyneburga, Northampton." It embodies the changes of form which appeared between A.D. 1124 and 1500, and each variation happens to be in good style. About the interest of the building there can be no question. The drawing is firmly lined, but the dimensions are not always in clear figures. We draw attention to this drawback, for arrangements could easily be made by the committee to insure legibility, and in that way the character of the drawings would be improved. The "Pulpit, St. Nicholas Church, Deptford," of which Mr. COMYN supplies a drawing, is an ingenious example. The pulpit is hexagonal on plan, and the projecting front, which is about three feet beyond the upright, appears to be carried by a boy who is transfixed by a big iron bolt, and, if he did not serve as a figure-head for a small vessel, must be the work of a ship's carver. Part of the drawing is carelessly ruled, and the reproduction is unsatisfactory. A screen from Dunster Church and another in Trent Church, by Mr. W. HAYWOOD, suggest the richness of the Somersetshire interiors at the close of the fifteenth century. In the former there is an indication of the coming Renaissance in the detail, and it does not clash with the Classic tomb beyond; while in the latter we see fan vaulting, a large window and elaborate bench ends rather than a screen. The sketches recall Mr. RAILTON'S work. The "Wrought-iron Railing, Ormeley Lodge, Ham Common," by Mr. COMYN, shows an example of a screen about 50 feet long, very light and unpretentious, but which would be improved by more thickness in the upper flat bar. The "Booth Porch, Hereford Cathedral," is early sixteenth-century work, and is shown on an excellent drawing by Mr. J. A. K. INGLIS, who knows the value of uniformity in his lines.

The "Pilgrim's Chapel, Houghton-le-Dale, Norfolk," measures only 28 feet 6 inches within, but it merited the five plates which Mr. HOWLEY SIM occupies with the building. It dates from 1350, and has, of course, suffered in many ways. But enough is left to suggest that originally much care was exercised over all the details. Flint was largely used, and became effective by the varieties employed and the contrast with dressed masonry. The "Staircase at No. 54 Great Marlborough Street, W.," is a fine specimen of eighteenth-century joinery and carving. The balusters are delicate enough to tempt mischievous boys, but they appear to be uninjured. It is carefully drawn by Mr. COMYN, who also represents a veneered cabinet of the same period and of rather novel design. "Old Moreton Hall, Cheshire," has been more often drawn than any other building of its class, although the designer could not have believed in the wisdom of the old saying, "Rien de trop," for the wood is in excess. Mr. MAXWELL AYRTON gives two plates of the exterior. A characteristic Jacobean staircase from Ockwells Manor, Maidenhead, is the subject of Mr. H. C. PULLEN'S plate.

The best examples of measured drawings in the volume are those by which the "Chantry of Abbot Ramryge, St. Albans Cathedral," is delineated, and which were produced by Mr. C. DE GRUCHY. Three of them are of double size, and the detail is rendered with a care that testifies to the interest taken in the subject. Ruled and freehand drawing and lettering are alike praiseworthy, and the four drawings should be hung in any classroom where architecture is taught, as examples in their special class. Mr. DARE CLAPHAM has two examples of the "Panelled Room from Sizergh Castle, Westmoreland," which is now in the South Kensington Museum. The panels are inlaid with holly and bog oak, and the refined character of much of the ornament reveals the presence of an Italian artist in the North. From the same hand is a plate of "The Banqueting House or Concert Room, Kensington Palace." Mr. J. A. SWAN gives geometrical drawings of a window, sedilia and piscina from Temple Balsall Church, Warwickshire. The date is said to be A.D. 1260, and therefore about half a century prior to the downfall of the Templars. It would be interesting to learn whether the rather numerous heads introduced among the foliage and as stops to arch-moulds are portraits of members. Mr. HAYWOOD has taken three drawings from Wells Cathedral. One is the north porch, which was plotted in pencil, the sections being in ink. There is a clever sketch of the wavy steps leading to the chapter-house, and one of the lectern, besides another example from Yeovil. Mr. R. S. BALFOUR has a pencil drawing of Yatton Church, which, on account of the truncated steeple, would not at first sight be recognised as a Somersetshire example.

Mr. CECIL BREWER must be endowed with extraordinary patience, or he would never have completed his drawings of "Bishop Gower's Screen" in St. David's Cathedral. It suggests a fine design that was translated by the builders in a way that was intended to gratify local taste. Some of the capitals are heads of men that are without lower jaws. Elsewhere several heads are placed in a row without any respect to scale, and there seemed to be a passion for caricatures of humanity. But the ornamentation is often elegant. The original drawing is in pencil, and it is well to have a reproduction of a permanent character in the Sketch-Book, for it would be cruelty to compel the lines to be inked in. Mr. BREWER also shows two of the poppy-heads in the cathedral, which are examples of elaborate carving. In one the arms of Bishop TULLY are introduced.

Although SCOTT advised all who wished to see Melrose at its best to visit it by the pale moonlight, yet the remains of the abbey will sustain examination and drawing by daylight. Mr. F. J. WASS supplies four plates from Melrose. They will give a clearer notion of the quaint fancies of the sculptors than is likely to be derived from an ordinary visit to the ruins. Plant forms especially appear to have captivated them, and Mr. WASS has drawn the detail with an attention which should be recognised. Mr. J. A. R. INGLIS has a washed drawing of Roslin Chapel, a building against which architects are prejudiced on account of the admiration bestowed on parts which are not remarkable for artistic worth. It will be evident that the examples from this country are mainly ecclesiastical, but as they are generally excellent and suited to test the skill of draughtsmen, there is no reason to complain of the number.

The two French examples are by Mr. C. C. BREWER. One shows stalls at Tréguier. The principal example evidently represents some local miracle, for a bishop is seen and appears to be about to rescue a victim from a dragon's mouth. A capital looks as if made up of knotted serpents. The second plate is occupied with a screen, stalls and gate from Rougasnou, of later date than the former and designed with more regard for comfort.

The five drawings from Belgium, by Mr. J. A. SWAN, suggest the interest of Flemish work of the fifteenth and sixteenth centuries. The "Grunthuyse Pew in Notre-Dame" is a tremendous receptacle, and would serve as well for the dead as for the living. It is a specimen of over-florid Gothic, but it will bear examination. A view under the façade of the Hôtel de Ville, Brussels, presents some of the

emarkable feats of stone-cutting with the intention of uggesting that vaulting was self-supporting. The view in he Rue des Sols, Brussels, reveals some of the interesting ubjects which remain in the byways of the city, and the imber house in Malines is evidence of the gain which a ew figures properly placed can impart. The "Maison des Bateliers," in Ghent, is a favourite subject, and it is here lrawn with care, but the green colour diminishes the effect of much careful work. Considered merely as an illustration, he Düreresque plate of "The Rathhaus, Münster," is the most impressive in the collection. There are no ruled lines, but the pen was used with decision, and solid black masses are liberally introduced. With all the elaboration the drawing appears to be a sketch which was expeditiously completed by Mr. BERESFORD PITE.

As a rule the monumental sculptor's work is not much appreciated, although many of the most successful efforts of modern architects and sculptors take that form. Of late years an exception has been made in favour of Italian monuments. The reason of course is they abound in detail which often may have had a Greek origin. The general design when commonplace, as is often the case, is redeemed by the elements. Take the famous Marsuppini monument, of which there is a cast at South Kensington. What meaning, for instance, can be given to the two figures like the supers who come on the stage as fishermen of Naples in "Masaniello," and who carry enormous swags instead of nets? The old Professor (he deserves remembrance for his epitaph of BRUNELLESCHI) also lies uncomfortably on his side in order to exhibit his face to the spectator. We doubt if any one of the bits of ornament is DESIDERIO DA SETTIGNANO'S invention, but they are so exquisitely chiselled nobody would wish one of them away. Mr. F. H. WARING has drawn the difficult monument with a feeling for what is characteristic in it, and it is a work with which few have succeeded. The "Altar Frontal" in the Museum of Florence, which is attributed to GIOTTO, appears on four plates by Mr. MASEY. He has caught the spirit of the original, which is remarkable alike for its design and execution. The series is another of the successes of the volume. S. Maurizio, Milan, is a fine church, with fewer aberrations than are found in buildings which gain more admiration. Mr. C. A. NICHOLSON'S drawing of a bay was intended for his own use, and is therefore different to an illustration which may be mainly intended for the uninitiated. The drawing is made to scale, but all the principal dimensions are figured. The materials employed and their colours are carefully described near the parts where they are found. It is easy to see from the indications that the whole could be elaborated and become an impressive view, but it was considered the time might be better occupied. Here we see what struck the visitor, and from the notes can infer the reasons. It would be an advantage if more drawings resembled Mr. NICHOLSON'S. His "Marble Stairs, Verona," is similarly treated, but there was less need to become descriptive. Mr. COMYN has two drawings of one of the Italian chimney-pieces at South Kensington. Mr. H. S. EAST has a drawing of the entrance to the subterranean chapel in Modena Cathedral, with its strange lions and crouching figures, and three careful geometrical drawings from S. Zaccaria, Venice. Mr. H. V. LANCHESTER has persuaded the editors to produce in colour his two drawings of a part of the pavement in the House of S. Caterina, Siena, by which their interest becomes more evident. He has also a monochrome of a doorway in S. Maria dei Miracoli, Venice, and brings the volume to a close with the "Tomb of Ferdinand and Isabella" in Granada, which in many respects is reminiscent of Italy.

WILLIAM MORRIS.—II.*

IT appears that WILLIAM MORRIS once described himself as a man who endured a life of insults, and whose brains were sucked. The words must have been uttered in a moment of despondency or of self-glorification. Every successful manufacturer expects to be imitated, in spite of patent laws and registration Acts; but if we may be allowed to say so, there was an amateurism about many of MORRIS'S productions which was inimitable, or at least by those who were well drilled as designers or as workmen. In the days when MORRIS was only tentative in his renderings of colours there were various muddy compounds brought forth which were taken to be prepared by him, and the recollection of some of the greens is enough to bring a bilious attack on anyone who loves colour. An occasional simple pattern may have appeared in a still more simple form, and we have seen cabbages of a size and extravagance which were enough, if Mr. MORRIS were sensitive, to make him regret that he had ever taken up the manufacture of wall-papers. But the characteristics of his work were not of a kind to be recognised at a glance, and were, therefore, not adapted for imitation. On that account we are disposed to doubt whether the "Morris style" can have much endurance. The originator adopted the selfish plan of avoiding the training of disciples. Although for thirty years he was presiding over works of a varied sort, not one industrial artist of any account can be said to have derived inspiration from him. His friends will say that he did not care for imitators. But where are the pupils or assistants, who have displayed originality and who drew inspiration from Mr. MORRIS? The weakness of the case is suggested when we find Mr. MACKAIL speaking of the seed sown by MORRIS, and which had long been silently and unostentatiously bearing fruit in Mr. CRANE, Mr. COBDEN-SANDERSON, Mr. SUMNER, Mr. LETHABY and Mr. BENSON. Did any of them receive wages from WILLIAM MORRIS? That he raised designing and manufacturing to a different sort of plane may be granted, and that they also were not ashamed to share in industrialism or trade may be allowed, but he did not help in making them competent.

As we suggested last week, the success of WILLIAM MORRIS when he took to business was to a great extent based on factitious interest rather than on the qualities of his work. When Mr. MACKAIL says, "A man of means and University education who deliberately kept a shop, a poet who chose to exercise a handicraft, not as a gentleman amateur but under the ordinary conditions of handicraftsman, was a figure so unique as to be all but intelligible," he reveals the secret of the foundation of the prosperity of MORRIS & Co. It was an age when the antitheses of MACAULAY made contradictory qualities popular, and here was a man in Red Lion Square who appeared to be formed as a subject for the rhetoric then in fashion. An account by a lady who went in company with Mr. VAL PRINSEP to buy two glass tumblers suggests the state of mind of the early patrons of the firm. The day was foggy, and what was seen in the simple show-room became bewildering. MORRIS recommended a pair of tumblers because they would stand firm on a table. Mr. PRINSEP praised their shape. The two artists wrapped them in paper and, the lady says, "I came away very much amused and interested, with a general impression of sympathetic shyness and shadows and dim green glass." Yet the whole transaction consisted in the purchase of two glasses. But under the conditions of sale, with a poet for a shopman, we suppose they appeared as worthy of being used to contain nectar which was to be imbibed by goddesses. When so much could be done with domestic glass it is easy to see how transcendental more costly articles could be made to appear.

A great many traders would have realised that "sympathetic shyness and shadows" were enough to carry the day against all customers who came upon the premises. WILLIAM MORRIS was too honest for any trickery. He endeavoured to make everything he sold of as sterling a quality as was practicable. He did not spare the workmen in his speech, and he once smashed the door of a workshop with a folio which he hurled at some offender. Apparently he was not much given to woodworking, and the making of furniture gradually ceased to be a specialty of the firm, for without his close supervision men were liable to act in Red Lion Square as elsewhere. The branches in which MORRIS could please himself by a participation became the staple of the firm. He once said, "If I were to work ten hours a day at work I despised and hated I should spend my leisure, I hope, in political agitation, but I fear in drinking." Happily there was much in which he could find great pleasure through corresponding with the gifts he possessed. Speaking of 1857 Mr. MACKAIL says, "His wonderful faculty of pattern-designing had already come to him, and with it a unique sense for justness in colour, fed on

* *The Life of William Morris.* By J. W. Mackail. New Impression. (Longmans, Green & Co.)

admiring study of the best early Mediæval works, especially in illumination." He could not draw all kinds of forms with ease, and was often obliged to invoke the aid of PHILIP WEBB and BURNE-JONES. But it has been ascertained that of MORRIS's own designs about 600 were reproduced in various materials, and the number would be increased if those in which he co-operated and inspired were counted. With all his love for Mediæval practices he was not disposed to trust to inspiration of workmen, and his own practice is indicated in his advice about the necessity of definiteness in preparing designs for them:—

Be careful to eschew all vagueness. It is better to be caught out in doing wrong when you have had a definite purpose than to shuffle and slur so that people can't blame you because they don't know what you are at. Hold fast to distinct form in art. Don't think too much of style, but set yourself to get out of you what you think beautiful, and express it as cautiously as you please, but, I repeat, quite distinctly and without vagueness. Always think your design out in your head before you begin to get it on the paper. Don't begin by slobbering and messing about in the hope that something may come out of it. You must see it before you can draw it, whether the design be of your own invention or nature's. Remember, always, form before colour, and outline, silhouette, before modelling, not because these latter are of less importance, but because they can't be right if the first are wrong.

Another consideration which he insisted on was the connection between design and its manner of reproduction. He would have the artist thinking always of the material and of the process to be employed. Although more than any of his contemporaries he aided and abetted the South Kensington system of preparing designs which were supposed to possess universal applicability and to be independent of material, he adopted a contrary system in his own practice. MORRIS's connection with the Science and Art Department was one of the inconsistencies which it is impossible to explain. No doubt he felt indebted for the purchase of tapestry which might have been intended for his special use. But the examination of designs was a kind of labour in which he could find no pleasure, and to assign rewards to many of them was to condemn his own principles. But his biographer says "he stuck to it for the sake of the good that might ultimately come of it; and in the latter years of his life he had the satisfaction of seeing in London and elsewhere, noticeably at Birmingham, a real school of manual art slowly form itself whose work was directly aimed at practice." Mr. MACKAIL must forget there was no slow evolution of a municipal school in Birmingham, Manchester, Nottingham, or wherever the institutions now flourish. In each case it was a sudden revolt against the costly uselessness of the Departmental teaching. The revolution was accomplished against the will of "My Lords." Instead of hastening the change MORRIS retarded it. He was accepted as the representative of manufacturers, and he allowed his name to be used as if he were responsible for the instruction which was followed, and which has imperilled British industries. We gladly, however, turn from this subject to consider further the business of the firm of MORRIS & Co.

When the business was started there was reliance on work for churches, in which the partners were not disappointed. Mr. STREET and Mr. BODLEY gave commissions for decorative and other work. Stained-glass became a specialty, and MORRIS's share in the production is thus described by Mr. MACKAIL :—

As regards the personal part which Morris took in this branch of the firm's work, it was the invariable practice in early years, and remained the rule after the Merton Abbey works were started, that the interpretation of the design and the choice of the glass came under his own eye. He seldom at any time, and never in more recent years, made complete designs for windows himself. From the first the figure subjects were mainly supplied by those of his colleagues who were professional painters. As time went on they came almost exclusively from the studio of Burne-Jones, who supplied no cartoons for glass except to the firm. But backgrounds and foliage were, as a rule, of Morris's designing, the animals and certain kinds of ornament being often drawn by Webb. Morris never made his own glass. He often regretted that he did not, but for organising this manufacture time and money alike were required beyond what he could spare. There is little doubt that in the colouring of glass, as in that of yarns, his personal touch would have produced greater splendours of tone than could be got by other workers. As it was, his faultless eye for colour had to content itself with doing its best out of the glass supplied by the ordinary manufacturers. If the colour of a Morris window is to the present day unmistakable among all rivals or imitations, this is not from any difference of the material, but from the skill in selection and variation which was an instinct in Morris himself, and which he, in some considerable degree, transmitted to his workmen.

In justice to WILLIAM MORRIS it must be stated that, after he had established the Society for Protection of Ancient Buildings, he announced that in accepting work an exception would be made whenever the window was to be considered as a monument of ancient art. Accordingly, the order was declined which was offered by Dean STANLEY for a window in Westminster Abbey.

The power of treating colour which was seen in the windows, with the skill of BURNE-JONES as a figure draughtsman, led to the production of tapestries. As that variety of weaving had become a lost art in England, it was courageous to attempt a revival. Moreover, it was not to be expected that a call for works of the class would be immediate. MORRIS, according to his custom, resolved to have a practical acquaintance with the technique of weaving. For that purpose he had a loom erected in his bedroom at Hammersmith, and was seated at it as soon as daylight appeared. It was calculated that in four months he devoted 516 hours to weaving, and at the same time attention had to be given to the other branches of his business. In taking up tapestry he was exemplifying the importance of early associations. In the course of a letter he said :—

How well I remember as a boy my first acquaintance with a room hung with faded greenery at Queen Elizabeth's Lodge, by Chingford Hatch, in Epping Forest (I wonder what has become of it now?), and the impression of romance that it made upon me—a feeling that always comes back on me when I read, as I often do, Sir Walter Scott's "Antiquary," and come to the description of the Green Room at Monkbarns, amongst which the novelist has with such exquisite cunning of art embedded the fresh and glittering verses of the summer poet, Chaucer. Yes, that was more than upholstery, believe me.

Nor was poetic composition neglected for the handicrafts. Manual labour excited thought, and as he said, "If a chap can't compose an epic poem while he's weaving tapestry, he had better shut up; he'll never do any good at all." With a mind so constituted WILLIAM MORRIS could spend hours on embroidery, dyeing, copying manuscripts and other varieties of labour, without any misgiving that he was allowing his intellect to remain unexercised. Yet there were many people who considered he was only employed in a light superintendence, for to outsiders he rarely seemed to be an operative overburdened with work.

For a quarter of a century he was able to find all the relaxation he needed by visits to the Manor House, Kelmscott, his Elizabethan house about two miles above Radcott Bridge on the Thames, and thirty miles from Oxford. His happiness there was expressed by MORRIS when he said, "O me! O me! How I love the earth, and the seasons, and weather and all things that deal with it, and all that grows out of it—as this has done! The earth and the growth of it and the life of it! If I could but say or show how I love it!" However intense was his love for the country, he was not the man to retire from life for the pleasure of planting cabbages. Like a true Norseman, he enjoyed the struggles of life, of which in our time towns are the theatre. There can be no doubt his existence was shortened by his assumption of labours which were beyond human strength. We doubt if a more versatile man was ever found in England, and he was one who did not take up callings by starts or lay them down heedlessly. So complex a character is not easily fathomed, and that Mr. MACKAIL has so well succeeded in presenting WILLIAM MORRIS before us is creditable to his skill as a writer and as a student of life and the arts.

The Prizes of the Académie des Beaux-Arts have been awarded as follows :—The Prize Brizard, value 3,000 francs, to M. Jacques Comoreyt, for a marine view; the Prize Maxime David, value 400 francs, to Mdlle. Cécile de Chaussée, for miniatures: the Prize Piot, value 2,000 francs, to Mdlle. Delasalle, for a painting.

THE COLCHESTER TOWN HALL.

AN interesting brochure has been prepared by Messrs. Wilson Marriage and W. Gurney Benham upon the new Colchester Town Hall. The aim of the authors is to make the building, by means of its decoration, suggestive of the historic interest of the ancient town. Sculpture, stained-glass and painting could be well employed on so laudable an object. Utility is indispensable in a municipal building, but other qualities can also be recognised without loss to the people. Messrs. Marriage and Benham's effort is therefore deserving of recognition throughout Essex and elsewhere.

In order to give some idea of the many incidents in Colchester history which lend themselves to pictorial illustration, by means of paintings, drawings, bas-reliefs, stained-glass, or other designs the following list is introduced.

A.D. 50 (circâ).—Foundation of a Roman colony at Colchester by Claudius I., Emperor of Rome, as a monument of the victory obtained by him at Camulodunum. The Emperor defeated the Britons in a pitched battle, commanding the Roman forces in person. He gave to the place the title of Claudiana Victricensis, and directed the colonists to erect a temple in his honour. The picturesque ceremony of laying out a Roman colony, accompanied by various religious functions, is described in detail by Roman writers.

A.D. 50 (circâ).—The Roman pottery at Colchester. The ancient kilns, discovered March 1877, and still carefully preserved, would give material for this subject, as would the great variety of vessels of various kinds in the museum.

A.D. 61.—The destruction of the Roman colony at Camulodunum by Boadicea. See "Tacitus, Annals," Bk. 14, ch. 31 and 32.

A.D. 921.—Expulsion of the Danes from Colchester during harvest, when "much people from Kent and Surrey and Essex, and from each of the nearest towns, went to Colchester and beset it and fought against it, until they mastered it and slew all the people (Danes) there within, and took all that was there except the men who fled over wall."

A.D. 922 (November).—Visit of Edward the Elder to Colchester. He directed the reparation of the town walls.

A.D. 930 (circâ).—Æthelstan's Witanagemôt at Colchester.

A.D. 1097.—Colchester under Norman rule. Dedication of St. John's Abbey, founded and built by Eudo Dapifer. Eudo himself laid the first stone, 1097, "after Easter"; his wife, Rhodesia, a second; and her brother, Earl Gilbert, a third. Other stones were laid by other persons. See the "Chronicle of St. John's Abbey."

A.D. 1120.—Burial of Eudo Dapifer at St. John's Abbey, March 1120. His body was brought thither from Préaux, in Normandy, where he died.

A.D. 1216.—Colchester taken by Prince Louis, son of Philip II. of France.

A.D. 1516 (May 25).—The reception of Queen Catherine of Arragon and her retinue, at Lexden, by the bailiffs, aldermen and burgesses.

A D. 1539 (Dec. 1).—John Beche, abbot of St. John's, Colchester, according to tradition, entertained at a feast by the magistrates, who "then showed him the warrant for his execution and went and hanged him without further warning or ceremony."

A.D. 1555-58.—Burning of martyrs in Colchester during the reign of Queen Mary.

A.D. 1571.—Arrival of the Dutch and Flemings, and establishment by them of the bay and say trade.

A.D. 1579.—Visit of Queen Elizabeth in her progress of 1579 to Colchester, September 1 and 2, when the bailiffs, aldermen and council met Her Majesty in state, the bailiffs and aldermen riding "upon comely geldings with foot-clothes in damask or satin cassocks or coats, with satin sleeves in their scarlet gowns, with caps and black velvet tippets." The council, also mounted upon "comely geldings," were attired "in grogram or silk cassock coats or jackets, with silk doublets or sleeves in the livery morray-gowns, with caps," &c. The Queen was presented with a silver gilt cup, value 40*l.*, and an oration was made to Her Majesty by the Recorder. The Queen was entertained by Dr. William Gilberd at his residence, Tympperleys, Trinity Street.

A.D. 1588.—The town furnished three ships to aid in the defence of the realm, viz., the *Foresight*, the *Margaret and John* and a pinnace, the *Mark Speedwell*. They were furnished for two months with victuals, mariners, ammunition, &c. To meet the expense a special rate was levied on the town of 2*s.* in the pound on all goods, and 3*s.* in the pound on land.

A.D. 1639.—Visit of Maria de Medici, Queen of Henry IV. of France, and mother-in-law of Charles I., to Colchester with her retinue. Her reception by the Mayor and Corporation. (N.B.—There is a contemporary print of this incident by the Queen's artist.)

A.D. 1648.—The siege of Colchester, June 13 to August 28—

1. Refusal of the townspeople to admit Sir Charles Lucas and his force.

2. The message of Fairfax to Sir Charles Lucas, and his derisive answer to the trumpeter who conveyed it.

3. Repulse of the Parliamentarians after a hand-to-hand contest at Head Gate. Lord Capel fastens the gate with his cane.

4. Sortie from East Gate.

5. Horse mills for grinding flour are erected, and kept at work under the superintendence of Lord Loughborough. The Mayor refuses to set up mills, and is expostulated with and threatened by Sir Charles Lucas and Lord Loughborough. The clamour of the inhabitants against the Royalist forces.

6. A horse is roasted whole at the North Gate "to make the soldiers merry at their entrance into such diet."

7. The women and children crowd round the quarters of the General (Lord Norwich), "throwing themselves on the ground before the guard with frantic outcries for bread," and "daring the soldiers to fire their pieces, exclaiming that they had rather be shot than starved."

8. Lord Fairfax enters the town after its surrender, and proceeds to the Moot Hall.

9. The execution of Sir Charles Lucas and Sir George Lisle, Sir Bernard Gascoigne being reprieved at the place of execution.

A.D. 1665-66.—The plague at Colchester, August 1665 to December 1666, causing during that period the deaths of 4,731 persons.

A.D. 1693.—William III. visits Colchester, and confers knighthood upon Sir Isaac Rebow, who entertained His Majesty.

A.D. 1734.—Queen Charlotte (then Princess Charlotte of Mecklenburgh) and her suite visit Colchester. Her Royal Highness is presented with a case of Colchester's famous "candied eringo roots."

A.D. 1750 (circâ).—A primitive "Oyster Lunch," the origin of the Annual Oyster Feast on St. Denis' Day.

A.D. 1856.—Visit of H.R.H. Prince Albert (Prince Consort) to Colchester, and presentation of an address at the Town Hall.

A.D. 1884.—The Colchester Earthquake, April 22.

A.D. 1892.—Opening of the Castle Park, Colchester, by Sir David Evans, Lord Mayor of London.

A.D. 1894.—Opening of the Public Library by Lord Herschell, Lord Chancellor, October 25.

A.D. 1896.—Inauguration of the University Extension College by the Earl of Rosebery, October 20.

A.D. 1897.—Celebration of Her Majesty's Diamond Jubilee at Colchester, June 22.

A.D. 1898.—Laying of the foundation-stone of the new Town Hall, October 31, by H.R.H. the Duke of Cambridge.

Sculptured mantelpieces for Mayor's parlour and other rooms. Subjects suggested (to be treated decoratively):—

1. The legend of Helena and the invention of the Cross.

2. The early ecclesiastical foundations of Colchester, St. John's, St. Botolph's Crutched Friars, Grey Friars, &c., Guild of St. Helen.

3. The siege of Colchester. Decorative military emblems of the period with medallion portraits of officers of each camp.

4. Regalia of Colchester, arranged in decorative fashion.

5. Antiquities of Colchester—sphinx, centurion, Colchester vase, &c., &c.

The cost of these mantelpieces would range from about 50*l.* to 150*l.* each, according to design and material.

THE LORDS AND THE ROYAL ACADEMY.

ON Monday Lord Stanley of Alderley inquired if the Government would give effect to the following recommendations of the select committee of 1836 and of the Royal Commission of 1863 with respect to the Royal Academy:—(1) That the Academy should rest on a wider and more liberal basis, and be viewed as a national institution, and that it should have a charter in lieu of the instrument of 1768; (2) that an annual report should be published of the proceedings of the Academy, with a statement of its income and expenditure, duly audited; (3) that all voting for R.A.'s or Associates should be open; (4) that the Academicians and Associates now existing should send four works as of right, and never more, and that Associates henceforth elected should send no work as of right, and never more than four; (5) that the charge for admission should be 1*s.*, as heretofore, but on Mondays it might be raised to a higher sum, and that the exhibition should be wholly free on Saturdays; (6) that the system of the teaching hitherto followed is not satisfactory; (7) that the system of teaching which prevailed in France seemed well worthy of consideration, and that the annual balance sheet of the accounts of the Academy should be printed and submitted along with the annual report to the general assembly. He also called the attention of the House to the repudiation by the Royal Academy of their responsibility as bailees for damage to works confided to their custody, and also to the 60,000*l* of the Chantrey Bequest, of which the Chantrey Trustees gave no account.

The Marquis of Salisbury in reply said:—I think that the

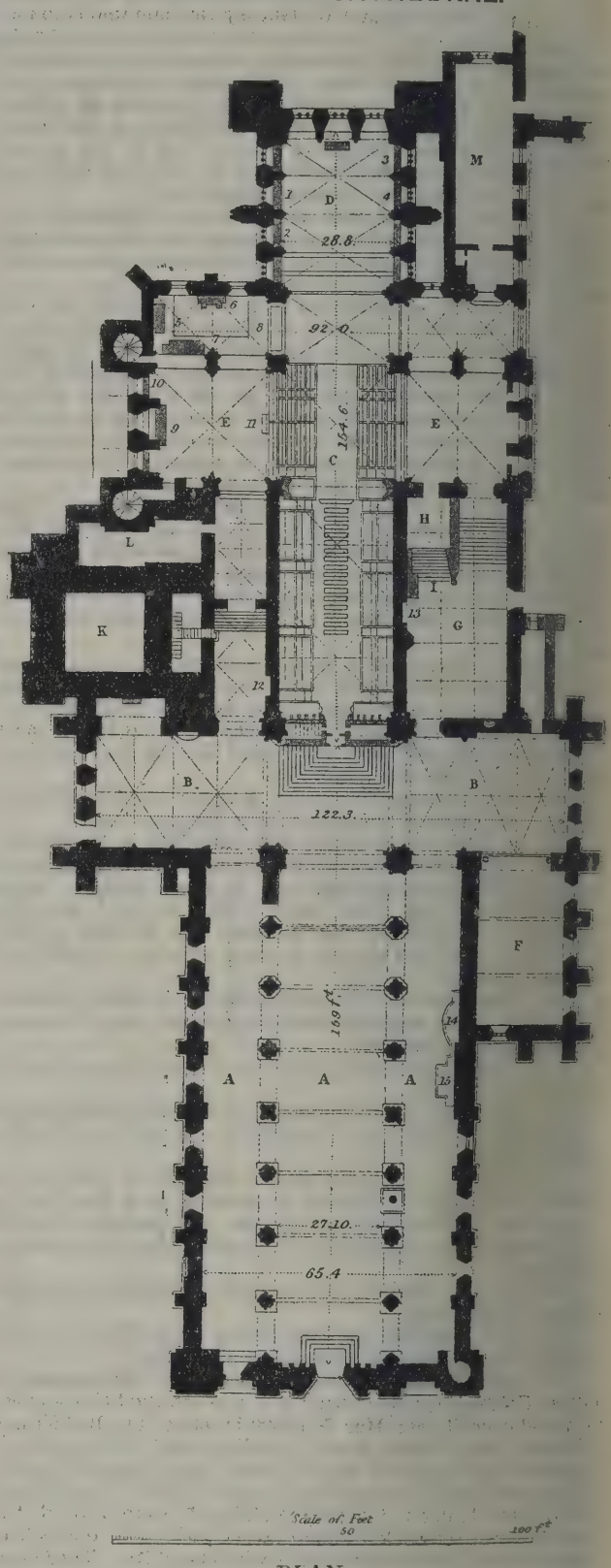
ground fallacy of my noble friend's speech is the impression which he appears to entertain that a Commission must always be attended to, and that, as a matter of fact, a Commission always is attended to. Now that is not my experience of public life. I have witnessed the appointment of a great number of Commissions, but my impression is that a very small percentage have received any notice from legislators or from Parliament. My noble friend is a man of very great industry, and if he would devote himself to ascertaining how many Commissions during the last sixty years have reported and how many of those reports have given ground for any action, he will furnish a very important contribution to the history of his time. I think I know several Commissions now pending that have not the slightest probability of any action being taken upon them. But my noble friend appears to look forward to a period, which Lord Wemyss glanced at on a previous occasion, when the Government should undertake the management of the Royal Academy. I confess that I think this undertaking is reserved for bolder hands than mine. I hope that if there is to be an artistic party in Parliament, which will prescribe for the various artistic bodies what they ought to do, they will organise themselves in some such way that all their recommendations may have a unanimous tendency. I am afraid that the dreams of my noble friend and Lord Wemyss are still far apart in the remedies they recommend for the consideration of Parliament. But the practical point is, "Are the Government going to introduce any measure this session to alter the constitution of the Royal Academy?" I have had the privilege to hear the exposition of the state of public business which my right hon. friend the leader of the House of Commons has to-day made before that body. I think that when my noble friend comes to read it he will agree with me that the task of introducing any such thorny and difficult subject as the reform of our artistic institutions is not likely to be undertaken in the two months which yet remain of the session. There is no subject which produces such a healthy difference of opinion as questions which relate to art, and consequently there is no subject which is likely to make so great a demand on the time of Parliament. I certainly should think it very imprudent of any Minister to undertake such a task, unless he is driven by very much greater evils and defects than it is possible to show in the present management of the Royal Academy. On the whole, the results appear to me to be quite as good as they are likely to be by introducing the Civil Service into the management of the Royal Academy, and I doubt whether any addition of politicians to the governing bodies of our great art institutions will add much to the value and beauty of their work.

CONSISTORIAL COURTS.

AT the last monthly meeting of the Royal Archæological Institute, Chancellor Ferguson read a paper on "Consistorial Courts and Consistorial Places." In his introduction he explained the nature and origin of archiepiscopal, episcopal, archidiaconal, and preba-decanal and prebendal courts; also with courts of peculiars and other exempt jurisdictions. Prior to the Wills Act of 1857 nearly 300 of these courts had testamentary jurisdiction in England; the confusion thus created was made worse by the way in which the archiepiscopal and episcopal courts inhibited the others for various periods during the episcopal visitation, three, six or twelve months. Dealing afterwards with each diocese, he detailed the various courts existing in each at the date of the Parliamentary returns of 1829 and 1830 embodied in two Blue-books, which are happy hunting-grounds for the ecclesiastical antiquary. The old diocese of Carlisle was only troubled with two exempt jurisdictions—Templesowerby and Crosby Ravensworth, neither of much importance—the first a manor which once belonged to the Knights Templars; the other one which formerly belonged to the monastery of Sempringham in Yorkshire. He also dealt with the consistorial places, so far as the archbishops and bishops are concerned, and described how they used to be enclosed, furnished with seats, and a table for the registrar and the proctor, and with a chair of state and a canopy for the judges, whether chancellor or commissary. Since the Wills Act these courts have been little used, particularly in parish churches, and even in cathedrals have been pulled out to make room for organs, organ-chambers, monuments, or choristers' vestries. The furniture of these courts was generally Jacobean in character, having been put in at the revival of ecclesiastical courts in the seventeenth century, and so was hateful to the restoring architect and parson.

Sir Henry Howorth, M.P., pointed out that the Dean of Salisbury, who once had testamentary jurisdiction over several courts of peculiars, still retained the right to grant marriage licences. The Chancellor instanced Buildness in Shropshire, a parish and peculiar of 100 inhabitants, where the vicar once had the same right, and was wont to celebrate over 100 marriages a year; the place became a local Gretna Green and a scandal. In answer to a question the Chancellor explained the origin of donations.

ROCHESTER CATHEDRAL.



PLAN.

REFERENCE.	
A	*Nave and Aisles.*
B	*Western Transept.*
C	*Choir.*
D	*Chancel.*
E	*Eastern Transept.*
F	*Chapel used as the Consistory Court.*
G	*St. Edmund's Chapel.*
H	*Minor Canons' Vestry.*
I	*Stairs to Crypt.*
K	*Gundulph's Tower.*
L	*Yard.*
M	*Chapter Room.*

PRINCIPAL MONUMENTS.	
1	*Bishop Glanville's Tomb.*
2	*Bishop Lawrence's Tomb.*
3	*Bishop Gundulph's Tomb.*
4	*Bishop Inglethorpe's Tomb.*
5, 6, 7,	*Tombs of the Le Warner Family.*
8	*John de Sheppy.*
9	*Walter de Merton.*
10	*St. William.*
11	*Bishop Lowe.*
12	*Hamo de Hythe.*
13	*John de Bradfield.*
14	*Lord John Henniker.*
15	*Dame Henniker.*

ADORNMENT OF CHURCHYARDS.

A DECISION has been given by Dr. Tristram, Q.C., as Chancellor of the Diocese of London. After hearing the application for a faculty to enable the vicar and churchwardens of St. Botolph's, Aldersgate Without, to make alterations in the churchyard, the Chancellor said the place was some years ago laid out with great taste as a garden and thrown open to the public, and additional ground had since been, by the liberality of the public, provided at a cost of 6,000*l.*, more than a third of which had been contributed by the Kyrle Society and the Metropolitan Public Gardens Association. The churchyard and grounds had now become a much-frequented resort for persons resident in the neighbourhood. The north side of the church was at present separated from Little Britain by houses, which were about to be taken down to widen that thoroughfare. That would necessitate the erection of a churchyard wall to separate the churchyard from the street, and Mr. G. F. Watts, the eminent Royal Academician, had generously offered to decorate the wall with frescoes delineating acts of heroism which had occurred in the humbler classes of life. For the purpose of protecting the frescoes from exposure to the atmosphere Mr. Watts proposed, at his own cost, to construct a covered way against the wall, with free access to the same from the churchyard and grounds, subject to a faculty being granted. His offer had been accepted by the unanimous vote of the vestry. The question for the consideration of the Court was, whether the covered way would be a building such as was prohibited from being erected on a disused burial ground by the Disused Burial Grounds Act, 1884, and the Open Spaces Act, 1887. If it was such a building it would be the duty of the Court to decline to grant the faculty; but if not, it would be its duty to grant it. Section 3 of the first Act enacted :—"It shall not be lawful to erect any building upon any disused burial ground except for the purpose of enlarging a church or other place of worship." Section 14 of the second Act enacted that the two Acts were to be read as one, and the preamble to the second recited that by the Metropolitan Open Spaces Acts, 1877 and 1887, certain facilities were provided for making available the open spaces and burial grounds in the metropolis for the use of the inhabitants for exercise and recreation, and that it was expedient to provide facilities for making available open spaces and burial grounds. Section 4 of the same Act provided that the expression "building" in the Statute of 1884 should include "any temporary or movable building." The question that the Court had to determine was whether the proposed structure would constitute a "building" such as was prohibited by those two Acts from being erected on a closed burial ground. It certainly would not contravene either the letter or the spirit of the second and governing Act, one of its objects being, according to its preamble, to secure to the inhabitants of every parish ground available for their exercise and recreation, as the site to be covered by this structure would, after its construction, remain as available for their exercise and recreation as it now was, and in inclement weather it would make it more available for such purposes than it was at present. Since the hearing he had referred to the cases bearing on the construction to be put on the expression "buildings" when used in covenants or in Acts of Parliament. The case nearest in point to the present one was that of Foster *v.* Fraser (9, *The Times* Law Reports, 502). In that case part of a residential estate had been sold to the defendant Fraser subject to a covenant that any building to be erected thereon by him or his assigns should be at least 36 feet high, and, if it faced east, should have a stuccoed or cement front, and if north should be pointed with white stock bricks and have a slated roof, and should be used only as a dwelling-house. The defendant leased the land to an advertising company, who erected on it a hoarding from 8 feet to 14 feet high, which was used as an advertising station. In an action for breach of covenant against the defendant on the ground of the erection of this hoarding by his lessee, Mr. Justice Kekewich held that the erection of the hoarding did not constitute a breach of the covenant, as the requirement of a stuccoed front or slated roof was not suitable to a hoarding, and that the expression "building" in that case must therefore be read in a restricted sense, and not as referable to a hoarding. The Court was of opinion that, as after the construction of this covered way the whole of the churchyard would practically remain as much an open space for the exercise and recreation of the inhabitants of the parish as it was at present, and as this was really what the second Act aimed at, the introduction of the covered way would not contravene its provisions. Moreover, the covered way was intended as a protection for frescoes erected as memorials to meritorious persons, which might be as appropriately and legitimately placed in a disused as in a used churchyard. The Court therefore decreed a faculty authorising the erection of the proposed frescoes and the construction of the covered way for their protection.

DURHAM ARCHÆOLOGICAL SOCIETY.

THE second meeting for the year 1899 is being held yesterday and to-day, June 22 and 23, in Haddingtonshire, and arrangements were made for members to drive to the following places of interest in the order given :—Preston Kirk, with a small First Pointed choir, one of St. Baldred's churches ; Tyninghame (by permission of Lord Haddington), where are the church and monastery of St. Baldred, a cell to Lindisfarne. Norman arches, choir and apse ; St. Mary's, Whitekirk, built 1413, a great resort of pilgrims, made dependent on Holyrood by James I. in 1430 ; Pele Tower at Whitekirk, with tithe barn added. Tantallon Castle, the stronghold of the Douglas ; the first owners were the Earls of Fife, and it was given to Douglas by James II., besieged by James V. and Douglas attainted ; he was restored in 1542. Sadler came here to negotiate the marriage of Mary and Edward ; a small ruin of a house of the Douglas may be seen at Auldham. Dirleton Castle, with extensive remains, great gateway, hall with canopied seat, fine octagonal vault ; a possession of the Norman family of De Vaux, afterwards of the Ruthvens and Nisbets. Wallace held it in 1298, and attacked the English troops ; it was surrendered to Antony Bec of Durham, and afterwards became possessed by the Haliburtons. North Berwick Nunnery, fragmentary remains ; has on the north side a small example of the Scottish Domestic architecture. Members dined, stayed the night and breakfasted this morning at the Marine Hotel, North Berwick, and left by the 8.45 train for Longniddy station, from whence they were to drive to Seton, where they will see the Collegiate Church, made collegiate in 1493 by Lord Seton. The north transept, tower and spire were built in the sixteenth century by Lady Seton after her husband's death at Flodden. It has a stone roof, a monument of the founder and his wife, a cell behind monument, sacristy with upper chamber and remarkable windows in transept. From Seton members will drive to Haddington, where the parish church erroneously called the abbey or Franciscan Friary will be examined. It was founded by David I. and rebuilt in the early part of the fifteenth century. It has choir arcade on piers of diminutive height, no triforium, was originally vaulted, shafts resting on main pier caps. There is Renaissance work in Lauderdale Chapel. The nave was altered in 1811, and arches raised to make room for galleries. The tower was formerly crowned with a canopy of open work, and a corbel in centre of east face indicates a rib from the sides as well from the angles. From Cockburn's Path they will walk to Dunglass Collegiate Church, founded in 1403.

DUNDEE INSTITUTE.

THE following are the subjects for the competitions of the Dundee Institute of Architecture, Science and Art, for the session 1899–1900 :—

No. 1. Freehand sketch-book of architectural subjects from existing buildings, not less than six pages, in pencil only, not copied from any drawing. Size of page not larger than 10 inches by 7 inches.

No. 2. Measured drawings of any architectural subject in black and white, and not more than four or fewer than two sheets, containing plan, elevation and section to $\frac{1}{8}$-inch or $\frac{1}{4}$-inch scale, and detail of a part to one-twelfth full size. Measurement books to be lodged. Size of drawing 19½ inches by 13 inches, with margins or mounts beyond drawing not exceeding 3 inches.

No. 3. Sepia or chalk drawing, from an antique subject in the Dundee Art Museum of Casts or from duplicates thereof. Size of work 19½ inches by 13 inches, with margins or mounts beyond drawing not exceeding 3 inches. Illustrations of architectural historic ornament preferred.

No. 4. Design for decorative treatment of the interior of a billiard-room, showing furniture, &c. Size of work 19½ inches by 13 inches, with margins or mounts beyond drawing not exceeding 3 inches.

No. 5. Design for village hall to seat 400 persons, and including caretaker's house and suitable retiring-rooms. Site, a corner on north side of main street, ground rising 1 in 10 from main street and level E. to W. Plans showing accommodation, at least two elevations and one section, all to $\frac{1}{8}$th inch to a foot scale. Sketch view may be given.

No. 6. Design for golf club house for 150 members, including at least greenkeeper's rooms, club-room, smoke-room, committee-room, refreshment-room and lavatories. Site on south side of road between road and course, and falling 1 in 20 toward course. Plan or plans showing all usual and necessary accommodation, at least two elevations and one section, all to $\frac{1}{8}$th inch to a foot scale. Sketch view may be given.

No. 7. Design for fireplace in stone for hall in mansion house ; any style. Plan, elevation and section to 1 inch to a foot scale. Details to one-fourth full size.

No. 8. Album containing not less than twelve large-scale photographs of architectural details from existing buildings ; quarter-plate. Long distance pictures not desired.

NOTES AND COMMENTS.

M. RODIN, the sculptor, has obtained a concession from the city of Paris which must make many other artists discontented. In the International Exhibition of 1900 there will be necessarily a restriction on the number of works which can be received from each artist. Few men can expect to have a compartment reserved for them in which they will be able to do justice to their ability. M. RODIN, recognising the fact and also that his works have been made the subject of many controversies, decided to present them as completely as possible, and leave to the public the privilege of judging them. Accordingly he applied for a position in which he could hold a special exhibition. The municipality has allowed him a site in an excellent position—that is at the junction of the Avenue Montaigne and the Cours-la-Reine, near the Place de l'Alma—and at the moderate rent of 15 francs per square metre for the period the International Exhibition is to be open. M. RODIN has given instructions to M. MARCEL to prepare plans of the building; but since M. RODIN has been successful in his application, why should not other artists, painters as well as sculptors, apply for a similar privilege?

THE hill of Tara, on which Irish kings were crowned, and where the petty monarch used to hold conclave down to the sixth century, appears to have had legendary interest in a still more remote age. Now that prehistoric archæology is being systematised it is no wonder that many explorers are anxious to operate on the various earthworks which are found upon the famous hill. The genuine Lia Fail, or Stone of Destiny, which was used as the coronation stone, is believed to be still at Tara, the stone at Westminster being an imposition. It will suggest how widespread is the belief in the treasures of the raths when we find the Secretary to the Treasury announcing on Tuesday that an English gentleman, in spite of all regulations to the contrary, has commenced excavations in the expectation of discovering the Ark of the Covenant. That is not the only treasure which imagination believes to exist within the deserted hill, from which the glory vanished after St. RUADAN of Lorha cursed it in A.D. 563. Fortunately Tara is officially recognised as an historic monument, and is under the protection of the Irish Commissioners of Public Works. At their instance the operations were suspended, and the ark, if existing there, can enjoy another long spell of repose. On several occasions the interference of the board has saved the raths, and, on the whole, it may be wiser to prohibit inquiry, for excavations might be followed by disillusionising.

THE restoration, or rather completion, of Cologne Cathedral was one of the causes which led to the creation of the German Empire. Many writers in the early part of the century advocated the work on that ground. It was not easy to obtain co-operation between the various States, but the building offered an occasion which could not be neglected. The cathedral was taken to be the crowning effort of German architects, and the whole Fatherland could aid in realising the intention of the designer without any sacrifice of particular interests. Subscriptions were therefore invited from all lovers of German art, and the response was worthy of the object. The blessing which followed should inspire liberality in aiding funds for restoration. In 1824 the work began, and it has been conducted under three architects—AHLERT, ZWIRNER and VOIGTEL. The outlay, according to the last report, has exceeded a million sterling, but in a political sense the result was worth the money. The estimated expense was a quarter of a million less, but with so vast a building an approximation was the most that was to be expected. Writing in 1820, WORDSWORTH appeared to think there was no possibility of completion without the help of angels, and that so much is realised is creditable to the patriotism of the Germans. If some among them are disappointed, we suppose that is an inevitable consequence of the combination of old and new work, and is not confined o building.

NOT many years have elapsed since the name of VELASQUEZ was almost unknown in this country. It was found necessary to have one of his works painted up by GEORGE LANCE, the fruit painter, before it could be offered for sale in London. England, however, did not differ much from other countries, and the Spaniards were not very enthusiastic about the genius of their great countryman. With the rise of realism in literature VELASQUEZ could not remain in oblivion. He also sought to be natural. Although his faces and figures might be declared to be ugly, he cast the responsibility on Mother Nature, who should know what she was about in her creations. He is now a power which is exercising an influence on English and on French art, and it was right that the Royal Academy should be represented at the celebrations in Madrid. Sir EDWARD POYNTER'S own style differs greatly from the Spaniard's, but he rendered justice to the great artist. At the unveiling of the statue he said he attended on behalf of the Royal Academy and the artists of Great Britain to offer a wreath in homage of the genius of VELASQUEZ. "It had been said," continued the President, "that a work of art was of no country, or rather that it was the common inheritance of all countries alike; nevertheless it could not but be a legitimate source of pride to the Spanish people that the greatest master of the brush that the world had seen should have been of Spanish origin, and that he owed nothing to the example of other schools, but all to his individual character as a Spaniard, and that, in spite of his two visits to Italy, then considered the leading school of the world, he was able to preserve his originality and his nationality to the end of his life. He himself had the right to speak only in the name of the artists of his own country, and his presence there was a mark of the respect, the friendship and the sympathy which they bore not only to the genius of VELASQUEZ, but to the Spanish nation." The words were apt and will be approved in England.

FOR some time past little has been said about the great work by M. DALOU, the sculptor, and which is to be erected in the Place du Trône, a position which is too remote from the centre of Paris for so important an example of the sculptor's art. It may be remembered that the *Triomphe de la République* represents a car with a figure of France and symbolic attendants. A plaster cast of the groups was set up for one of the national fêtes, and excited general admiration. In the interval the casting of the different pieces has been in progress, and it has been arranged that the memorial will be fixed and inaugurated by September 22, which by the Convention was decreed to be the opening day of the first year of the Republic. Several of the pieces have been sent from the founders to the Place du Trône. The question now arises, Will the connections be carried out before the public? To conceal the operations would need the erection of a large and unusually expensive temporary structure. It has yet to be settled whether the Municipal Council will agree to expend the sum required. Students of art would be likely to gain if the whole process was exhibited to them.

THE appearance of new editions of MURRAY'S Handbooks suggests the holiday season. One for Somerset is this year's pioneer. It formed a part of a volume, but now it has an independent existence. The parts relating to archæology and architecture are treated with particular care, and visitors can accept the guide as trustworthy. Geology is also well presented. As a whole the volume is up to date, while suggesting whatever was interesting in the history of a county where the importance of architecture was duly recognised.

ILLUSTRATIONS.

CATHEDRAL SERIES.—ROCHESTER: THE SCREEN.—THE CRYPT.—ENTRANCE TO CRYPT AND SOUTH CHOIR TRANSEPT.

SHIPLAKE COURT, HENLEY-ON-THAMES.

FRITWELL MANOR, OXFORDSHIRE.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &C.

(*Continued from page* 386.)

XXIV.

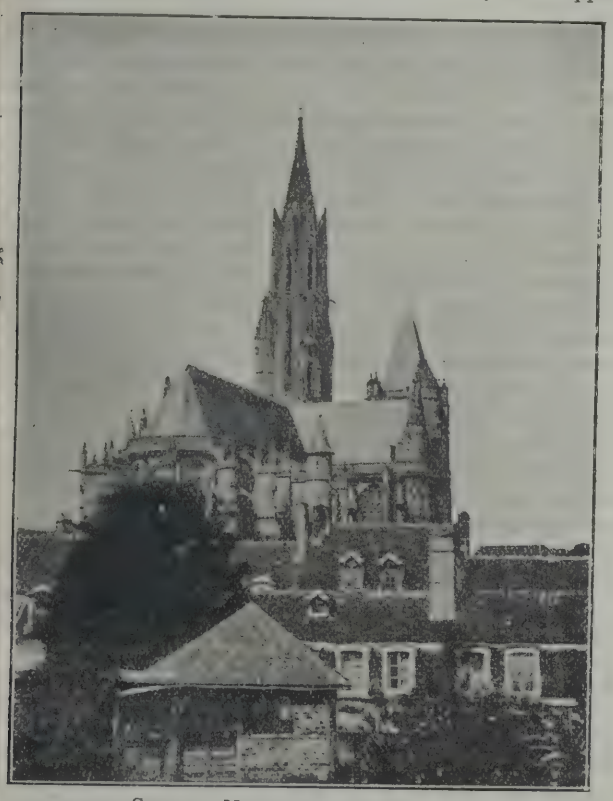
Beauvais to Creil and Senlis.

THERE is but little to interest the architectural student on the line of railway between Beauvais and Creil until the station of Cires-les-Mello is reached. But he who is not tied for time or encumbered with luggage may derive much enjoyment from a leisurely journey between the two places by taking the train from Beauvais, alighting at the next station, dawdling away an hour or so in studying Picardian village life, then walking on for a distance to catch the train at another village station, and so on.

Cires and Mello, the contiguous villages above alluded to, is each graced by a fine First Pointed church. We will first take that of Mello, which lies to the left of the railway as Creil is approached.

This church is quite a cathedral in miniature, very short but very lofty, with a nave of only two bays, transepts and choir, seriously encroached upon by some architect of the Flamboyant, and in a heartless sort of manner that is apt to become tiresome in France.

Externally the church at Mello presents a very noble appear-



SENLIS: NOTRE DAME FROM N.E.

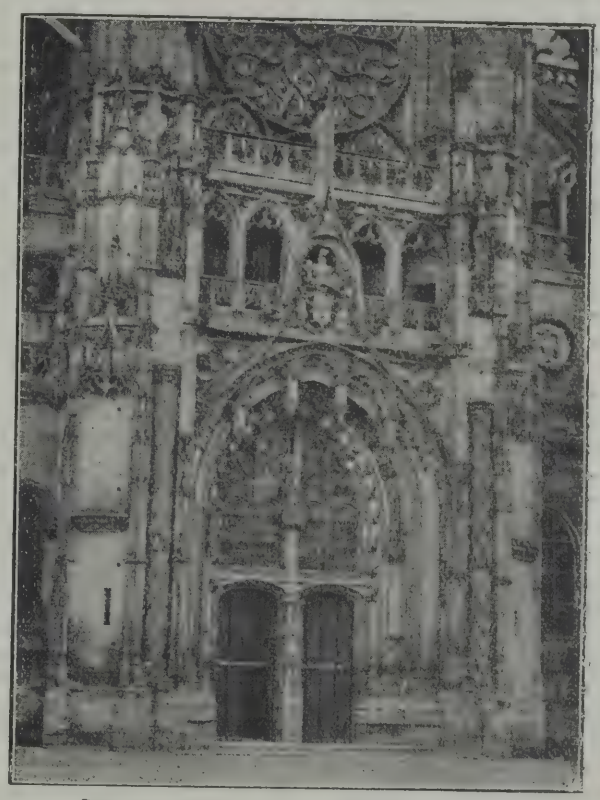
ice, its clerestory of tall two-light windows with very rudimentary foliated tracery being majestically set off by flying buttresses. he south porch is of exquisite beauty, and the view across the ort, lofty church from its inner portal is highly impressive. rom the crux rises a light, slate-covered flèche.

Of the interior detail, the most noticeable is a bead mould- g carried round the bases of the columns; but here, as almost iversally in France, we are confronted by a coldness arising iefly from that want of taste (unfortunately too common in ance) in the furniture of the sanctuary. A piece of tapestry sts no more than gaudy painting, and it is to the presence these rich stuffs that our Anglo-Catholic altars and their rroundings owe that warmth one vainly looks for in the ctuaries of some of the largest and most magnificent French urches. Since the great revival in England of matters eccle- stical, perhaps no branch of the art has been taken up with eater enthusiasm, or has been attended with such felicitous ults, as the adornment of our altars with antependia, dossal d side hangings, whose enrichment bespeaks the skilful use the needle.

It is surprising to find two contiguous French village churches of such dignity and rare architectural interest as Mello and Cires. The latter, which lies to the right of the line, is less aspiring, but has, I think, more repose. Here I especially noted the fine First Pointed west front, with a porch between its deeply projecting buttresses, and whose outer arch assumes that peculiar equilateral form observable in the north transept of Hereford Cathedral. The inner arch has rich mouldings on tripled shafts, and within a niche in the tympanum the legend of St. Martin and the beggar is sculptured.

A small Late Gothic tower, with hipped gabled roof of slate, flanks the front to the south. Just behind it is another graceful but very narrow First Pointed porch. Flying buttresses give an air of great importance to the external ensemble of this church at Cires, but of the clerestory windows on the northern side nothing can be seen below the spring of their arches. They consist of three lancets within a containing arch, the lower part being overlapped by the lean-to roof.

Within, it was delightful to find a nave arcade of much grace, its low cylindrical piers having angle shafts and delicately-foliaged caps, but whose lower part is unfortunately concealed by wainscot commensurate with the height of the closed pews with which the nave is filled. The original chancel appears to have been replaced by one of debased character



SENLIS: SOUTH PORTAL OF NOTRE DAME.

and mean dimensions, with a low arch opening into it and the superimposed wall space occupied by a large crucifix, which at the evening hour of my visit to this church the sun was gilding with an effect of great solemnity. But, despite the loss of its choir, there is great picturesqueness in the interior of Cires Church, and this is enhanced by the descent of several steps into the nave from the west and south doors.

The parish church of St. Medard at Creil, although exteriorly somewhat uncouth in ensemble, will amply repay a visit, abounding as it does in thirteenth-century detail of the chastest description. The whole interior is most picturesque. A low, cavernous-looking nave, seated with open-backed benches, efflorescing into a choir, likewise unclerestoried, but much more elegantly proportioned, and belonging, as it does, to the best age of St. Louis, seemed of a local type, similar choirs rising at the end of more humbly-dimensioned naves at the neighbouring churches of Royaumont and Nogent-les-Vierges.

Additional piquancy is lent to the internal ensemble of Creil Church by the obliquity of its eastern wall, sufficient to

admit of three bays on the north side of the choir, whereas the opposite one has but two.

There is a noble Early Pointed western doorway, its mouldings rising from five shafts on either side, but the vault of the porch has disappeared. The tower, of a plain late character but good, has a low crocketed spire, which, together with the high choir, seemed to be a favourite localism.

After a morning spent in Creil for the purpose of visiting a few village churches in its vicinity I had a delightful walk of about seven miles to Senlis, where I was rewarded not only by the beautiful little quondam cathedral of Notre-Dame, but by two other desecrated churches of little inferior interest.

Notre-Dame at Senlis is one of a grand series of buildings, including such examples as the apse of St. Denis, the choir of Notre-Dame, Paris, the cathedrals of Noyon and Sens, the churches of Pontigny, St. Remi at Rheims, Notre-Dame at Châlons, Mantes, and St. Leu d'Esserent, whose erection, spread over the latter half of the twelfth century, was the outcome of that great burst of enthusiasm for church building which, keeping steadily on during the first half of the thirteenth, culminated in the choirs of Amiens and Rheims, the portals of Chartres, the Sainte-Chapelle, St. Urbain at Troyes and a host of others.

But so completely have sixteenth-century additions and superimpositions altered the original ground plan and character of Senlis Cathedral externally, that at a first glance, and more especially if approached from the south, it would be pronounced an erection of the Flamboyant epoch, four of the apsidal chapels and the western façade being now all that can be seen outside of the original twelfth-thirteenth century church.

Once, however, through the rich sixteenth-century portal of the south transept, one of the best works of its age and class, the grace and refinement of this small but most delightful of Early French Gothic cathedrals comes as a glad surprise to the admirer of traditional Northern Pointed.

The nave, whose curtailment was due to want of funds, has but five bays, the most westernly of which is comprised in the space between the towers; the choir, which terminates in a five-sided apse, has six bays, the transepts two apiece.

Counting from the east, the first two arches on either side of the nave spring from an isolated column. The next, very narrow and stilted, has attached half-columns; the fourth is similar but somewhat wider, and the most westernly is concealed by a heavy stone arch thrown across the nave to support the organ. Throughout the church the triforium consists of a Pointed arch corresponding in width with the bay below. In the nave and transepts Flamboyant balustrades have been inserted within these arches, productive from certain points of remarkably beautiful effects. This triforium at Senlis, which, like those of Noyon and Laon, assumes a feature of great importance, is vaulted, and should be traversed by the visitor desirous of seeing what the plan of the church was like before it was struck by lightning in 1502. To this accident the late character of the clerestory and vaulting of the whole building is due. The Flamboyant vault, with its ribs dying off into the immense shafts without the intervention of capitals, is remarkably good, as is the Early Pointed vault of the aisles and beneath the western towers. The view from the west end of the south aisle should be especially noticed, the bend of the procession path in the distance having quite a Canterburian air. In the Flamboyant chapels opening out of this aisle the Perpendicularising tracery of the windows and the large pendant bosses form remarkable features. The northern aisle of the nave, of thirteenth-century date, opens into a wide Flamboyant one with very fine bosses, one of which, representing a crown upheld by angels, is of especial richness and elaboration; while from the summit of a flight of steps at the western end of this outer aisle a truly delightful view of almost the entire interior can be obtained. In the two lower stages of its elevation the eastern side of the north transept exhibits early thirteenth-century work, the tribunes being lighted by six foliated circlets, and with happy effect. On the western side the arcades are sixteenth-century work, but the First Pointed tribunes remain. Of the opposite transept the western side is entirely sixteenth century, as is the principal face of each arm with its graceful rose window. In the southern one is heavy painted glass, blue preponderating; the northern has not yet received its complement of vitreous decoration. The choir, quite a gem of the Transitional period, is of six bays, the first of which on either hand has its arch resting upon attached shafts, the remaining bays being arranged in pairs between the vaulting shafts and springing from isolated columns with nobly foliaged caps. The same type of cylindrical column does duty in the graceful five-sided apse, whose ensemble as far as the spring of the clerestory recalls Mantes. As in the nave, the whole of the clerestory is sixteenth-century work, but the Flamboyant railing to the tribunes does not appear in this portion of the church.

From the choir aisle and procession path chapels radiate. Of these, the two on either side the lady chapel, which is a very jejune Middle Pointed work, are very shallow semicircular projections retaining their original fenestration, while the remainder are rectangular, with window openings in various phases of Middle Pointed. Of these the most beautiful examples occur in the first two chapels opening out of the northern aisle. In that dedicated to St. Catherine, forming the eastern aisle of the transept, the window lighting its northern end has three unfoliated compartments, with, in the head, a large trefoil, and some modern glass of excellent character representing scenes in the life of its titular saint.

The next chapel opens into the aisle by two bays corresponding to those of the choir, and has a pair of lovely Early Middle Pointed windows, the three trefoils with which each is traceried being without containing circles.

None of the other projections contain anything very remarkable until the last but one in the south aisle is reached, its wall being pierced with an ogee-headed and crocketed doorway conducting to the sacristies. The baptismal chapel, in rich good Flamboyant with large pendant bosses, is formed in the eastern aisle of the south transept.

It was about six o'clock when I first entered this smallest but most enchanting of northern French cathedrals, and so fascinated was I with its interior that ere I had closed the door of the south transept upon such a combination of attractions, the simple, solemn First Pointed western façade—one of the earliest of its class, I believe, with an exquisite central portal flanked by effigies and having in its tympanum a sculptured Coronation of the Virgin—was glowing like old gold in the gorgeous sunset.

Viewing the steeple which rises at the south side of this façade at Senlis, it is impossible to extol too highly the consummate skill with which the eye is conducted from the square to the octagonal portion of the tower, and thence to the slope of the spire. This is effected principally by concealing with open tourelles (somewhat after the style of Laon, Naumburg and Bamberg) the oblique sides of the octagon, the canopies of the said tourelles leaning against its sides. Then the beautiful pyramidal character of the steeple is further strengthened by a tall squinch, of which one with its gablet is placed against each side of the spire. Such an arrangement, of course, appears to decrease the true dimensions of the spire, but is only another factor in endowing it with an air of grace perhaps unsurpassed by any contemporary erection of the kind. Seen in profile under certain conditions of light and atmosphere from the boulevards on the north side of the city, this spire of Senlis, pierced at judicious intervals as to its scaled surface, and crocketed as to its ribs, looks like Strasburg in miniature.

Of Senlis' desecrated churches, the most beautiful, that of St. Frambourg, is now a carriage depository. The details of its western doorway are truly exquisite specimens of floral sculpture—nothing more vigorous or beautiful can be imagined. The plan of this church—a First Pointed one, without aisles and having very large lancet windows most gracefully shafted—is simply a parallelogram terminating in an apse, whose semicircular sweep with its red-tiled roofing helped on the following morning to compose a picture truly enchanting, standing out as it did against a sky of purest blue.

A cool ramble about the quaint streets of Senlis, and a prolonged saunter upon its old fortifications, from which at one point the spire of Notre-Dame and that of another gracefully contoured, hipped-gabled one belonging to St. Vincent's could be taken into one view silhouetted against the calm evening sky, completed a very pleasant reconnoitre.

(To be continued.)

COLOUR IN ARCHITECTURE.

IN studying the use and value of colour, writes Mr. A. A. Cox in the *American Architect*, it will, perhaps, be pertinent first to distinguish between paint and light.

We see objects by means of the light which is reflected from them to our eyes, and we distinguish between objects by means of the arrangement and the kind of light-rays. It is the latter phase, the kind of light, that is here considered, these variations in kind being called "colours."

When an object looks of a "green colour" it is because that object reflects green light to the eyes. If white light strikes the green object all the light except green is absorbed.

Colours are divided into warm and cool shades. Light colours make an object seem much larger than it would appear if full tones were used. A familiar example of this may be seen when one compares one's feet when dressed first in white and then in black shoes. Colours spread or diffuse, so that when two are adjoining they affect one another in appearance.

Colours are divided into classes, which variations are called "shades," and there are modifications also of these shades. If a shade has an extra amount of white in it, making it a lighter shade, it is called a "tint," and if there is less white in a shade it is called a "tone." As there are, therefore, any number of variations of shades, tints and tones, there are innumerable colour combinations. For general work of decoration a full shade is seldom used, it being nearly always preferable for colour schemes to be composed of tints or tones. Because of surface reflection, a very strong light throws back some of the white with the real colour of the surface and in this way a full shade is made a tint, that is, the colour seems lighter in appearance. For this reason the Egyptians and Greeks in their bright sunshine used the full red, blue and green shades.

In speaking of combinations, emphasis must be placed on the fact that pure mixings of light rays as compared with mixings of paint are quite different.

The Uses of Colour.—We are frequently hearing the question, "What is the use of colour?" And the answer almost quite as frequently echoes, "No use." This, however, is not exactly true, for even if colour gave satisfaction and pleasure to the eyes only, it would be sufficient to prove its usefulness in the present day quite as much as in the earlier ages of history.

Colour assists in distinguishing forms in an artistic manner, which cannot be equalled by line-drawings, however carefully the latter may be executed. For example, take an engraving or etching of a landscape; the lines necessary for portraying the different planes in the picture are varied in their degree of depth to assist in producing distance. The distant effects so gained, however, are not always produced by the mere lines only, but are due to the relative grades or intensity of the colour used in the lines, be it black, brown, or any other monochrome, or to their being drawn in closer or wider proximity to one another, so that alternating with the white or other local colour of the ground-spaces of the picture they produce at distances the desired degrees of tone, the result being derived as much from the gradation and spacing of the lines as from the actual lines themselves. Such pictures, if executed in coloured lines viewed from a distance, often give to an inexperienced eye the same effect as monochrome pictures.

Examples of the manner of denoting colours by lines (instead of brush-work), *i.e.* scoring or crossing of lines, are to be found in heraldic designs; escutcheons are frequently scored, some with single parallel lines and others chequered with squares or crossed diagonally, either of which methods gives an appearance of colour to the whole surface.

The colours in flowers serve, perhaps, no real purpose beyond pleasing the eye of persons generally, but the gardener finds the colours most useful when laying out his grounds and for other floral effects he may wish to produce, by the introduction of the various colours found in his plants. If all flowers were of the same hue we should soon weary of the monotony; the various forms of foliage, while being beautiful in themselves, would lack in usefulness, which fact would prove again the use of colour in flowers as decorative objects. The use of colour, therefore, in natural plants being apparent, much more so is it when plants and flowers are made the "motif" for decorative designs in wall-paper hangings, whether in a conventional or realistic form, also in decorative china and porcelain, tapestries and many other art objects into which flowers can be introduced as decorative features. It would be hard to imagine the earth deprived of its varied tints of verdure and the trees all of one shade of colour.

Colour, therefore, pervading the world in its variety of shades and forms, is a natural creation, and it is generally admitted that all natural creations are more or less useful. The history of the world (not only the written history, but what may be termed the material history, or, in other words, the ornaments of the early ages which from time to time are being discovered) goes to show that as soon as the absolute necessities of life and shelter had been supplied, the next efforts were to beautify them by use of colours.

In the ruder conditions of man the desire for the primary or positive colours was most marked, and in relative proportion to the civilisation of man the use of colours became more refined and brought into harmony with the cultivated tastes of the various tribes and nationalities. From the earliest up to the present day colours have been most useful in the army and navy as distinguishing marks of the different nations. Also in ecclesiastical and collegiate orders their use is asserted to a large extent. Imagine a college without its "colours" or the church ritual without its embellishments.

Coming down to the domestic sphere, every habitation, from the smallest hut to the most palatial residence, has in some form or another an application of colour. Colouring gives repose to the eye when shadings and shadows are, as in nature, used in true contrast to the lights, and produces the rule for harmony. Examples of neglect of such harmony may frequently be seen in our modern domestic dwellings. For example, it will be found that rooms with north lights are often decorated with ornaments shaded in greys or cold colours, whereas warm shadings should be used, and *vice versâ* rooms with sunny aspects as a rule should be treated with cool shadings. The choice depends, however, considerably upon the source of the light in the room, whether from direct or reflected rays. The artist will at once see and adapt his colour-decoration to the peculiarity of the situation. The above remarks, however, are worthy of remembrance by those unfamiliar with the art of painting and decorating.

The elements, then, or natural forces by which colours are produced, are the positive and negative principles of light and darkness, these elements being represented by white and black from the elementary colours. Between these two colours exists an indefinite gradation of shades, which are termed "tints" and "tones." All the elementary and compound hues and colours may be generated by the scale termed "chromatics." For example, a spot of any shade or colour on a ground lighter or darker than itself, being viewed through a prismatic lens, will be reflected by the refraction of light and shade into an orb of three colours, these three colours being termed "blue," "red" and yellow," which are incapable of being produced by composition, or of being resolved into other colours by analysis, and are simple, primary colours elicited by the electrical excitement or concurrence of the light and shade of the ground and spot of colour. Accordingly, if the ground and spot of colour be changed from light to dark, or from white to black, the same process with the prismatic lens will produce the same relative colours, differing only in the inversion of their arrangement, being the order of the colours in the rainbow.

This evolution of colours or polar principles of light and darkness is a simple act of nature, which gives us the first order of colours in the sequence of their relation to white and black, and it is the constant law of chromatics by which all the relations of colour are determined.

The Order of Colours.—Colours are of three classes: primary, secondary and tertiary. Any two of the primaries mixed in proper proportions will produce a perfect secondary which will harmonise with the remaining primary, *e.g.* yellow and blue mixed together form green and will harmonise with red. Red and yellow will produce orange and will harmonise with blue. Blue and red will form purple and will harmonise with yellow. Likewise the alternating of these secondary colours and mixing them in pairs will produce the third class of colours. Thus if orange colour be mixed with green they will produce a citron colour; if purple be mixed with orange they will form russet, and if green and purple be mixed they will give olive colour.

Admixtures of these colours produce the varieties of shades and tints by which nature is decorated, and which predominate in all works of an artistic nature. By an indefinite or disproportionate mixture of the three colours of either class or of the whole together we derive the hues usually termed "brown." The browns are also a very valuable and useful class of colour for producing warm tones in a picture, as also are the greys for affording cool effects, being the contrary of brown.

The primary colours may, however, be materially changed by admixtures; by mixing them in varied proportions many different hues or tints are produced. It is seldom, however, if at all, that the pigments used by the artist or decorator are the perfect representations of the primaries. For instance, there is practically no yellow pigment in use which can be said to be free from a small trace of red or blue, no red that is really free from a slight admixture of yellow or blue and no blue without a small proportion of red; and in consequence it follows that no secondary colour can therefore be perfect, but will approach perfection just in the same ratio as the adulteration exists in the primaries—the adulterations arising from chemical impurities and differences of transparency or opacity.

The Secondary Colours.—Orange is the first of the secondary colours in relation to light. It is an advancing colour in painting and decoration, and in nature it is effective at a great distance, acting powerfully on the eye. A true or perfect orange is such a compound of red and yellow as will neutralise a

perfect blue in equal quantity either of surface or intensity. It forms a series of warm semi-neutral colours with black, and harmonises in contact with a variety of tints and with white. It is a warm colour and also discordant when standing alone with yellow or with red unresolved by their proper contrasts, or with any pigment having an inflammable basis, for with all such it occasions changes in colour by becoming dark or by fading the colours with which it is mixed.

The practical uses of the primary, secondary and tertiary colours are as follows :—

1. *Yellow* is the first primary ; it has the power of reflecting light, and is a most advancing colour. As a pigment it is a tender, delicate colour and easily spoiled by other colours. In painting it diminishes the power of the eye by its action in a strong light, but in a declining or weak light it aids vision and becomes more distinct as a colour. Of all colours except white it contrasts black most powerfully.

2. *Red* is the second primary colour ; it is pre-eminent among colours, and is the most positive of all. It affords warmth to all colours, but mostly to those which partake of yellow, and is the second power in harmonising and contrasting other colours, and in compounding black and all neutrals. Mixed with yellow it becomes warm and advancing, but if combined with blue it is cool and retiring. These qualities of red give it great importance in decoration, and render it difficult of management. In nature red is used very sparingly, and in practice likewise it should be used with discretion. Red diffuses with white, but it is discordant when used with orange alone. It is powerful and cheering and cannot be composed by mixtures of other colours. In China red colour is consecrated to religion, owing perhaps to its being one of the most beautiful colours in nature.

3. *Blue* is the third primary. It bears the same relation to shade that yellow does to light ; hence it is a most diffusing and retiring colour, and is the only colour that alone possesses what is termed "colourness" in colouring. It is powerful in a strong light, but is weakened very perceptibly by a declining light, and becomes neutral and pale, owing to its affinity to black or shade and its power of absorbing light. Blue is discordant when placed in conjunction with green and in a less degree with purple, both of which are cool colours. It should always be used in a proper proportion with its contrasting colour, orange, which would have a tendency to correct its coldness. In botany we see fewer flowers of a blue colour than any other of the primaries and their compounds. Blue flowers can be changed by cultivation into red and white, but never into yellow, as also, to the contrary, yellow flowers are readily converted into red and white but never into blue, and likewise red flowers are changeable into orange and purple but never into blue or yellow. Blue is universally agreeable to the eye when used in due relation and proportion to the composition, and may be more frequently repeated in a colour-scheme or picture than almost any of the other primaries, and it cannot be composed by mixtures of any other colours.

The use of colour and the art of applying it to decorate or embellish documents appears to have had its origin in the East. The Egyptians were in the habit of rubricating their manuscripts, as also were the Greeks and Romans, although little evidence exists in either country previous to the Christian era.

Towards the end of the fourth century this mode of decoration was more frequent. Examples dating from the fifth century are to be seen in the British Museum, the colours predominating being bright purple or rose colour. In the eighth and ninth centuries the art of staining vellum appeared to decline, and the colours used were less pronounced. Manuscripts written in letters of gold on white vellum are chiefly works of the eighth, ninth and tenth centuries. Writing in gold was less employed in the eleventh, twelfth and thirteenth centuries than in earlier times, but it again came into use in the fourteenth century, particularly in devotional books and with persons of rank.

From the eighth to the eleventh century occur in the Greek and Latin manuscripts initial letters of large size at the beginning of books and chapters, principally composed of human figures, animals, birds, fish, flowers, &c., all in colour, the chief features of the ornaments and letter being the extreme intricacy of pattern: interlacings of knots in a diagonal or square form, sometimes interwoven with animals and terminations in heads of serpents or birds, to which was added the use of red dotted lines round the edges of the larger letters. The lizard, from the facility with which its graceful form could be made to harmonise with every variety of curve, seems (under various conventional modes of treatment) to have been the favourite reptile introduced in all kinds of ornamental design during the whole period of the Middle Ages, but at no time so profusely as during the twelfth century, when the colouring of these initial letters was of a simple character. The outlines were usually red, the foliage and figures without colour, but relieved by having the intervening spaces picked out with various tints. In the more elaborate examples the letter in its ordinary form was represented in burnished gold and the foliage and other accessories by which it was surrounded and interlaced formed a mass of the most varied and gorgeous colours, brought into harmony with one another by the admirable taste shown in their arrangement, the letters and all the details being outlined in a strong colour.

In the thirteenth century a new character was given to illuminating. The larger letters, composed chiefly of scroll-work, became more intricate and lost, in minuteness of style and over-elaboration, the boldness of character and simplicity of treatment of the preceding age. In the smaller initials figures were more abundantly employed, and groups representing the leading facts in the volumes themselves were frequently given within the circumference of the letters.

During the fourteenth century the same character continued to pervade illuminated letters and pictures, but in the fifteenth century immense strides were made ; the conventional treatment began sensibly to decline and an almost endless variety of examples, both in design and colouring, are to be seen in the manuscript records of that period. The ornaments and letters were in a totally different taste from those of the earlier dates. Nature was again studied, and in lieu of grotesque figures flowers of every hue were introduced, fruits, birds and insects most delicately and minutely coloured upon gold grounds, with a perfection of execution and taste. It was, however, in the sixteenth century that the highest degree of excellence was accomplished. The examples of this period seem to combine all the refinement of Italian art in composition and colouring, with a delicacy of execution to be found only in the Persian and other Eastern manuscripts.

The French, German and Flemish illuminations, though different in character, were but little behind those of their Italian rivals in point of merit ; but in England the art declined from the latter part of the fifteenth century owing to the general employment of foreigners.

For a century after the invention of printing the art of illuminating made steady progress, but from that time it began to gradually decline, and although it existed as late as the seventeenth century it was rarely practised, and was almost entirely confined to religious books.

The use of colours and methods of the application of them to the various forms of architecture was well understood by the Egyptians and by the Greeks. The Romans, on the other hand, diminished the use of colour, and adapted marble and stone to the surfaces of the buildings, although they applied highly effective decorative paintings to flat surfaces of plastered walls, &c. Turning to Christian art, we find an intimate union between colour-decoration and architecture, and can trace it all through the important works of the Middle Ages. The object of using colour painting was to obtain richness and uniformity of effect in such parts of the Byzantine churches as were not constructed of marbles or mosaics.

The colours principally used by the Egyptians were red, blue, yellow, with black and white to give distinctiveness to the various tints, and green used generally as a local colour, the formation of their designs being of a geometrical character and symmetrical of arrangement, the lotus and papyrus from the banks of the river supplying the idea for all their colour-decoration.

The Greeks borrowed their colour ideas partly from the Egyptians and Assyrians, and rose rapidly to a state of perfection in colour decoration. The honeysuckle was a favourite ornament, and is found in a variety of very pleasing forms on old Greek vases ; each leaf seems to have been executed with a single stroke of the brush.

In the Byzantine period coloured ornaments are distinguished by broad-toothed and acute-pointed leaves, and almost always finished in gold. Very profuse geometrical designs are found in this style.

The Romanesque style of architecture was peculiarly adapted to colour-decoration ; the mouldings, pillars and capitals were painted with appropriate patterns. During the Middle Ages the interiors of the poorest as well as the richest buildings were treated in colour.

Very little is known of colour-decoration in England, so far as modes of application, prior to the Saxon period, but there is little doubt that some skilled work was executed at that time, some interesting examples of the Saxon and Norman periods remaining to be seen in various cathedrals. Peterborough affords some very fine examples of the latter period. There is a similarity between the decorative colour-work of the twelfth century and the illuminated manuscripts of the same period, to which I referred in the earlier part of this essay.

In France, prior to the time of Charlemagne, decorative painting as applied to architecture was very simple in treatment.

All colour-decoration, to be effective, must be flat ; in other words, must not be worked in shades to produce relief or shade lined. It is permissible to use gradations of colour, but even then only in a conventional form, without any definite lines of light and without any shadows. Flat painting requires a peculiar treatment, both in regard to colouring and drawing, especially if it be intended to follow the various periods of the

Middle Ages. Then forms and figures must be rendered with sharply-defined outlines. When two light colours are used together they should always be separated by black or dark lines, and when dark or rich colours are used light separating lines are necessary. The colours must be selected in reference to the position they will occupy, and their depth of tone graduated accordingly; also as to the distance from the eye and amount of light received, great care must be exercised in choice of tints. In the best examples the ornamentation is kept as much as possible subordinate to the architectural forms of the buildings.

A few words upon the use and appliation of colour when executed by stencilling may, perhaps, be acceptable. For ordinary work of large details tough brown paper, highly rolled and well painted and shellaced or varnished on both sides, is used for the stencil-plate, the design being cut accurately with a sharp instrument. In case of very delicate designs, tint-plates may be used with advantage. The colours are then applied to the walls over the stencil-plate in the necessary colours called for in the design; the brush should be used as much as possible in the direction of the design in applying colours by freehand work: in flowers, from their centres towards their edges; in leaves, from stems to their points, or from their main rib to edges. In scrolls the brush should follow the curves. Broken colour is valuable in hand-painted work, as well as in stencilling. It will always be found advantageous n colour-decoration to avoid the use of bright, crude colouring. Chrome-yellow, vermilion and ultramarine, orange-chrome and emerald-green should be used very sparingly. The safer yellows are the various ochres, especially Oxford ochre, which produces a beautiful quiet tint in combination with white and other pigments. In the class of reds, Indian and Venetian reds with ochre produce quiet colours of great value. Ochre, also, with Prussian and other shades of blue, supply us with some excellent greens. All greens used for decorative work should be, as a rule, composed of blues and yellows, and not be the ordinary green colours of commerce.

To fully describe the value of colour would occupy too many pages. It will, however, suffice to mention a few of the numerous ways in which it may be realised. In almost everything that we see around us in nature or architecture, painting, sculpture, and, in fact, in all the arts, we find colour predominating in a greater or less degree, and without which many of the greatest masterpieces would fall into insignificance. Looking to nature we find it in multitudinous forms. In architecture it is ever present. In the early ages colour was introduced into terra-cotta in a variety of shades, the value of the tints being readily recognised and appreciated by the Egyptians, as illustrated by the examples of pottery which have been discovered from time to time. Bricks and terra-cotta are perhaps the two most useful articles for supplying colour as a permanent decoration for buildings at a reasonable cost. Of course, marbles and granites and the great variety of stones all more or less derive their value from their natural colouring, but being more expensive, are not used in so many ways as terra-cotta. Each stone quarry furnishes us with a colour peculiar to itself; one formation furnishes red, another yellow or buff, another green or blue, and so on, each in itself being selected for its particular tint. They are often used together in various constructions, and some very fine decorative effects are thus obtained. Mr. Ruskin in his "Stones of Venice" furnishes us with some remarkably fine examples of colour-decoration in the form of stone and brickwork.

Previous to the use of stained-glass the windows of churches had stone shutters or were filled with talc or alabaster. The windows in the apse of the church of San Miniato, at Florence, erected in 1008, are each filled with a slab of alabaster, which, when illuminated by the sun, admits of a cloudy roseate light. Immediately that glass was used for windows the opportunity it afforded for decoration suggested itself, and was freely taken advantage of. Specimens of work as far back as the twelfth century are still preserved, each example possessing a peculiarity of its own, and they are interesting as being early efforts in an art which in course of time attained such distinguished eminence, and was at length so completely identified with Christian architecture that no ecclesiastical structure was considered complete without having a free use of this transparent style of colour-decoration. The abbey church of St. Denis, in France, exhibits a perfect example of this decoration, dating from the beginning of the twelfth century.

The various resources of glass staining are equally suitable for the decoration of public buildings and private dwellings, affording a rich adornment for the windows of halls and stairways, and in many cases effectually screening objectionable sights. For these purposes simple and beautiful patterns of rich colours may be produced; figures, family events and ancestral achievements afford subjects for this kind of colour-decoration. All stained-glass should be so used that it harmonises thoroughly with the building in which it is placed. It should be correct in style, so coloured that the eye can rest upon it without offence or weariness; its figures should have a good flowing outline, well drawn, pure in form and well defined, not gaudy in colour, but quiet in general tone, relieved here and there by brighter colours in smaller pieces, so that a quiet and rich appearance may be realised in the deeper-coloured windows and in lighter ones purity and brilliancy, and in all cases conveying to the mind a sense of satisfaction and pleasure. Nearly 140 different tints of glass have been used in the production of a stained window. The fine old glass in Bruges and Chartres cathedrals was, however, composed of nine tints only.

Before closing this paper I will briefly touch the subject of domestic colour-decoration, and in doing so would quote Mr. Ruskin, where he says, "Whenever we leave nature we fall immeasurably beneath her," and "that the beautiful is true." The decoration of a home should be in harmony with the size and situation of the house and its surroundings. A good photograph is better than an inferior painting; a growing plant is better than a bunch of artificial flowers, and by striving to copy from nature we draw nearer to the infinite and to that which is "a joy for ever."

A home is a many-sided institution, and the influences which go out from it are subtle. Adornment need not necessarily mean an extravagant show; a beautiful house is not always made so by the largest outlay, for many an abode is made vulgar by the effort to show how much money could be put into the square foot of space. Tawdry colourings do not make a home which delights the eye or inspires the heart with the true sense of the beautiful. First to be considered is the comfort of the individuals of the household, and secondly, to educate and please the eye with suitable colour-decoration, harmony being the first requisite in our aim to copy nature's laws in the use of colour.

THE LIVERPOOL SCHOOL OF ARCHITECTURE.

AN interesting exhibition of work by students of the City of Liverpool School of Architecture and Applied Art was opened on Saturday at noon by the Lord Mayor in the Walker Art Gallery, in which accommodation has been provided for the purpose by the art and exhibitions committee of the Corporation. The school is comparatively young, nevertheless it has made rapid and gratifying progress. Its formation, says the *Courier*, was the result of persistent and praiseworthy efforts on the part of a prominent citizen who contributed so largely to the success of art in Liverpool, namely, the late Mr. P. H. Rathbone. In this work he was ably seconded by the authorities of University College, who established the school in connection with the university, and placed it under the direction of Professor Simpson, assisted by Mr. Allen as sculptor and Mr. M'Nairn as designer. The success of the scheme is attested by the annually increasing number of students. In the first year, 1894-95, there was an average of only fifty per term, but in the next year this had increased to 135, in the following year to 149; last year it was 158, while this year it has reached 175. There has been a corresponding advance in the class entries. Though in the first year they were only 70 per term, they now number 336. The collection consists of nearly 300 exhibits, and is altogether of a very encouraging character. It shows what may be done by students of the class for whom the school is intended; and bearing in mind the comparative youth of the school, it justifies high expectations of future success. Each section or studio is adequately represented, namely, architecture, sculpture, painting and drawing and decorative design, with which are associated the craft classes. Some designs in stained-glass are especially worthy of notice, particularly from the fact that the class for instruction in this kind of art was only commenced this year.

The Lord Mayor, in declaring the exhibition open, expressed his pleasure to hear that the work of the students was so creditable. The importance of the school had now evidently impressed itself on the minds of the people of Liverpool in an artistic sense. Though the school had only been established a few years, it had made gratifying progress, as the returns showed that the attendance of students had more than trebled. The proportion of class entries was also greater, and it was evident that the students worked with more regularity and joined a greater number of classes. The latter was a most encouraging feature of the work. It was important that those who joined should study more than one art or craft, inasmuch as by this means their minds were developed and expanded, and they were made altogether better and more intelligent workmen. During the last few years there had been a considerable accession of interest in this particular kind of education. In this direction Liverpool had not been behind any other part of the kingdom, either as regards the liberality of its city council or in the efficiency of its classes. This country, it must be admitted, had not yet got hold of the idea of instruction to the same extent as it was realised on the Continent, but efforts of this kind must commend themselves to all who took a practical view of education, because associated with the

crafts and industries which formed a large part of the life of the community, and it could not be doubted the effect would be to send into the world more efficient workmen and better fitted for the tremendous strain of competition in the present day. In conclusion, his lordship urged the desirability of efforts to enlarge the School of Architecture and Applied Art. He trusted one effect of the exhibition would be to lead those who had the management to afford Professor Simpson and his staff adequate accommodation for the important work they were doing.

Sir W. B. Forwood proposed a vote of thanks to the Lord Mayor. He remembered being present at the birth of this school, which emanated from the very fertile brain of the late Mr. P. H. Rathbone. Had Mr. Rathbone been present that day he would have been delighted at the great progress achieved.

Councillor Willink seconded the motion, which was unanimously adopted.

Principal Glazebrook moved a vote of thanks to Councillor John Lea, chairman of the arts and exhibitions sub-committee of the city council, for the assistance he had afforded in connection with the arrangements for holding the exhibition in the Walker Art Gallery, and for his valuable support of the art school generally. He pointed out that the students showed more and more their appreciation of the importance of the work by the number of classes they attended, and by the time and attention they devoted to their studies. They were coming in in large numbers from the right class of society, and every confidence was felt that the school by its influence would raise the level of art and applied art in the city, and would prove of great benefit to the community. The success already attained had been in a large measure due to wise leading and guidance, and in this respect they had to thank Mr. Lea and the other members of the committee for the aid they had rendered on various occasions.

Mr. Henry Hartley, in seconding the motion, remarked that with each term the number of art craftsmen increased, and there was being brought into the school the class of workers it was desirable especially to stimulate and improve.

The motion having been unanimously adopted,

Councillor Lea briefly replied. He said the arts and exhibitions sub-committee were particularly anxious to afford facilities for work of an educational character. While they did not profess to have—and the best friends of the school did not say they had—a perfect organisation, they were at least doing something in the right direction, and it was in the hope that the work in which they were engaged would be cordially promoted by the people of Liverpool that the exhibition had been held that day.

VENETIAN PAINTERS.

A LECTURE was delivered last week in the Manchester Art Museum, Ancoats, by Mr. T. Collins, curator, on "Venetian Painters." He said the arts have their origin always in some enthusiasm, as love, patriotism or religion. Each work of art sprang irresistibly from necessity. The Greek carved in marble with all his soul, in order that he might symbolise his gods. The Gothic cathedrals were built when the people and the builders were burning with zeal for their faith; love and fear laid every stone. The Madonnas of Raphael and Titian were made to be worshipped; they languished now because their purpose was merely exhibition. In Greece the Demos of Athens divided into political factions upon the merits of Phidias. Viewed from these points of view, the history of art became intelligible. We saw more clearly the force of Ruskin's words that "the art of a nation is the reflex of a nation's thought and feeling." After the conquests of Venice in the East during the thirteenth century a great stimulus was given to artistic development. Objects of art were brought from Constantinople with which to decorate their much-loved city. Towards the close of the fifteenth century Venice reached the summit of her power. Titian and Giorgione raised the standard of painting to its highest level. They were unsurpassed in technique and supreme in colour. Tintoretto and Paul Veronese share the glory of this, the brightest age of painting. The greatness of Titian dwarfs that of his master Bellini, just as Cimabue is overshadowed by his brilliant pupil Giotto. Titian begins an epoch in landscape painting; for the first time we have pictures relieved of the grotesque and the formalism of earlier painters, and here for the first time the word landscape was used. From the thirteenth century landscape painting had been struggling from occupying a secondary position to that of a first. The history of landscape painting may be roughly divided into three periods—Giottesque, Leonardesque and Titianesque. It was important to notice that the painters of the period used sacred subjects not as a means for religious devotion, but to show off their skill, and consequent loss of moral purpose. The first object of the earlier artists was truth and not beauty. Now it was beauty which all artists aspired to render, and not truth as their first object. This change was clearly seen by a glance at the works of Giotto, Angelico and Perugino. It was the result of a contest between beauty and truth, and beauty at the expense of truth triumphed. Tintoretto was for a very short time a pupil of Titian, but master and pupil quarrelled, and they parted company. Tintoretto, owing to the rapidity with which he worked, earned for himself the name of "Furioso." For a long time he suffered much at the hands of the partisans of Titian, and for some time was content to decorate the exteriors of cottages. The first impression, said Tintoretto, when judging pictures, should always be taken into account, as very often the highest beauty disappears upon an ensuing familiarity, and before seeing pictures that were newly exhibited intending visitors should wait until all the arrows of public criticism had been darted at them. Paul Veronese was probably the greatest decorative painter that ever lived. He was reputed to have been a very kindly and pious man; he often painted pictures without fee, as did Fra Angelico. "The Marriage Feast of Cana," now in the Louvre, brought him no more than 40*l.* of our money. It was said of him that while he had not the brilliance and depth of Titian or the prodigious facility of Tintoretto, yet he in some respects surpassed both. He painted sacred subjects as though they happened in his own day and city; every scene that he painted, lofty or humble, was invested with pomp and splendour. In "The Marriage Feast of Cana" we have a sumptuous hall of the richest architecture, lofty columns, long lines of marble balustrades rising against the sky, crowds of people gorgeously dressed, attended by slaves and pages, himself and Tintoretto playing the violoncello, while Titian plays the bass. The bride is supposed to be Eleanor of Austria. The lecture was illustrated by the museum collections.

HAMPTON COURT PALACE PICTURES.

IN consequence of the agitation against the removal of a number of pictures, including several of Raphael's cartoons, from Hampton Court Palace to Kensington Palace, the town clerk of Kingston wrote to Her Majesty's Office of Works inquiring whether such pictures had been removed permanently or merely temporarily, and also asked as to the number of the pictures so removed. To this a reply has been received from the Office of Works stating that the Corporation of Kingston are apparently not aware that the pictures at Hampton Court Palace are the property of the Sovereign, and are exhibited to the public at the pleasure of Her Majesty, who has exercised her right to add to or withdraw from the collection from time to time, and no question ever had been or ever could be raised as to the free exercise of this right. The general purposes committee of the Kingston Corporation have informed Her Majesty's Office of Works that their inquiries on the subject were made in no way whatever with a view to question the rights of Her Majesty in the matter.

TESSERÆ.

Thirteenth-Century Art.

ALL that is noble in modern art took its origin in the thirteenth century. Mind awoke from its paralysis, and step by step rapidly advanced in the development of its theoretic faculties. Knowledge kept pace with idea. Religion and patriotism stamped their image on progress. Art assumed the position of teacher; the people clapped their hands with joy as the new light broke in upon them. The mental movement throughout Europe was universal and sincere. It was a popular movement, and taking root in the hearts of the people, grew and flourished as art as a whole had never done before and has never since. It covered Europe with religious edifices of a character at once the reverence and despair of all after-time. To build as the Mediævalists built, we must feel as they felt. Every stone was laid in sincerity. There is no thought more apparent on these hoary stone records of a believing generation than the sincerity of the spirit which led to their erection. Pride of architecture and vanity of display came in with Renaissance sensualism, but Mediævalism stands in history the solitary exponent of the principle of labour for its true end—the development of the spirit. Hence its greatness. Practical knowledge was often wanting. But the people went to art as little children willing to be taught; she did teach and elevate them, and the people grew and flourished in spiritual truth until the reign of tyrants commenced, and sensualism blasted the fruit before it fully ripened. True it is that political wisdom was imperfectly understood, and civilisation in its most useful character of order was as yet undeveloped. Still commerce flourished, free cities multiplied, science spread, and all would have been well for the social fabric had the people understood the strength of union. Tyranny made them its servants through domestic discord. Aside from the social question, art in their hands was unquestionably lofty. Artists were ennobled in the public heart. They were both its leaders and its servants.

Runciman's Ossian Series.

A fire which broke out at Penscuik House, near Edinburgh, on Friday, damaged the paintings from Ossian by Runciman to such an extent as to make restoration impossible. The artist was the son of an architect who included the painting of ceilings among his professional duties. James Runciman studied painting in France and England, and practised in Rome for five years. On his return to Scotland he received a commission from Sir John Clerk for the decoration of the new mansion at Penicuik. The subjects were taken from Ossian. There were twelve principal paintings, representing some of the finest passages of the poems:—1. Ossian Singing to Malvina. "Daughter of the hand of snow, I was not so mournful and blind when Everallan loved me." 2. The Valour of Oscar. "Behold, they fall before my son, like the groves in the desert when an angry ghost rushes through night, and takes their green heads in his hand. Cairbar shrinks from Oscar's sword, and creeps in darkness behind his stone. He lifted up his spear in secret, and pierced my Oscar's side." 3. The Death of Oscar. "We saw Oscar on his shield; we saw his blood around—silence darkens every face; each turns his face and weeps—the king strives to hide his tears." 4. Death of Agandecca. "Bring hither, says Starno, Agandecca to her lovely king of Morven. She came with red eyes of tears—she came with her loose and raven locks: Starno pierced her side with steel—she fell like a wreath of snow which slides from the rocks of Ronan." 5. The Hunting of Catholda. "Many a hero came to woo the maid, the stately huntress of Termoth wild: but thou lookest careless from thy steps, high-bosomed Strina Donna." 6. The Finding of Corban Cargloss. "Who art thou, voice of night? said Fingal. She tremblingly turned away: a moonbeam glittered on a rock—in the midst stood a stately form, a swan with floating locks." 7. Golchossa mourning over Lamderg. "Three days she mourned beside her love." 8. Oina Morval. "In the hall I lay at night; soft music came to my ear; it was the Maid of Fuarfed wild, she raised the nightly song; for she knew that my soul was a stream that flowed at pleasant sounds." 9. Cormac attacking the Spirit of the Waters. "He rushed among the waves to find the son of the wind; three youths guide the bounding bark. He stood with the sword and shield. When the low-hung vapour past, he took it by the curling head, and searched its dark womb with his steel; the son of the wind forsook the air." 10. The Death of Cormac. "Why comest thou in thy arms to Temora, Cairbar of the gloomy brow? He passed on in his darkness, and seized the hand of the king. Cormac foresaw his death." 11. Scandinavian Wizards making Incantations. "Near is the circle of Loda with the stone of power, where spirits descend by night in dark-red streams of fire; there, mixed with the murmur of the waters, rose the voice of aged men; they call the forms of night to aid them in their war." 12. Fingal engaging the Spirit of Loda. "The spirit of Loda shrieked, as, rolled into himself, he rose upon the wind." The death of Agandecca was reckoned the best. It was commended for anatomical skill, as well as intrepidity of design.

The Mausoleum.

Mausolus, the eldest of the three sons of Hecatomnus, and the most wealthy and powerful prince of the Carian dynasty, died B.C. 353, after a reign of twenty-four years. His widow and sister, Artemisia, celebrated his memory by all the honours which the art and literature of the period could bestow. Contests for eloquence and poetry were instituted, in which Theodectes obtained the prize for his tragedy "Mausolus," and Isocrates was forced to concede the palm to his pupil in oratory, Theopompus. The Mausoleum—"the star-y-pointed pyramid," under which the body of Mausolus was deposited, was probably commenced during his life, as may be inferred from the statements of Eudocia and another late writer. We learn from Pliny that this building was surrounded by thirty-six columns, and surmounted by a pyramid tapering to a point like a meta by twenty-four steps; on the summit was a marble chariot. The whole height was 140 feet, or, according to the reading in some MSS., 100 feet; the length on the north and south sides 63 feet, the two fronts being something less. To adorn its sides with sculpture Artemisia employed four of the most celebrated artists of antiquity—Bryaxis, Timotheus, Leochares, Scopas or, according to Vitruvius, Praxiteles. Pliny tells us that Scopas worked on the eastern side, Bryaxis on the north, Timotheus on the south and Leochares on the west, and that it was principally the merit of their sculpture which made the Mausoleum one of the seven wonders of the world. Artemisia's short reign of two years did not enable her to see the whole of their great design carried into execution, but such was the emulation of the artists, that after her death they completed the work for their own honour and the glory of art. A fifth sculptor, Pythis, executed the marble quadriga by which the whole Mausoleum was surmounted. In the poem "De Spectaculis," attributed to Martial, we find a passing allusion to the marvellous structure of the Mausoleum in the expression, "the Mausolea which hang in the void air;" and Lucian, in a dialogue in which he introduces Mausolus speaking, gives us the more valuable information that the sculptures representing men and horses were of the most admirable art and of the finest marble. From the time of Strabo till the twelfth century we find ancient writers from time to time alluding to the Mausoleum as one of the seven wonders of the world, and as still existing; it is thus noticed in the second century by Pausanias, in the end of the fourth by Gregory of Nazianzus, by Constantine Porphyrogennetus in the tenth, by Eudocia in the eleventh, who must have been misinformed as to its site, for she describes it as built on a mound in a marshy lake; and again in the twelfth century by Eustathius, who speaks of it as still existing—"it was and is a wonder." At what time it fell into ruin cannot easily be ascertained, for it may still have been noted as one of the seven wonders of the world after it was in that state. In the year 1404 the knights of Rhodes took possession of Halicarnassus and built the present citadel, to which they gave the name of the Castle of San Pietro, or Pedro, whence perhaps the Turkish Budrum. Fontanus, the historian of the siege of Rhodes, of which he was the contemporary, states that a German knight named Henry Schlegelholt, began to construct it out of the materials of the Mausoleum. The structure, however, could have been only partially destroyed on this occasion, for in 1472, when Cepio visited Budrum in the expedition of Pietro Moncenigo, he noticed its remains amid the ruins of the town.

Illusions in Egyptian Building.

Egyptian buildings of large extent for the most part rise as we penetrate into them. When we pass from one limb to another we generally ascend a few steps. Sometimes, however, the ascent is more gradual. At the Ramesseum and again at Edfou the level of the ground rises from column to column, each column being placed on a low step a little above the preceding one. The effect is similar to that produced in a modern theatre by the slope of the floor to the back of the stage. It is aided by the general arrangement of doors and pylons, which diminish in size as we advance. An illusive perspective is thus obtained, the vistas of pillars seem twice the length that they really are, and the entire building appears to be of a length almost interminable.

"Spanish Gold."

In the book of recipes relating to the arts, known as 'Theophilus de Diversis Artibus," which probably dates from the twelfth century, is one for producing "Spanish Gold." It is as follows:—"There is also a gold called Spanish gold, which is composed from red copper, powder of basilisc, and human blood and acid. The Gentiles (*i.e.* the Arabs of Spain, who were probably skilful in this art) make basiliscs in this manner. They have underground a house walled with stones everywhere, above and below, with two very small windows, so narrow that scarcely any light can appear through them; in this house they place two old cocks of twelve or fifteen years, and they give them plenty of food. When these have become fat, through the heat of their good condition, they agree together and lay eggs; which being laid, the cocks are taken out and toads are placed in, which may hatch the eggs, and to which bread is given for food. The eggs being hatched, chickens issue out, like hens' chickens, to which after seven days grow the tails of serpents, and immediately, if there were not a stone pavement to the house, they would enter the earth. Guarding against which, their masters have round brass vessels of large size, perforated all over, the mouths of which are narrow, in which they place these chickens, and close the mouths with copper coverings and inter them underground, and they are nourished with fine earth entering through the holes for six months. After this they uncover them, and apply a copious fire until the animals inside are completely burnt; which done, when they have become cold, they are taken out and carefully ground, adding to them a third part of the blood of a red man, which blood has been dried and ground. These two compositions are tempered with sharp acid in a clean vessel; they then take very thin sheets of the purest red copper and anoint this composition over them on both sides and place them in the fire. And when they have become glowing they take them out and quench and wash them in the same confection; and they do this for a long time until this composition eats through the copper, and it takes the colour of gold. This gold is proper for all work." Mr. Ruskin considers the word "basiliscus" should have been translated "cockatrice" instead of "basilisk." According to Mr. Hendric the language of Theophilus is symbolical, but Mr. Ruskin says, "We have no doubt the monk wrote what he had heard in good faith, and with no equivocal meaning; and we are even ourselves much disposed to regret and resist the transformation of toads into nitrates of potash and of basilisks into sulphates of copper."

Æsthetic Evolution in Man.

Children and early races care little for nature; it is only among the most cultivated classes of the most advanced types that the æsthetic faculty reaches this its highest and most disinterested stage. All art is at first frankly anthropinistic. Early painting, such as that of the Egyptians and Assyrians, dealt only with human and animal figures; it represented men and women, kings and queens, gods and goddesses, hunters and lions, herdsmen and cattle; but it never attempted landscape or scenery. Mediæval art in its early stages only changed its characters to saints and angels, priests and bishops. But as it progressed from its Byzantine type it also gradually gave more and more importance to accessories in the background, in which hills, cities, rocks and trees began to play a conspicuous part. At last, after the Renaissance landscape-painting became a recognised and separate branch of pictorial art, first with an admixture of figures, wild animals or still life, but afterwards in a more fully differentiated form, with all its varieties of marine, architectural, forestine or river subjects, its waterfalls, its clouds, its rocks, its valleys and its heather-clad hills. Even in our own day very young people and the uncultivated classes care little for any but figure-painting; children pass over the landscapes in their picture-books, and fasten at once upon the man on horseback or the boy with a top. The first object they try to draw for themselves is a human face. So, too, with literature. All primeval literary works consist of a legend, a story historical or mythical, the tale of what some man or some god has done. To the very end novels, plays and biography, the most human in their interest, are the favourite forms of literature. Poetry at first is all epic or narrative; lyric and descriptive verse only come in at a much later point of evolution, and are seldom thoroughly relished by any but the most cultivated. "Tell me a story," says the youngest child. "History is the most delightful of studies," says the Roman philosopher. We may take the Homeric poems as an excellent illustration of human æsthetic feeling in this its naïvely anthropinistic stage. In them we find human beauty abundantly recognised and admired. Helen, for whose sake Trojans and Achaians may well contend through ten long years; Paris, on whose eyes and hair Aphrodite pours the gift of loveliness; the golden locks of Achilles, the white arms of Hera, the hazel eyes of Athene, the fair cheeks of Briseis. There is much admiration, too, for works of primitive art—the golden-studded sceptre, the polished silver-tipped bow of horn, the jewelled girdle of Aphrodite, the wrought figures on Achilles's shield, the embroidered pattern on the many-coloured peplum which Theanô offers on the knees of Athene. The palaces of Priam and of the Phæacians excite the warmest praise of the rhapsodist. But of scenery there is little said, as is also the case in the Hebrew poets. The garden of Alcinous is, after all, but a well-ordered fruit orchard. Nature is only alluded to as a difficulty to be overcome by man—the barren, harvestless sea; the high, impassable mountains; the forests where roam the savage wild beasts.

Individuality in Architecture.

There never was a fallacy more injurious to architecture than the sophism, "De gustibus non est disputandum." There may be, indeed, a wide range and liberty allowed in matters of taste, but there must be a limit somewhere. Where can that limit be better placed than as a barrier to overstepping all reasonable analogy and the "modesty of nature?" The great mass of the people may not, perhaps, judge of architecture by the abstract principles which we have here feebly attempted to express, but the impressions produced on their minds, though independent of logical deduction, will be adverse to all architecture in which antagonistic effects are combined, and individual members are applied to purposes for which they were never intended. There is in us all an universal admiration of fitness, consistency and order which arises from the contemplation of the works of nature, and this inherent faculty will, when the trammels of usage are overcome, be applied to the examination of works of art. The criticism will be applied by the great mass of the people instructively, unconsciously almost, and independently of all set rules; but, being based on the natural faculties of the mind, will lead to conclusions which, as far as they extend, will be as incontrovertible as those of the profoundest and most mature judgment.

The Decoration of St. Paul's.

In the early part of 1774 the members of the Royal Academy, conscious of the necessity of making some effort for extricating historical painting out of the confused mass of meaner arts with which it was indiscriminately jumbled, did, with the consent of the Dean and Chapter, select six painters to execute each a large picture of Scripture history, which he had the liberty of presenting to the Cathedral of St. Paul; but obstacles arose which prevented its taking effect. This project was frustrated, as is well known, by Dr. Terrick, then bishop of London. Dr. Newton, bishop of Bristol, and dean of St. Paul's, when he applied to Dr. Terrick for his consent—"the old bishop," says Northcote, "patiently heard him to the end of his speech, when, assuming a very grave countenance, he replied, "My good Lord Bishop of Bristol, I have already been distantly and imperfectly informed of such an affair having been in contemplation; but as the sole power at last remains with myself, I therefore inform your lordship that whilst I live and have the power I will never suffer the doors of the metropolitan church to be opened for the introduction of Popery into it."

The Ancient Adze.

A proverbial expression of the Romans was derived from the use of the adze or ascia. The phrase "Jam hoc opus est exasciatum" means "This work is now begun," because the rough-hewing of the timber by means of the ascia, the formation of balks or planks out of the natural trunk or branches of a tree, was the first step towards the construction of an edifice. Vitruvius and Palladius give directions for using the ascia in chopping lime and mixing it so as to make mortar or plaster. For this purpose we must suppose it to have had a blunt unpolished blade and a long handle. In fact it would then resemble the modern hoe as used either by masons and plasterers for the use just specified, or by gardeners and agriculturists for breaking the surface of the ground and eradicating weeds. Accordingly Palladius in his enumeration of the implements necessary for tilling the ground, mentions hoes with rakes fixed to them at the back. Another instrument, called the Acisculus, was chiefly used by masons, whence, in the ancient glossaries, Aciscularius is translated a stone-cutter. The acisculus, or pick, was a little curved and it terminated in a point in one direction, and was shaped like a hammer in the other. Its helve was inserted so that it might be used with the same kind of action as the adze. Also, as the substantive ascia gave origin to the verb exasciare, meaning to hew a smooth piece of wood out of a rough piece by means of the adze, so acisculus gave origin to exacisculare, meaning to hew anything out of stone by the use of the pick. Various monumental inscriptions, published by Muratori, warn persons against opening or destroying tombs by this process.

GENERAL.

Professor Montelius has been appointed Yates Lecturer in Archæology at University College, London, for 1900.

The Prince of Wales will to-day lay the foundation-stone of the new buildings of the Royal School of Art Needlework at South Kensington, which will cost 34,000*l.* Mr. F. B. Wade is the architect.

The Elizabethan Mansion House known as Brantinghamthorpe Hall, the Yorkshire residence of the late Mr. Christopher Sykes, is to be offered for sale at York early in the ensuing month.

Mr. G. Wise has been elected manager of the Works Department of the West Ham Town Council, as a large hospital and workmen's dwellings are to be carried out without the aid of a contractor.

The Society of Arts has affixed memorial tablets on the following houses:—Belmont, Roslyn Hill, Hampstead, formerly the residence of Sir Harry Vane; No. 50 Wimpole Street, where Mrs. Browning lived, and from which house she was married. Bolton House, Windmill Hill, for many years the residence of Joanna Baillie, the dramatist, will also be similarly distinguished.

A Meeting of representatives of the trade unions chiefly affected by the present dispute in the building trade has been held in Manchester. A week ago these representatives met and drew up a basis for a joint conference in the establishment of district boards of conciliation, with a central board to which appeal could be made if necessary. During the week the scheme has been submitted to and has received the sanction of the executive committees of the unions concerned.

The Top of a column of Phrygian marble, 4 feet thick, standing apparently *in situ*, has been discovered in the Forum of Rome on the site of the basilica Emilia, now being excavated by the Italian Government in consequence of the munificent gift of 2,400*l.* recently made by Mr. Lionel Phillips, through the instrumentality of Mr. St. Clair Baddeley. The column is believed to form part of the original structure of the basilica.

The Company of Makers of Playing Cards offer the H. D. Phillips prize of 10*l.* 10*s.* for the best special design for the backs of playing cards intended for presentation by the company to its guests at the inauguration banquet of the masters and wardens in November. Three other prizes of 5*l.* 5*s.*, 3*l.* 3*s.* and 2*l.* 2*s.* respectively are offered by the company for the three next best designs. The designs must be in colour, and such as can be reproduced effectively in not more than six printings. Each design must be on a separate card of the exact size of a playing card, viz., 3 9-16 inches by 2½ inches, and not mounted. The arms of the company and of the City of London are to form a portion of the design.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* are offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed 30,000*l.* Mr. S. Stead, Municipal Offices, Harrogate.

PLUMSTEAD.—July 27.—Designs are invited for proposed new municipal buildings and public library, to cost about 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

WAKEFIELD.—June 30.—The Wakefield Industrial Society, Limited, offers three prizes for the best architectural designs for new central buildings most suitable to meet their requirements. Prizes: (1) 50*l.*, (2) 30*l.*, (3) 20*l.* Full particulars at the Office, Bank Street, Wakefield.

CONTRACTS OPEN.

ACCRINGTON.—June 26.—For erection of the proposed new drill hall, Milnshaw. Mr. Henry Ross, 15 Cannon Street, Accrington.

ALNWICK.—June 26.—For repairs to various highway bridges. Mr. James Short, highway surveyor.

ASHINGTON.—June 24.—For erection of business premises, at New Hirst, Ashington. Mr. John Magin, secretary, Co-operative Society, Ashington.

ASHTON-UNDER-LYNE.—For erection of a detached villa residence. Mr. T. D. Lindley, architect, Market Avenue, Ashton-under-Lyne.

BAKEWELL.—For erection of retort-house at the Gasworks. Mr. Vernon R. Cockerton, clerk, Bakewell.

BARNSLEY.—June 27.—For erection of two dwelling-houses, &c., in Grafton Street. Messrs. Wade & Turner, architects, 10 Pitt Street, Barnsley.

BARROW-IN-FURNESS.—June 28.—For extensions to the sewage pumping-station at Salthouse. The Borough Engineer, Town Hall, Barrow-in-Furness.

BARROW-IN-FURNESS.—June 28.—For extensions to the existing electricity works in Buccleuch Street. The Borough Engineer, Town Hall, Barrow-in-Furness.

BARTON-ON-HUMBER.—For rendering of the walls of a gasholder tank, and for the puddling and concreting of the bottom of the same. Mr. W. H. Goy, secretary to the Gas Company, Barton-on-Humber.

BEDFORD.—June 30.—For conversion of the old vagrant wards into receiving wards, and for the construction of new closets, &c., at the workhouse. Mr. Henry Young, architect, 35 Maitland Street, Bedford.

BIRKENHEAD.—June 26.—For alterations at the meat store of the workhouse at Tranmere. Mr. John Carter, clerk, 45 Hamilton Square, Birkenhead.

BRIGHTON.—June 27.—For internal and external repairs, painting, &c., to Board schools during the month of August. Messrs. T. Simpson & Son, 16 Ship Street, Brighton.

BRIGHTON.—June 30.—For construction of an underground convenience, with works connected therewith, around the base of the clock tower, Queen's Road, Brighton. Mr. Francis J. C. May, Town Hall, Brighton.

BRIGHTON.—July 27.—For alterations and additions to the public library, museum and art gallery on the Pavilion estate. Mr. Francis J. C. May, Town Hall, Brighton.

BUTTERSHAW.—June 29.—For erection of eight houses. Messrs. Brayshaw & Dixon, architects, Bowling Old Lane, Bradford.

BUXTON.—For erection of schoolroom, Ladmanlow. Messrs. Garlick & Flint, architects, 5 Terrace Road, Buxton.

CARDIFF.—June 30.—For alterations to Stacey Road Board school. Mr. E. Bruton, architect, 15 Queen Street, Cardiff.

CARDIFF.—June 30.—For erection of a bank and office premises in Queen Street. Messrs. James & Morgan, Charles Street Chambers, Cardiff.

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CARLISLE.—June 26.—For erection of seven houses in Wigton Road. Mr. James Leslie, architect, 71 Broad Street, Carlisle.

CARLISLE.—June 26.—For alterations to w.c. accommodation to ward annexe and doctor's house. Mr. Geo. Dale Oliver, county architect, 5 Lowther Street, Carlisle.

CHATHAM.—June 30.—For erection of a post office at Chatham. Messrs. Widnell & Trollope, architects, Broad Sanctuary Chambers, Westminster, S.W.

CORNWALL.—June 28.—For restoration of the tower of St. Odulph's Church, Pillaton. Mr. Henry Geo Luff, architect, 64 Chapel Street, Devonport.

CREWE.—June 29.—For erection of a chimney-stack and buildings, including iron roofwork and water-tank, for the electricity works, Edleston Road. Messrs. Hopkinson & Talbot, architects, 29 Princess Street, Manchester.

DERBY.—July 6.—For erection of the new depôt, Nottingham Road. Mr. John Ward, borough engineer, Babington Lane, Derby.

EDINBURGH.—June 26.—For extension of boiler-house, central station. Mr. Thomas Hunter, W.S., town clerk, City Chambers, Edinburgh.

ELLERTON.—For rebuilding a cottage. Mr. Joseph Tate, Ellerton.

FAREHAM.—July 12.—For alterations and additions at police station and petty sessional court. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

FARNBOROUGH.—July 4.—For erection of a cottage at the sewage farm. Mr. R. Walter Knapp, surveyor, Town Hall, Farnborough.

GLOUCESTER.—June 26.—For erection of two cottages on the Box farm, Awre. Mr. Thomas Cadle, surveyor, Lynwood, Denmark Road, Gloucester.

GREAT HORTON.—June 27.—For erection of a shop and house in High Street. Mr. Sam Spencer, architect, 344 Great Horton Road, Great Horton, Bradford.

HALIFAX.—June 27.—For erection of 11 houses at Ovenden Wood, adjoining Wheatley station. Messrs. Jackson & Fox, architects, 7 Rawson Street, Halifax.

HALIFAX.—June 28.—For erection of a detached villa residence on the Greenroyd estate. Mr. Medley Hall, architect, 29 Northgate, Halifax.

HEREFORD.—For erection of extensive business premises. Mr. W. W. Robinson, architect, 10 King Street, Hereford.

ILKLEY.—June 26.—For alterations and additions to Burnside Villa. Mr. Herbert Hodgson, architect, Old Bank Chambers, Bradford.

IRELAND.—For restoration of the manor house, Moneymore. Mr. Henry Byrne, Moneymore.

IRELAND.—For erecting presbytery and offices at Ballygran, co. Limerick. Mr. J. Carroll, architect, Killacolla, Ballygran, Charleville.

IRELAND.—June 27.—For resheeting with ½-inch boards the nurses' room in the fever hospital, Ardee. Mr. T. B. Dromgoole, clerk.

IRELAND.—June 27.—For erection of stationmasters' houses at their Bundoran and Belleek stations, for the Great Northern Railway (Ireland) Company. Mr. T. Morrison, secretary, Amiens Street Terminus, Dublin.

IRELAND.—June 28.—For partial reconstruction of the bridge over River Blackstaff at Great Victoria Street. Sir Samuel Black, town clerk.

IRELAND.—June 29.—For erection of a dispensary residence in the townland of Gurraneboy, Cork. Mr. D. J. Coakley, Board Room, Workhouse.

IRELAND.—June 29.—For repairing and painting Liberty Street dispensary and the repairing of Carrignavar dispensary, Cork. Mr. D. J. Coakley, Board Room, Workhouse.

IRELAND.—June 30.—For erection of two labourers' cottages at Leixlip, Celbridge. Mr. L. A. McDonnell, 33 Kildare Street, Dublin.

IRELAND.—July 6.—For erection of a lighthouse, keeper's dwelling, stores, fog-signal house, outbuildings, walls, roads, &c, on Blackhead, co. Antrim. Drawings and specifications may be seen at the Irish Lights Office, Dublin, or at the coastguard station at Whitehead, co. Antrim.

IRELAND.—July 10.—For erection of a new post-office at the Curragh Camp. Mr. H. Williams, secretary, Office of Public Works, Dublin.

KEIGHLEY.—For additions to Vulcan Works, Strawberry Street. Messrs. John Judson & Moore, architects, York Chambers, Keighley.

KEIGHLEY.—June 27.—For erection of municipal offices in Bow Street. Mr. W. H. Hopkinson, borough engineer, Low Bridge, Keighley.

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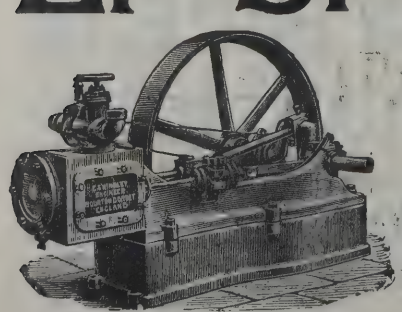
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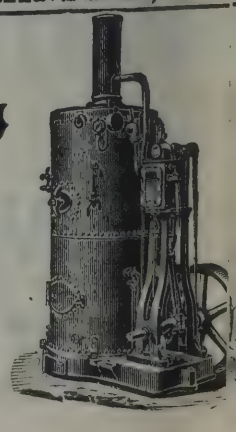
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[*Mention this Journal.*

KETTLESHULME.—For erection of a Wesleyan chapel and school. Mr. C. W. Johnson, architect, Whaley Bridge.

KINGSTON.—For erection of two shops in London Road. Mr. Spratt, architect, 90 Queen Street, Cheapside, E.C.

KNIGHTON.—June 27.—For erection of village hall. Mr. George A. Craig, architect, Market Drayton.

LEEDS.—For erection of educational buildings at Garforth. Messrs. Smith & Tweedale, architects, 12 South Parade, Leeds.

LEEDS.—For erection of a clothing factory. Messrs. J. M. Fawcett & Son, architects, Basinghall Chambers, Leeds.

LEEDS.—June 26.—For erection of sixteen houses, Bagby Fields. Messrs. James Charles & Sons architects, 98 Albion Street, Leeds.

LEEDS.—June 26.—For slating the roof of the new coal store at the New Wortley Gasworks. Mr. R. H. Townsley, general manager, Municipal Buildings, Leeds.

LEEDS.—June 30.—For erection of shops and warehouse, &c., in George Street. Mr. Percy Robinson, architect, 72 Albion Street, Leeds.

LEWES.—July 6.—For erection of a temporary timber bridge across the river Ouse, in the parish of Lindfield, for taking down the stone arch walls, &c., and rebuilding new abutment walls, &c., in connection with the reconstruction of Lindfield Bridge, and for taking down and rebuilding a circular brick culvert 8 feet in diameter, known as Ridgewood Bridge. Mr. F. J. Wood, county surveyor, County Hall, Leeds.

LONDON.—June 29.—For the performance of certain works at the Highbury Relief Offices, 10 Corsica Street, St. Paul's Road. Mr. William Smith, architect, 65 Chancery Lane, W.C.

LOUGHBOROUGH.—For alterations to the Blue Boar inn, stables, &c., The Rushes, contiguous to the new depôt. Mr. Albert H. Walker, borough engineer.

MANCHESTER.—June 27.—For erection of stables at Oldham Road Goods Station, for the Lancashire and Yorkshire Railway Company. Mr. C. W. Bayley, secretary, Hunt's Bank, Manchester.

MANCHESTER.—June 27.—For raising platforms and erection of station buildings at Clifton Junction station, for the Lancashire and Yorkshire Railway Company. Mr. C. W. Bayley, secretary, Hunt's Bank, Manchester.

MANCHESTER.—July 1.—For the erection of the following buildings at Monsall Hospital :—Erysipelas block, dining halls, kitchen, &c., and servants' bedrooms. The City Surveyor, Town Hall, Manchester.

MORECAMBE.—June 28.—For erection of a home of rest, for the Girls' Friendly Society, at Marine Road, Bare. Mr. Edward C. H. Maidman, architect, 13 South Charlotte Street, Edinburgh.

MORECAMBE.—July 1.—For alterations to house and shop and the erection of new printing works in Queen Street. Mr. A. Lancelot Lang, architect, 12A Pedder Street, Morecambe.

NEWCASTLE-UPON-TYNE.—June 26.—For erection of buildings for the Weights and Measures Department in City Road. Mr. Stockwell, architect, Pilgrim Street, Newcastle.

PADIHAM.—June 26.—For erection of banking premises in Burnley Road. Messrs. Wm. Waddington & Son, architects, Mansfield Chambers, Manchester.

PRESTON.—July 10.—For erection of the new County Sessions Hall. Mr. Henry Littler, architect, County Offices, Preston.

RAINHAM.—July 1.—For erection of engine and boiler house, chimney-shaft, and a covered brick reservoir to hold 300,000 gallons, on a site about one mile from Rainham Station. Mr. W. Leonard Grant, architect, Sittingbourne.

RIPON.—For plastering twenty-two cottages. Mr. William Sixton, Ripon.

SALFORD.—June 30.—For erection of offices and battery sub-station at the electric light works in Strawberry Road, Pendleton. Mr. John Holt, architect, 6 St. Mary's Gate, Manchester.

SANDBACH.—July 8.—For erection of a detached villa in Middlewich Road. Mr. Alfred Price, architect, Sandbach.

SAXMUNDHAM.—July 13.—For installing gas-mains and fittings in the schools and painting outside of schools, and including other works. Mr. George Peskett, clerk, Saxmundham.

SHEFFIELD.—For construction of additional cellaring, &c, at the Old Albion Brewery, Ecclesall Road. Messrs. Hall & Fenton, architects, 14 St. James's Row, Sheffield.

SHEFFIELD.—June 30.—For erection of public elementary school at Morley Street, Lower Walkley. Messrs. Hemsoll & Paterson, architects, 18 Norfolk Row, Sheffield.

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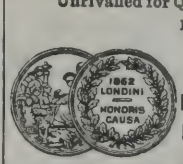
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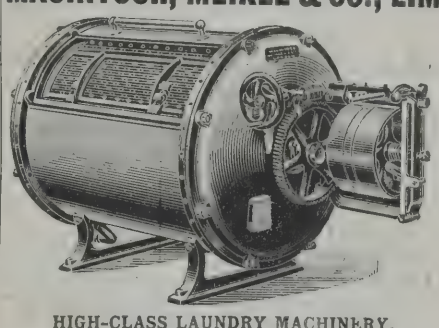
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SHEFFIELD.—July 3.—For erection of infectious diseases hospital at Lodge Moor, Sheffield, comprising six pavilions for scarlet-fever patients, two isolation pavilions, one receiving pavilion, administrative buildings, nurses' and maids' homes, water-tower, &c. Messrs. Flockton, Gibbs & Flockton, architects, 15 St. James's Row, Sheffield.

SLAITHWAITE.—June 27.—For erection of twelve dwelling-houses in Varley Road. Mr. J. Berry, architect, 9 Queen Street, Huddersfield.

SLEDMERE.—For alterations and additions to Sledmere Vicarage. Messrs. Brodrick, Lowther & Walker, architects, Hull.

SCOTLAND.—For erection of four-storey tenements at High Street, Kinghorn, consisting of shops and dwelling-houses. Messrs. Swanston & Leggie, architects, Kirkcaldy.

SCOTLAND.—June 26.—For additions and alterations on shop and houses in High Street, Elgin. Mr. R. B. Pratt, architect, Town and County Bank Buildings, Elgin.

SCOTLAND.—June 26.—For erection of a dwelling-house and shop in Main Street, Buckpool. Messrs. Sutherland & Jamieson, architects, Elgin.

SEDBERGH.—June 27.—For extensions and alterations to the Black Bull Royal Hotel. Mr. Stephen Shaw, architect, Kendal.

ST. ALBANS.—June 27.—For erection of farm buildings and farm block, an isolation hospital, and six cottages on the asylum estate at Hill End. Mr. George T. Hine, architect, 35 Parliament Street, Westminster.

STOCKPORT.—June 29.—For erection of a fire station, including engine-house block, stable block, hose-drying tower, cottages for firemen, workshops and other buildings, paving, &c., at the Mersey Mill site, Wellington Road. Mr. John Atkinson, surveyor, St. Petersgate, Stockport.

SWINDON.—June 30.—For painting and repairs at several schools, for the Swindon School Board. Mr. J. Clark, 130 Princes Street, Swindon.

THORNHAM.—June 26.—For repairing and slating the roof of Thornham Church. Specifications may be seen on application to the Vicar or Churchwardens.

WALES.—For alterations and renovations to the Crown and Sceptre, Mardy, also to the Market Tavern, Abergavenny. Mr. B. J. Francis, architect, Abergavenny.

WALES.—For rebuilding the Bell inn, Abertillery, Mon. Messrs. Swalwell & Creighton, architects, Steam Packet Chambers, Dock Street, Newport, Mon.

WALES.—June 26.—For erection of a Wesleyan church at Llandilo. Mr. J. W. Jones, architect, Llandilo.

WALES.—June 26.—For erection of a small addition to the Carmarthenshire Infirmary, Pontcarreg. Mr. Howell Howell, secretary, Pontcarreg.

WALES.—June 26.—For erection of three classrooms, cloak-room and other works to the Cwmyrdderch infant school, Cwm, near Ebbw Vale, Mon. Mr. R. L. Roberts, architect, Victoria Chambers, Abercarn.

WALES.—June 28.—For extension of Girls' Intermediate school, Abergavenny. Mr. E. A. Johnson, architect, Abergavenny.

WALES.—June 29.—For erection of a cart bridge near Dolwen, Llanerfyl. Mr. W. A. Pughe, clerk, Llanfyllin.

WALES.—July 12.—For erection of an infectious diseases hospital at Cymmer. Mr. George F. Lambert, architect, Bridgend.

WALTON-ON-THE-NAZE.—June 28.—For erection of a floral hall and conservatory buildings in the Round Garden. Mr. Chas. H. M. Mileham, architect, 1 Lincoln's Inn Fields, London, W.C.

WANDSWORTH.—June 29.—For erection of baths in James's Yard. Mr. Frank E. S. Braby, clerk, Town Hall, Wandsworth.

WARDLE.—June 26.—For slating of one side of the Board-room, Wardle, Lancs., and pointing of two other sides thereof, and other work in connection therewith. Mr. Samuel Brierley, surveyor (*pro tem.*) to the Council, Board-room, Wardle.

WEST HAM.—July 4.—For cleansing, repair and painting of fourteen schools, to be executed during the summer vacation from July 28 to August 28, 1898. Mr. William Jacques, architect, 2 Fen Court, E.C.

WICKHAM MARKET.—July 3.—For reconstruction of the sanitary and rainwater arrangements at the union house, Wickham Market. Mr. Henry J. Wright, architect, 4 Museum Street, Ipswich.

WILLESDEN GREEN, N.W.—June 30.—For erection of three pairs of semi-detached villas, Cranhurst Road. Messrs. Allen & Hoar, surveyors, Inglewood House, West Hampstead.

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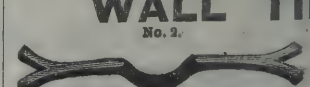
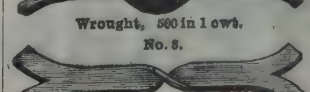
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WINCHESTER.—June 26.—For erection of a workhouse for the Hursley Union. Messrs. Cancellor & Hill, architects, 12 Jewry Street, Winchester.

WITNEY.—June 28.—For erection of a blanket manufactory. Messrs. John Kirk & Sons, architects, Dewsbury.

WOOLWICH.—June 27.—For erection of lodge, shelter and mortuary in Sun Street. Messrs. Church, Quick & Whincop, architects, William Street, Woolwich.

YORK.—June 27.—For alterations and enlargement of the Yorkshire Bank Office in High Ousegate. Messrs. Bedford & Kitson, architects, Greek Street Chambers, Leeds.

TENDERS.

ALNWICK.

For construction of 2,900 yards of 6-inch, 9-inch, 12-inch and 15-inch pipe sewers, with manholes, &c. Mr. GEOFFREY WILSON, surveyor.

J. Scott	£1,450	0	0
W. Weatheritt	1,247	0	0
G. Maclaren	1,166	4	6
R. Johnson	1,051	7	4
J. Thompson	973	10	0
W. CRAIG, 23 School Street, Gateshead-on-Tyne (*accepted*)	966	4	6

ALTON.

For rebuilding the White Hart inn, Holybourne, near Alton, Hants. Mr. REGINALD A. CROWLEY, architect, 22 High Street, Croydon.

B. E. Nightingale	£2,475	0	0
Tompsett & Co.	2,055	0	0
J. H. & E. Dyer	1,947	0	0

BRISTOL.

For plumbing work at the Moorfields school, St. George. Mr. JOHN MACKAY, architect, Kingswood.

J. Wilkins	£438	0	0
G. F. Tuckey	427	0	0
A. S. Scull	419	0	0
S. H. Povey	415	0	0

BRISTOL—*continued.*

For alterations and additions to Kingswood Church. Mr. E. H. LINGEN BARKER, architect.

Cornock	£3,806	0	0
Bindon	2,273	0	0
Bowers & Co.	2,250	0	0
Stephens, Bastow & Co.	2,208	0	0
Lewis & Co.	1,974	0	0
Davis	1,960	0	0
Hayes	1,932	0	0
COWLIN & SONS, Bristol (*accepted*)	1,896	0	0
Adams & Jefferies	1,731	0	0
Barnes (*withdrawn*)	1,605	0	0

For erection, alteration and extension of boot factory, Park Road, Kingswood. Mr. JOHN MACKAY, architect, Kingswood.

E. Walters.	£3,300	0	0
M. Hatherly	3,253	0	0
W. Cowlin & Son	3,185	0	0
G. Humphreys	3,160	0	0
Edwards Bros.	3,050	0	0
S. Williams	2,995	0	0
W. G. BINDON, Avonmouth (*accepted*)	2,688	0	0
S. Milsom	2,370	0	0
J. Wiltshire	2,300	18	2

For erection of a mission church at the Chessels, Bedminster. Messrs. P. MUNRO & Son, architects, St. Stephen's Chambers, Baldwin Street, Bristol.

Cowlin & Son	£2,070	0	0
W. G. Bindon	1,907	0	0
A. J. Beaven	1,839	0	0
E. WALTERS, Bristol (*accepted*)	1,768	0	0

For erection of a school at Luckwell Lane, Bedminster. Mr. H. C. M. HIRST, architect, 30 Broad Street, Bristol.

W. Church	£12,494	0	0
C. A. Hayes	11,650	0	0
H. A. Forse & Sons	11,500	0	0
W. G. Bindon	11,387	0	0
E. Walters	11,260	0	0
Love & Waite	10,730	0	0
E. Love, Redland, Bristol *	10,500	0	0

* Accepted at £10,480.

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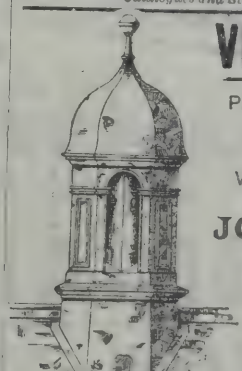
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BRISTOL—*continued.*

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W. G. Bindon	£109 0 0
E. Walters	50 0 0
E. Love	20 0 0
Love & Waite	20 0 0

Increase if Broomhall tiles are used.

H. A. Forse & Sons	219 0 0
C. A. Hayes	215 0 0

CLAY CROSS.

For erection of new offices, High Street, Clay Cross, for Mr. Ernest Oxley, M.S.A., architect.

JOHN MADIN (*accepted*) £400 0 0

COVENT GARDEN.

For alterations to offices, for Messrs. Barr & Son, King Street.

W. VANSTONE (*accepted*) £136 0 0

DARLINGTON.

For erection of an electric-lighting station.

Accepted tenders.

R. Blackett & Son, excavator, mason, bricklayer, plasterer, carpenter and joiner, slater and painter's work.
Teasdale Bros, ironfounders.
T. Lishman, plumber and glazier.

DARTFORD.

For erection of Cranpit sewerage works.

Pedrette & Co.	£584 0 0
A. W. Porter	579 0 0
Adams	549 0 0
G. BELL, Tottenham (*accepted*)	535 0 0

DATCHET.

For cleaning and painting the iron bridge spanning the Thames between Datchet and Old Windsor. Mr. JOSEPH MORRIS, county surveyor, Reading.

Butcher & Hendrey	£170 0 0
W. Dudley	115 0 0
E. A. SMUGGS, Windsor (*accepted*)	95 5 0

DEWSBURY.

For erection of two semi-detached houses in Northfield Road. Messrs. JOHN KIRK & SONS, architects, Dewsbury.

Accepted tenders.

C. Whitehead & Sons, mason.
W. H. Clegg, joiner.
B. Scott, plumber.
W. R. Thompson, slater.
J. Richardson, plasterer.
N. Ramsden, painter.

DOVER.

For painting and decorating portions of the Connaught Hall, &c. Mr. HENRY E. STILGOE, borough engineer.

W. S. Long	£406 0 0
W. F. HADLOW, Biggin Street, Dover (*accepted*)	388 10 0

For erection of house and shop at Cherry Tree Avenue.

A. J. Dawkins £700 0 0

DURHAM.

For alterations at Coxhoe Primitive Methodist chapel.

Accepted tenders.

N. Mohon, Coxhoe, mason and plaster	£186 10 0
T. Sanderson, Coxhoe, joiner	126 10 0
T. Morgan, Spennymoor, decorator	60 0 0
D. Nelson, Sunderland, slating	35 0 0

ESSEX.

For erection of new mixed schools for 488 children at Cowslip Road, Woodford, for the Woodford School Board. Mr. EDWARD TIDMAN, architect, Westminster. Quantities supplied.

		A.
John Shelbourne & Co.	£10,990 0 0	£59 0 0
General Builders, Limited	8,300 0 0	99 0 0
A. E. Symes	8,300 0 0	75 0 0
W. Lawrance & Son	7,999 0 0	44 0 0
W. Blackburn	7,641 0 0	49 11 6
W. H. Critcher	7,524 0 0	50 0 0
W. H. T. Kelland	7,480 0 0	27 10 0
C. BEACH & Co., Cambridge Road, New Wanstead (*accepted*)	7,309 9 10	80 0 0

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JAMES W. BUTLER, Manager and Secretary.

GREENOCK.

For erection of a Roman Catholic chapel at East End. Messrs. PUGIN, architects, London.

Accepted tenders.

R. Aitkenhead & Sons, Greenock, mason and brick work.
Allan & Baxter, Glasgow, joiner work.
D. Phillips & Sons, Greenock, slater work.
J. S. Barclay, Greenock, plumber work.
Jas. M'Creadie, Greenock, plaster work.
Kean & Wardrop, Glasgow, tile work.
Robert Mathieson, Greenock, painter work.
Guthrie & Wells, Glasgow, heating apparatus.

GREENWICH.

For sinking new well with engine and pumps, for the Guardians. Mr. THOS. DINWIDDY, architect.

TILLEY & SON (*accepted*)	£3,250 0 0

GLOUCESTER.

For additions to the Spread Eagle hotel. Mr. J. FLETCHER TREW, architect, County Chambers, Gloucester.

W. P. Lewis	£1,934 10 9
Freeman & Jones	1,920 0 0
Ford	1,887 0 0
Bailey & Dean	1,688 11 2
Gurney Bros.	1,500 0 0

For rebuilding the Golden Heart hotel, Tedworth. Mr. J. FLETCHER TREW, architect, Gloucester.

Bailey & Dean	£1,071 0 0
Gurney Bros.	993 0 0
A. H. Lewis	964 4 0
Freeman & Jones	960 0 0

HAMPSTEAD.

For erection and completion of No. 2 block Victoria Mansions, Sumatra Road, for Mr. C. G. Crowden. Messrs. PALGRAVE & Co., architects, Victoria Street, S.W. Quantities by Mr. GEORGE STEPHENSON.

I. Dolman & Co.	£7,943 0 0
G. Brown	7,050 0 0
R. Hockley	6,336 10 0
G. Wilkinson	6,025 0 0
General Builders, Limited	5,800 0 0

HERNE COMMON.

For additions and alterations at the union workhouse.

T. TURNER, Sholden, Deal (*accepted*)	£3,671 0 0

HEYWOOD.

For erection of store-sheds, stonemasons' shed and storekeeper's office at Hind Hill. Mr. J. AINSWORTH SETTLE, borough engineer.

D. DIGGLE (*accepted*).

IPSWICH.

For forming and making-up roads and paths on new building estate at Shotley. Mr. T. MILLER, engineer, Thorofare, Ipswich.

G. Double	£1,709 7 6
J. MORAN & SON, Harwich (*accepted*)	1,695 0 0
F. Bennett	1,679 14 5

IRELAND.

For erection of a rectory at Portrush. Mr. HENRY SEAVER, architect, 128 Royal Avenue, Belfast.

J. Dallas, Ballymena	£1,457 0 0
J. Lowry & Son, Belfast	1,450 0 0
J. Lees, Belfast	1,280 0 0
A. Graham, Portrush	1,169 0 0

The consideration of the lowest tender was deferred.

KEIGHLEY.

For erection of eight separate water-closets and ashplaces at Ebenezer Square and Wesley Place, Ingrow, and for erection of six trough closets and ashplace at The Walk, Low Bridge.

For eight separate water-closets, Wesley Place and Ebenezer Square, Keighley.

Hird & Houldsworth	£180 0 0
J. WHARTON, Ingrow (*accepted*)	160 0 0
A. J. Borrell	116 6 8

For six trough closets, The Walk, Low Bridge, Keighley.

W. G. Martin	59 6 6
A. J. Borrell	59 3 6
R. HORSFIELD, Keighley (*accepted*)	48 10 0

For sewering, forming, paving and flagging portions of Goulbourne Street and Kensington Street. Messrs. BARBER, HOPKINSON & Co, architects, Craven Bank Chambers, Keighley.

H. V. ROBINSON, Lawkholme Lane (*accepted*).

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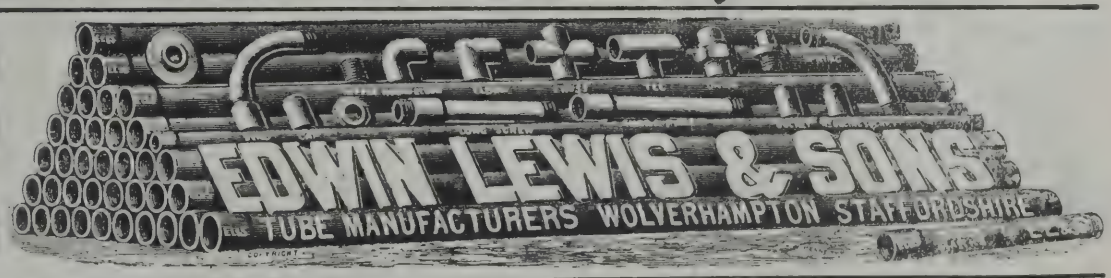
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LEEDS.

For pulling-down and removing material at the premises lately occupied by the Yorkshire Banking Company, Limited, at their Hunslet branch, in Hunslet Road. Messrs. BEDFORD & KITSON, architects, Greek Street Chambers, Leeds.

T. DEAN (*accepted*)*	£10 0 0
T. Coates	5 0 0

* To give for old materials.

LONDON.

For erection of a new factory, Minories, for Messrs. Jas. Taddy & Co. Mr. E. J. SADGROVE, architect, Surrey Street, W.C.

Colls & Sons	£36,350 0 0
Wm. Downs	35,990 0 0
Ashby & Horner	35,000 0 0
Edwards & Medway	35,000 0 0
Dove Bros.	34,985 0 0
STEPHENS, BASTOW & CO., LIMITED, Bristol (*accepted*)	34,888 0 0

For alterations to the White Horse public-house, Mile End, E. Mr. HERBERT RICHES, architect, 3 Crooked Lane, King William Street, E.C. Quantities supplied.

S. Salt	£1,797 0 0
A. Webb	1,782 0 0
T. Osborn & Sons	1,723 0 0
J. Thompson & Son	1,710 0 0
P. Hart	1,683 10 0
SHEFFIELD BROS. (*accepted*)	1,645 0 0

For repairs to the Railway hotel, Hornsey, N. Messrs. FOULSHAM & HERBERT RICHES, architects, 3 Crooked Lane, E.C., and Bromley-by-Bow, E.

Locken & Sons	£470 0 0
G. Ballentyne	345 0 0
Sheffield Bros.	340 0 0
H. & F. Fearman	311 0 0
SPROSSEN & BABB (*accepted*)	260 0 0

For repaving with asphalte the carriageways of Old Jewry and Mitre Street.

LIMMER ASPHALTE CO. (*accepted*)	£1,820 0 0

LONGBENTON.

For painting, &c., at Benton Square and Walker schools.

Accepted tenders.

A. Craig, Walker east and west schools	£93 10 0
R. Nicholson, Benton Square school.	32 0 0

MORLEY.

For cleaning, painting and decorating the large hall in temperance hall, Fountain Street.

A. ATKINSON-STREET (*accepted*)	£20 0 0

PADDINGTON.

For erection of Westbourne Terrace Road canal bridge.

Pedrette & Co.	£7,200 0 0
Pattinson	7,050 0 0
Neave & Co.	6,755 0 0

POOLE.

For repairing and raising a stone quay wall, &c, at Hamworthy. Mr. JOHN ELFORD, borough engineer.

C. H. BRIXEY, Newtown, Poole (*accepted*)	£57 10 0

PORTSLADE.

For construction of a sea outfall siphon and tank sewers. Mr. C. O. BLABER, engineer, Brighton.

B. COOKE & Co., 16 Victoria Street, Westminster, S.W. (*accepted*)	£17,545 0 0

PORTSMOUTH.

For erection of the Connaught drill-hall in Stanhope Road. Mr. ALFRED H. BONE, architect, Cambridge Junction, Portsmouth.

W. R. Light & Son	£15,196 0 0
M. Coltherup	15,080 0 0
J. Croad	14,700 0 0
E. & A. Sprigings	14,648 0 0
T. W. Quick	14,350 0 0
T. P. Hall	14,311 0 0
W. W. Learmouth	14,199 0 0
J. H. Corke	14,124 0 0
C. M. Dash	13,700 0 0
H. Jones	13,550 0 0
H. Clark & Son	13,450 0 0
J. CROCKERELL, Southsea (*accepted*)	13,150 0 0

Ironwork.

HANDYSIDE & Co., Derby (*accepted*)	2,710 0 0

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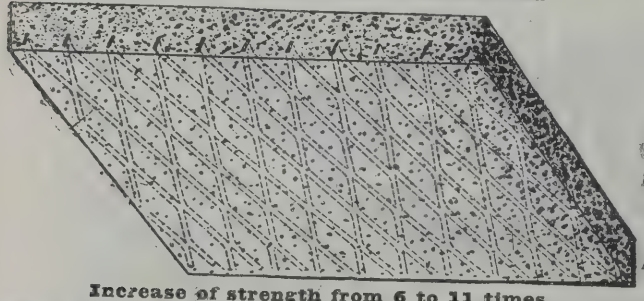
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RICHMOND.

For painting the exterior wood and ironwork of the workmen's dwelling, Manor Grove.

F. Read & Sons	£205	0	0
Chudleigh Bros.	125	0	0
Seal & Co.	114	0	0
Speechley & Smith	112	10	0
Bagnall & Devine	109	3	6
SOOLE & SON, Richmond, Surrey (*accepted*)	107	0	0

ROCHESTER.

For timber and concrete foundations, for Messrs. Style & Winch, Maidstone. Mr. G. E. BOND, engineer.

West Bros.	£3,679	0	0
Hocking & Co.	3,560	0	0
PEDRETTE & Co., Finsbury Park (*accepted*)	3,520	0	0

RUGBY.

For erection of a house in Campbell Street, New Bilton. Mr. J. T FRANKLIN, architect, 40 Bridget Street, Rugby.

Walton & Son	£360	0	0
Rainbow	343	0	0
Dyche & Sharpe	339	6	5
Harris	333	0	0
Winn & Son	328	0	0
HOPKINS & SON, Barby, Northants (*accepted*)	304	0	0

SCOTLAND.

For erection of warehouse at Glendronach Distillery, Huntly. Mr. CHARLES C. DOIG, architect, Elgin.

Accepted tenders.

T. G. Archibald, carpenter	£579	16	5
R. Mitchell, builder	559	10	0
A. Barclay, slater	231	10	0
G. Sellar & Co., engineers	220	17	3
J. Wilson, plumber	61	14	0
A. Robertson, painter	6	15	0

For erection of a parapet wall at Soroba Road, Oban. Mr. JOHN ALCORN, burgh surveyor.

Accepted tender.

J. STEVENSON, Firgrove Villa, Oban, 8*s.* 10*d.* per lineal yard.

For erection of a villa at Aviemore. Mr. J. GILBERT, architect, The Square, Grantown.

SCOTLAND—*continued.*

Accepted tenders.

J. & A. MacDonald, Newtonmore, mason	£218	0	0
D. & M. Fraser, Kingussie, carpenter	192	0	0
L. & A. Macpherson, Kingussie, plasterer	75	0	0
W. Grant, Kingussie, plumber	64	0	0
M. Callanach & Son, Newtonmore, slater	33	15	0
Dunbar & McPherson, Kingussie, painter	22	3	4

For construction of waterworks at Doune. Mr. R. M. CHRISTIE, engineer, Dunblane.

R. FRATER, Stirling (*accepted*)	£3,130	0	0

For construction of public sewer in Bawhirley Road, Greenock.

J. Walker	£362	18	6
D. K. McPherson	325	9	7
J. Walker	268	11	11
A. A. R. Lang	256	2	7
R. AITKENHEAD & SONS, Greenock (*accepted*)	210	19	9

For erection of offices at Glenburgie Distillery. Mr. CHARLES C. DOIG, architect, Elgin.

Accepted tenders.

A. Forsyth, Elgin, painter	£121	15	8
T. Miller, Coltfield, builder	104	14	0
J. Ross, Elgin, carpenter	102	0	0
H. Douglas, Elgin, plumber	30	17	0
J. Wilson, Elgin, slater	26	0	0

SNITTERFIELD.

For erection of Snitterfield Vicarage, Warwickshire. Mr. FRANCIS P. TREPESS, architect. Quantities by architect.

Callaway Bros.	£1,581	8	0
J. Smallwood & Co.	1,497	0	0
E. TALLISS, Warwick (*accepted*)	1,474	0	0

SOUTHAMPTON.

For constructing and laying a 3 ft. 6 in. by 2 ft. 4 in. brick and concrete egg-shaped sewer, and 30 in. and 27 in. cast-iron pipe sewers between the sewage tanks at Southampton West and Melbourne Street chapel. Mr. W. B. G. BENNETT, borough engineer.

A. Krauss & Son	£14,118	3	4
G. Bell	11,830	5	2
F. Osman	11,381	0	0
H. W. Bull	10,905	0	0
B. COOKE & Co., London (*accepted*)	10,397	0	0

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T. Roberts	400 0 0
J. R. Jones	365 0 0

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C. JENKINS & SON, Porth (*accepted*).

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J. JENKINS (*accepted*)	£1,592 10 0

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Davies	£100 0 0
T. Williams	79 2 10
R. Jones	68 8 10
W. T. MORGAN & SON, Crumlin, near Newport (*accepted*)	55 12 3

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For reconstruction of two bridges at Todwick. Mr. WILLIAM ATKINSON, surveyor, Top Hall, Thorpe Salvin, Worksop.

J. LISTER, Aston (*accepted*)	£185 5 0

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A. T. Nicholls	20 0 0
W. H. BELLAMY, Wellingborough (*accepted*)	18 10 0

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A. Palframan	£1,289 14 5
J. Gladstone	1,256 2 11
T. Fletcher	1,179 10 0
C. WINTERBURN, Silver Street (*accepted*)	1,136 0 0

ELECTRIC NOTES.

THE Cromer Urban District Council have decided to adopt electricity for the lighting of the district, and the engineer has expressed himself as being so confident of the undertaking proving a success that he has offered to forego half his fees until the works become a paying concern.

DURING the whole of Sunday night the electric-lighting supply to the city north of College Green, Dublin, was completely cut off owing to some mishap in the central depôt. The supply on the south side of the city was also cut off, with the exception of the lamps on the right-hand side of Grafton Street.

THE annual conversazione in connection with the Institution of Electrical Engineers was held on the evening of the 15th inst., in the Natural History Museum at South Kensington, and was attended by about 1,500 members and guests. Dr. Silvanus Thompson, F.R.S. (the president of the institution) and Mrs. Thompson received and welcomed the visitors. A programme of music, well rendered by the string band of the Royal Engineers, conducted by Lieutenant Sommer, added to the enjoyment of the company.

THE monthly meeting of the Hyde Town Council was held on the 12th inst., the mayor (Mr. Alderman Smith) presiding. At a meeting of the electric-light committee a report of visits to electric works at Blackburn, Burnley, Nelson, Manchester and Bury was submitted, and was carried unanimously, the recommendation of the sub-committee being that, subject to

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the financial arrangements being satisfactorily concluded for borrowing the money, the time was now ripe for the Corporation to take such steps as would provide an electric-light works as soon as possible.

A SATISFACTORY condition of affairs is disclosed as the result of the first year's electric-lighting work at Torquay. The capital cost of the works amounted to 24,959*l.*, as compared with an estimate of 22,300*l.* Private lighting at Torquay increased from 3,310 eight candle-power lamps in March of last year to 5,644 last month, and the consumers from 55 to 140, and there were applications in hand from 15 consumers for 529 more lamps. Of the total number of units generated during the twelve months ending March 31, 80,490 were used for public lighting, 67,909 for private lighting and 12,282 expended on excitation. The revenue amounted to 2,839*l.* and the costs of working to 1,781*l.*, leaving a gross profit of 1,057*l.* After meeting the principal and interest of 1,188*l.* it left a deficit on the first year's working of only 130*l.*, and next year's working should show a clear profit.

A MEETING of the electric-lighting committee of the Middlesbrough Corporation was held on Tuesday afternoon, under the presidency of Alderman Jones. The Town Clerk (Mr. George Bainbridge) stated that he had received a letter from the Local Government Board which stated that they were prepared to sanction the borrowing of 36,000*l.* for electric-lighting purposes. A letter was read from the North-Eastern Railway Company asking when the Middlesbrough electric plant would be ready for the supply of electrical power, as they wished to know whether the Corporation would be prepared to supply them power to drive twenty electric cranes they proposed erecting at the new Middlesbrough Docks. If the Corporation would be prepared to supply power at a reasonable cost, they would be prepared to avail themselves of their power in preference to enlarging their own plant. The Town Clerk said that it would not be ready for at least twelve months. It was eventually decided to arrange a meeting between Mr. Hammond, who had charge of the undertaking, and the engineer to the North-Eastern Railway.

VARIETIES.

MR. DAVID MAXWELL, C.E., late water engineer to the Hull Corporation, died at Hull on Saturday evening in his eightieth year.

MR. GEORGE SPALDING FLEETWOOD, of New Court, Carey Street, Lincoln's Inn, W.C., has been appointed surveyor to the Corporation of the Orphan Working School in place of Mr. George Fleetwood, deceased.

A LARGE portion of the Cockett tunnel on the Great Western Railway, near Swansea, fell in about eight o'clock on Monday evening, entirely stopping the traffic. A large number of people of West Swansea who had been to Barnum's Show were unable to return home. The accident occurred just before a passenger train was due.

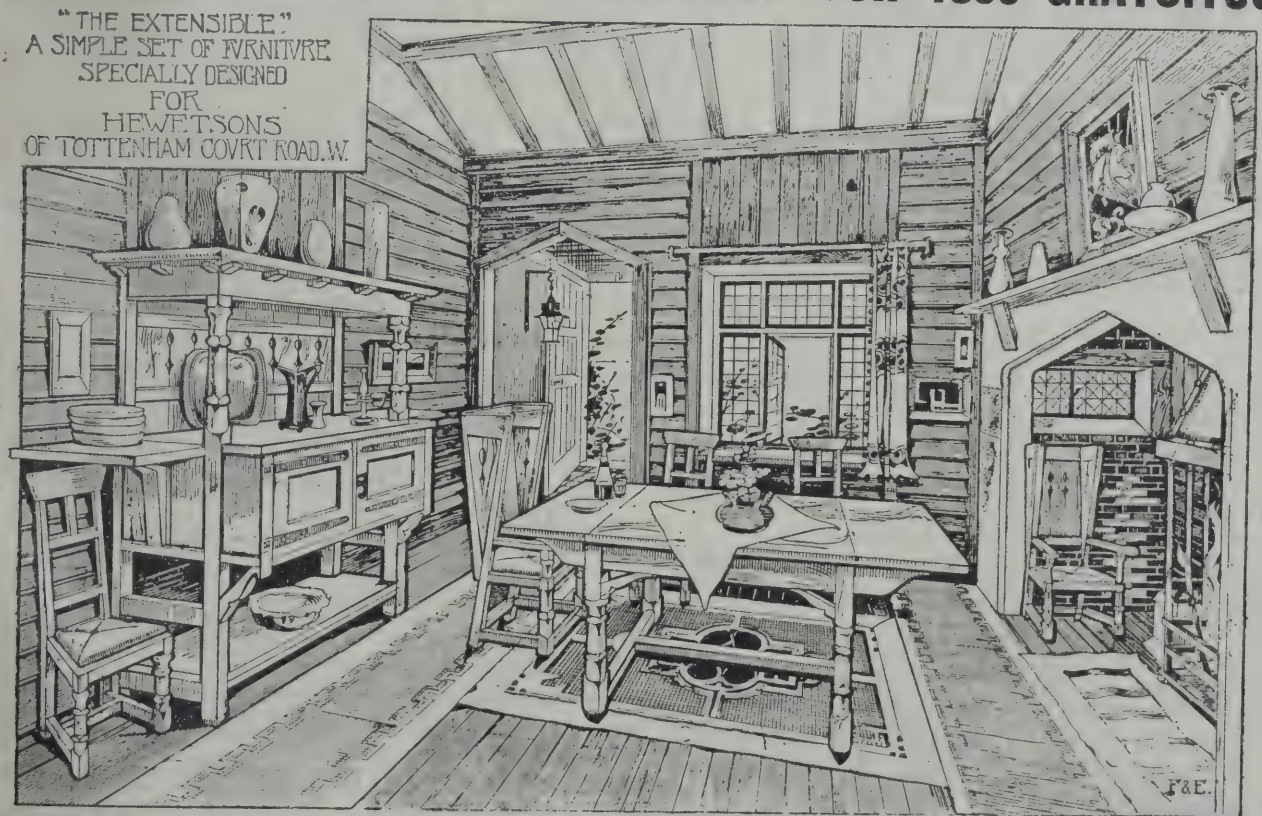
THE new hospital recently erected by the Govan Parish Council at Merryflatts, Govan, was formally declared open on the 15th inst. in the presence of a large company. The main block consists of four double breadth wards, each 95 feet by 24 feet, and holding twenty-eight beds, with a frontage of 145 feet, and two storeys in height. The approximate cost of the buildings is 20,000*l.*

THE new Malone Presbyterian church at Balmoral was opened on Sunday. It occupies practically the position of the old edifice, which has been entirely removed. The church, which has a frontage both to the Lisburn Road and Balmoral Avenue, consists of a nave and aisles with large projecting transepts, and includes a spacious gallery approached by two staircases from the vestibule, the whole being arranged to accommodate upwards of 1,000 persons. The building, which is a handsome one in every respect, will cost a sum of 6,000*l.*

MESSRS. KIRK & RANDALL, the well-known contractors of Woolwich, have just completed the erection of a large goods warehouse at Broad Street, City, for the London and North-Western Railway Company, from the designs of Mr. Francis Stevenson, chief engineer, Euston Station, assisted by Mr. E. B. Thornhill, with Mr. Keyte as resident engineer. The building covers an area of 50,000 square feet, and consists of four floors and two basements, and its cost was rather more than 100,000*l.* It is lighted throughout by electricity, and it is said to be the best and most fireproof warehouse in London.

A GENTLEMAN, who prefers to remain anonymous, has promised 3,500*l.* for the purpose of erecting a municipal museum and art gallery adjoining the Central Free Public Library at Hampstead. The library was erected in 1897 by

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Sir Henry Harben, J.P., the chairman of the Hampstead Vestry, at a cost of over 5,000*l.* The question of the museum and art gallery is now under the consideration of the Libraries Committee of the Hampstead Vestry, who will be responsible for its up-keep and management when it is completed.

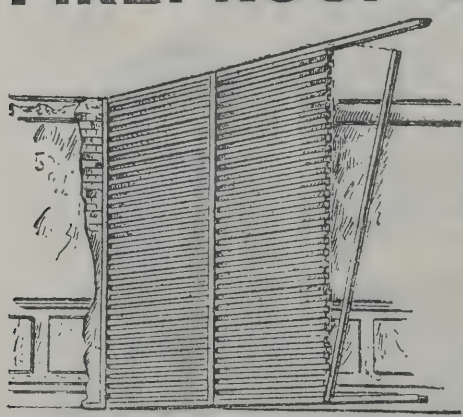
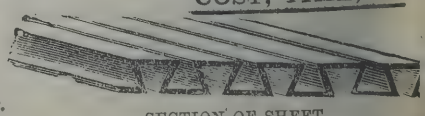
As a practical outcome of the Cromwell Tercentenary meetings held at Naseby on April 27, a scheme has been started for a Memorial Library of the great Civil War. Though primarily intended to commemorate Oliver Cromwell, it has been wisely decided to make the library representative of all aspects of the strife, from whatever standpoint it may be viewed. The village already possesses a reading-room and small library, but it contains hardly anything relative to the causes that have made Naseby so famous. Already many books and subscriptions have been received, and further gifts may be forwarded to the Rev. Thomas Ruston, Congregational minister, Long Buckby, Rugby.

A NEW church was consecrated on Friday last by the Archbishop of York in the little village of Colton, in the parish of Bolton Percy, Yorks. The church, which is dedicated to St. Paul, is built entirely of red brick, and is of the fifteenth-century Perpendicular style, but it has not a particularly ecclesiastical appearance. It is in the form of a parallelogram, and the nave and sanctuary are of the same width. The chancel is not furnished for a choir. The roof, internally, is panelled, and externally is covered with red tiles, the bell-cote being over the chancel step. The building has seating accommodation for eighty persons, and the seats, &c., are in green stained deal, and are unappropriated. The windows are of ordinary cathedral leaded glass, and the whole building is capable of future decoration, economy having had to be practised. The architect was Mr. Hodgson-Fowler, F.S.A., of Durham, and the contractor Mr. A. Barnes, of Malton.

THE new Wesleyan chapel in Stoney Stanton Road, Coventry, is now practically completed, and will shortly be opened for divine service. It is a handsome building and adjoins the old school chapel, which will in future be utilised for the purposes of a Sunday school. It is in the Gothic style of architecture and is of brick, with red Hollington stone dressings. The entrance is under a square tower, above which there rises, to a height of 90 feet, a graceful stone spire. The church is designed in the form of a cross, with nave, north and south aisles, transepts and chancel, the dimensions being about 70 feet by 50 feet. The nave is connected with the side aisles by four arches on each side supported on red Hollington stone pillars, with moulded capitals and bases. The transepts are lighted by four-light windows divided by mullions, and the aisles by three-light windows. The upper portion of the nave has clerestory lights and rose window at the gallery end in the east gables. Vestries for minister, stewards and choir have been provided, with suitable lavatory accommodation. The heating is to be carried out with hot-air and water, the apparatus chamber being placed under the choir vestry. The whole of the internal woodwork is of pitch pine varnished. The chapel has been designed by and erected under the superintendence of Messrs. Harrison & Hattrell, architects, Mr. C. Garlick being the contractor. The chapel will accommodate 700 persons, and the cost has been 3,000*l.*

THE Dominican Priory church at Hawkesyard, near Rugeley, the foundation-stone of which was laid just three years ago, was consecrated on the 12th inst. The style of the new building is late Perpendicular Gothic, red bricks being used, with dressings of Penkridge stone. The internal dimensions are—Length, 120 feet; width, 30 feet; height, 54 feet. The main entrance is deeply recessed and moulded, and above it is a fine traceried seven-light window. In the gable above is a niche in which stands, underneath a rich canopy, a large-sized statue of St. Thomas Aquinas, to whom the church is dedicated. There are nine bays in the interior, marked out by stone shafts coming about half-way down the walls. The fifteen clerestory windows occupy nearly every bay on either side of the church. The roof is of open timber. The sanctuary floor is of mosaics of an elaborate design. The high altar and reredos form a striking feature. The altar stands forward, allowing of a flight of steps at the back up to the throne. The low super-altar, in front of which stands the rich metal tabernacle by Hardman, has its six panels filled with mosaics. When completed the reredos will rise up to the roof timber; at present only some two-thirds of it are finished. The lower portion, to the top of the super-altar, is of plain masonry, relieved by a gabled piscina and aumbry. Above these, in the centre, are the throne and canopy, rich with delicate tracery and carving. Right and left of these rise two tiers of niches, with delicately-worked shafts. The organ case, designed by Wren and originally erected at Eton, is a beautiful example of the Renaissance style. On the right of the west entrance is a richly-moulded arch, opening into the chantry chapel, erected to the memory of the late Mr. Spode, to whose beneficence the erection of the church is

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largely due. The lady chapel is on the opposite side, and occupies the space of two bays. The roof is panelled in wood, and the altar and reredos are of stone.

TRADE NOTES.

THE Woburn Sands Board Schools are being warmed and ventilated by means of Shorland's patent Manchester grates and patent exhaust roof ventilators supplied by Messrs. E. Shorland & Brother, of Manchester.

THE new premises for the National Telephone Company, Limited, Belfast, have been fitted with an entirely new installation for their complete warming and ventilation by John King, Limited, engineers, Liverpool, by means of their Rajah ventilating radiators and their patent tubular exhaust ventilators.

MESSRS. HUMPIDGE, HOLBOROW & CO, Limited, makers of the "Dudbridge" gas and oil engines, notify us that they have given up their offices in Cannon Street and taken larger premises for offices, showrooms and workshops at 95 Southwark Bridge Road, S.E.

THE directors of the London Portland Cement Company, Limited, who are interested in a new fireproof building material called "Scagliol," to the satisfactory demonstration of the fire-resisting qualities of which we had occasion to refer in our issue of August 5, 1898, have arranged for another exhibition to take place at Wood Lane, Shepherd's Bush (on land belonging to the Central London Railway), at 3 o'clock on Thursday next, the 29th inst., when a building constructed of "Scagliol" will be tested by fire, and the different uses to which the material may be applied and the methods of construction and manufacture will be demonstrated

NEW HOSPITAL, KIRKALDY.

THE new infectious diseases hospital which has been erected by the Corporation of Kirkcaldy, near Smeaton Row, was formally opened on the 17th inst. The hospital, which has been two years in construction, consists of the administrative block, two ward blocks and laundry and discharge buildings. The administrative block consists of the doctor's-room, dispensary, nurses' dining-room, kitchen, scullery, &c. and ten bedrooms. The eastmost ward block, intended for scarlet-fever patients, consists of two wards, a service-room between, bath-room and other accommodation. In this building fifteen beds will be placed. The westward block is divided into three groups of wards, where three classes of diseases can be treated. Each group consists of the two wards and service-room between, a bath-room and other necessary accommodation. This block is also arranged for fifteen beds, namely, seven enteric, six measles and two observation. The walls of the building are chiefly of brick. One novel feature in connection with the hospital is the sun-rooms, which are situated off the wards, and which convalescent patients can retire to during the day. A plentiful supply of hot water is provided for each group of wards by hot-water tanks. The laundry block consists of washing-house, ironing-rooms and rooms connected with the disinfector, engine-room, mortuary and ambulance sheds. The disinfector is one of Peck's patents. In addition to the caretaker's-rooms in the lodge, there is a waiting-room for visitors to the hospital. The drainage for the whole building is carried along to the south-west corner, where a septic-tank and filter are provided. The arrangements of the hospital are such that thirty patients can be treated, allowing a little over 2,000 cubic feet per patient, and in the event of an epidemic breaking out in the burgh double this number can be comfortably cared for. The cost of the whole building and furnishing will be about 11,000*l.* The architects are Messrs. Campbell, Douglas & Morrison, Glasgow.

EXPENDITURE ON BARRACKS.

A RETURN giving the approximate estimate of expenditure for the year 1899-1900 under the Barracks Act of 1890 and the Military Works Act of 1897 has been laid upon the table of the House of Commons. Under the Barracks Act the following items of expenditure are set out:—(1) Construction and reconstruction of camps, including married soldiers' quarters, 53,000*l.*; (2) provision of new and enlargement of present barracks and quarters for married soldiers, 102,000*l.*; (3) purchase of land and buildings, 12,000*l.*; (4) contingent expenses, 5,000*l.*; total, 172,000*l.* Under the Military Works Act the expenditure is thus detailed:—(1) Defence works, 300,000*l.*; (2) barracks, including completion of large camps, 510,000*l.*; (3) ranges, including accommodation for manœuvring and mobilisation, 400,000*l.*; staff and contingencies, 40,000*l.*; total, 1,250,000*l.* From these figures it will be seen that the total estimated expenditure under both Acts amounts to 1,422,000*l.*

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BUILDING AND BUILDERS.

A NEW Baptist church is in course of erection at Loughborough.

ON Saturday afternoon the memorial-stone was laid of the new Free church at Elderslie. The estimated cost is 1,850*l.*

THE plans of a new schoolroom in connection with the Bethania C.M. chapel at Pentre have been approved by the Flintshire Monthly Meeting, and it is expected that building operations will soon commence.

THE foundation-stone was laid on Tuesday of a new Congregational chapel, which is to be erected at Thames Ditton, Surrey, to take the place of the existing building, which has become totally inadequate for the needs of the congregation.

THE memorial-stones of a new Wesleyan chapel, to cost about 2,750*l.*, were laid on Saturday at Dearnley, near Littleborough. The old chapel, after undergoing slight alterations, is to be used as a Sunday school.

A LOCAL GOVERNMENT BOARD inquiry was held at the Dukinfield District Council Offices on the 15th inst. in regard to the application of the District Council to borrow about 12,000*l.*, principally for the erection of a new town hall, a small portion being for sewerage.

EXTENSIVE alterations are being made at the premises of the Smethwick Conservative Club, in High Street, Smethwick, estimated to cost between 700*l.* and 800*l.* The billiard-room is being converted into a secretary's office and committee-room, and a new billiard-room is being erected at the rear of the premises. Some alterations are also being carried out at the front of the building.

AT a conference of representatives from St. Andrews and Cupar district committees at Cupar it has been unanimously agreed to erect an hospital at Balmullo, north of Leuchars, and it was remitted to the St. Andrews committee to take the necessary steps regarding the site and the expense of the erection.

COUNCILLOR FOX, a member of the Greetland (Halifax) District Council, has given notice that at the next meeting he will move that the Council request its architect to prepare plans and specifications for the erection of Council offices, stables, hose tower, fire-engine and ambulance-carriage house, and, if possible, to erect a few cottages on land acquired by the Council.

AT a recent meeting of the Cromer Urban District Council it was decided to purchase Fountain House, Garden Street, Cromer, at a sum of 1,200*l.* for the purpose of conversion into Council offices, fire brigade station and storeyard, and that plans and specifications be prepared for the purpose of laying before the Local Government Board an application to sanction the purchase.

THE Wesleyan chapel committee have sanctioned the erection of forty new chapels, involving an estimated expenditure of 76,500*l.* In addition, 10,750*l.* are to be expended on chapel and school enlargements. These, with other cases sanctioned during the past few months, bring up the aggregate expenditure to nearly 500,000*l.*, making altogether an outlay of one million sterling for the past two years in Great Britain alone.

AT a meeting of the Grimsby Public Free Library committee plans and estimates were accepted for converting the Mechanics' Institute into a public free library, at a cost of 1,400*l.* for the alterations, exclusive of the cost of books. There are between three and four thousand volumes at present in the library, and it was decided that these be purchased, and about 450*l.* be allowed for the purchase of books each year. The building could be at the Corporation's disposal by July 1.

THE new Roman Catholic Cathedral which is to be erected at East End, Greenock, is expected to be a handsome building, and will be purely Gothic in design, of red sandstone from Dumfries Quarries, while the stonework inside will be from the Pruden Quarries, England. The front elevation will be to Carnock Street, with side elevation to Dellingburn Street. When finished it is expected to have cost about 12,000*l.* Messrs. Pugin, London, are the architects.

THE foundation-stone was laid on the 15th inst. of the new premises of the Zion Baptist Sunday-schools and classrooms at Pitt Street, West Barnsley, on a site having frontages to Race Common Road and Pitt Street, bought at a cost of 550*l.* The schools and classrooms—a large room to seat 440, eight classrooms, a lecture hall and separate infants' classroom—are now being built at a cost of 1,800*l.* for the buildings, about 400*l.* in addition being required for furnishing. Mr. W. Senior is the architect.

THE foundation or memorial-stones of new schools were laid in Wellington Street East, Higher Broughton, Manchester, on Saturday last. The new buildings, which will cost about 6,000*l.*, together with a church to be erected alongside them, will take the place of the Salem church and schools, Strange



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ways, which have been sold by the Methodist New Connexion to the Jewish community. In the schools will be accommodation for some 700 scholars, while the church will accommodate nearly the same number of adults. The new buildings are being erected by Mr. B. Powell from designs by Mr. A. W. Smith, architect, Manchester.

THE deputy city coroner of Liverpool held an inquiry on Tuesday into the circumstances attending the death of John Cornelius Vaughan, fifteen years of age, an apprentice bricksetter in the employ of Messrs. Morrison & Sons, contractors, of Wavertree, and who lived in No. 2 Court, Back Lime Street. On Saturday he was working on a scaffold at the Stanley Dock, and whilst so engaged he slipped and fell to the ground, a distance of about 28 feet, sustaining such injury as necessitated his removal to the Northern Hospital, where it was found that he was suffering from fracture of the skull. He continued unconscious, and died on the following day. The jury returned a verdict of "Accidental death."

A TERRIBLE accident happened on Monday afternoon at Berkeley Street, Piccadilly. The house at Nos. 1 and 2 Grafton Street, formerly the residence of Lord Spencer, is in course of demolition, and about half-past five an immense mass of timber and stonework fell from the upper storey into the basement, two men being buried. At ten minutes past seven a loud cheer announced the fact that one of the men had been got out. He was terribly injured, and had sustained one fearful wound in the skull. He was removed to St. George's Hospital. His name is Morris, and he lives at Westgate Terrace, Kensal Road, N.W. The body of the other man, whose name was Marks, was not recovered till Tuesday morning. It was clear from the appearance of the body that death must have been instantaneous. The injured workman Morris is stated to be progressing favourably.

A NEW Congregational church is about to be erected in Harehills Road, Leeds, from designs prepared by Mr. Tom Dyer, Albion Street. The existing structure was built in 1891, but it has only accommodation for 350 worshippers, and already fails to meet the requirements. The new church is planned to seat 750 persons. It will have nave and transepts, and a gallery at the end over the main entrance. Vestries for the pastor and choir, and ladies' and gentlemen's cloak-rooms will be provided. The entrances, which are spacious, are provided with inner lobbies. Internally, the walls will be plastered and decorated, the roofs open-timbered and the woodwork throughout of pitch pine, stained and varnished. The building will be of brick with stone dressings, and the tower will rise to a height of about 100 feet. The windows will be filled with tinted glass.

AT the ordinary monthly meeting of the Morecambe School Board it was resolved to ask the consent of the Department to the purchase of an additional 1,314 yards of land at Bare, with a view to the enlargement of the existing infants' school and the addition of a junior mixed department. The land is being purchased from Mr. J. Lodge, of Bare Hall, at 6*s.* per square yard. The Board's architects, Messrs. Marshall Bros., submitted three schemes, one providing for 180 additional children, at a cost of 1,440*l.*, one for 160, costing 1,120*l.*, and a somewhat more elaborate one providing for 155 children, at a cost of 1,240*l.* The scheme was afterwards considered in committee.

THE Morecambe District Council, sitting in special meeting on the 15th inst., was occupied for a long time in discussing ways and means towards a better provision for the science, art and technical classes in the town. Some time ago a valuable piece of land at the corner of Queen Street, Main Street and Green Street was acquired by the Council, with a view to part of it being utilised for a public street improvement at this point, and the rest being resold. On the recommendation of the technical instruction committee, the Council resolved to appropriate the remaining portion of the land as a site for new technical schools, subject to the sanction of the Local Government Board. The scheme submitted to the Council provides for the erection of a building which can be completed in two portions, the first costing 3,500*l.* and the whole 5,000*l.*

SOME important alterations are in progress at Drury Lane Theatre, in the rear of which a large plot of land has been acquired, and on it a number of offices and workrooms are now being erected, the new buildings covering an area of 135 feet by 95 feet. There will be an immense paint-room, 70 feet long by 35 feet broad and 140 feet high, fitted with every appliance for scene colouring, and just off it will be a carpenters' shop 40 feet square. Formerly the pantomime performers have had to practise their dances in the theatre, or wherever room could be found; now they will have a large ballet-room devoted to their convenience. Wardrobe stores, limelight tanks and similar necessary chambers take up most of the remaining space, but room has been found for three shops facing Drury Lane and several floors of flats overhead.

THE general committee of the Coventry and Warwickshire Hospital have approved of a scheme for the erection of isola-

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tion wards adjoining the existing building. The need for such provision has been impressed upon the committee for some time past, and attention has been periodically called to it by the medical staff, resident and honorary. The extensions, tenders for the immediate carrying-out of which are invited, are to be erected at the rear of the existing hospital, and will be in keeping architecturally with the main building. The accommodation will consist of two wards, one double and the other single-bedded, the larger of which will be 15 feet by 13 feet, and the smaller 13 feet by 12 feet. These, with two bedrooms for nurses and with lavatory provision will be all upon the first floor. On the ground a new coal-house with two store-rooms will be arranged, the present accommodation of this character being entirely inadequate. The new block will be connected directly with the main central corridor on the first floor of the hospital, but the passage is to be shut off with folding-doors and cross-ventilated, so that the block will combine the advantages of being easy of access, and practically isolated.

THE memorial-stone of the twelfth public elementary school erected by the Salford School Board was laid on Tuesday last. The school is situate in North Grecian Street, Broughton, a rapidly growing neighbourhood, and in a sense is supplementary to the existing Grecian Street school, which was opened in the beginning of 1888 with accommodation for 970 children, but which has been filled for several years. The new buildings are of red brick faced with Accrington stock bricks and stone sills and dressings, and will furnish accommodation for 1,090 scholars. On the ground floor 590 infants will be provided for, and classrooms, &c., for 500 girls are arranged on the first floor. Both departments of the new school are being erected on the central hall system. A large assembly hall is provided on each floor, into which eight classrooms in the girls' and three in the infants' department open, each classroom accommodating from 50 to 60 children. Special provision is being made for instruction in cookery and laundry work. It is proposed, if possible, to light the school with electricity. An ample playground is included in the plans. These have been prepared by Mr. H. E. Stelfox, architect, King Street, Manchester, and the works are being carried out by Messrs. R. Neill & Sons. It is estimated that the building, furnishing, caretaker's house, &c., will cost 14,000*l*. The site forms a portion of the Clowes estate, and has been purchased subject to a chief rent.

A NEW free library has been erected in Faith Street, Maidstone, as a permanent memorial of the Queen's Diamond Jubilee. The building is in the Elizabethan style of architecture, and corresponding with the museum. The library itself is a lofty apartment 54 feet in length and 21 feet wide, with a moulded and panelled plaster ceiling. At present the interior arrangements are scarcely completed, but it is proposed to divide the room by screens and fittings for the purpose of the lending library and reading-room. An upper and similar apartment styled the county room is intended for the exhibition of special collections particularly interesting to the people of Kent. The floor space of this room will be entirely unobstructed, and a narrow and light iron gallery suspended from the open pitch pine roof renders the whole of the ample wall space available for the fixing of cases containing exhibits. The new rooms communicate by folding doors with the lower and upper halls of the School of Science and Art on the one hand, and with the Ethnographical and Fine Art rooms of the museum on the other. A small work-room has been provided on the upper floor, with communications between the Kent Archæological Society and county rooms. There is also a basement for the storage of newspapers, &c. The curator's residence occupies the site opposite the Free Library and with the latter the Technical School forms a new forecourt, 30 feet wide and receding 38 feet from Faith Street. Over the attractive entrance to the Free Library there is a capital head of Her Majesty worked in white stone, with the inscription "Victoria Library," and above there are the royal initials "V.R.," the borough arms, and the white horse of Kent. The total cost of the library and the curator's house amounts to about 3,600*l*. Mr. A. W. Smith is the architect and Mr. W. J. Logan the builder.

IN addition to a public park of 34 acres, the land for which was purchased by public subscription, in commemoration of the Diamond Jubilee, and which is now being laid out by the Tipton District Council at a cost of 5,000*l*., the development of the adjacent property has been commenced by Mr. W. H. Anderson, who has purchased an estate of 24 acres, mostly lying between the new park and the railway, and extending from Park Lane to near Watery Lane level crossing. The estate is very convenient, being near to both Tipton and Dudley Port stations, on the London and North-Western Railway, while Tipton and Dudley stations on the Great Western system are within easy distance. It is proposed to remove all the old structures on the land and erect thereon 800 houses of

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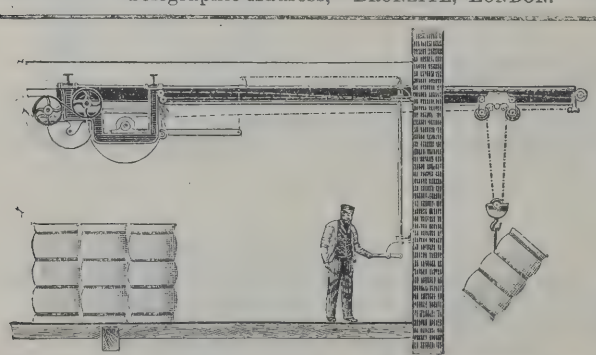
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various types, the rentals of which will range from 3*s.* 6*d.* per week to over 40*l.* per annum, the residences to include four of the bungalow type. A number of applications for tenancies have already been received, and it is expected that the whole of the estate will be developed and inhabited within two years. Some of the work is well in hand, and two rows of workmen's houses are in course of construction. What used to be a wide marl-hole adjoining the Dudley branch of the London and North-Western Railway will shortly be converted into building and garden land, and eleven new streets will be cut. According to present proposals the Seven Stars inn is to be demolished and a public hall erected on the site, for which a theatrical license will be applied for, the license of the public-house to be transferred to an extensive new hotel at the junction of Park Lane and Victoria Road. For the purpose of straightening and improving existing streets surrounding the estate Mr. Anderson has given over an acre of land to the District Council. The development of the estate is being carried out under the direction of Messrs. Perry & Nightingale, architects, of Dudley.

DISCOUNTS IN THE IRON TRADE.

AN important step is proposed, writes a correspondent of the *Times*, in connection with the manufactured iron trade of the country. It emanates from the Midland Unmarked Iron and Steel Trades Association, but embraces North and South Staffordshire, Yorkshire, Scotland and Wales, which are the whole of the finished iron producing centres in the United Kingdom. A circular has been issued by Mr. H. G. Mantle, on the initiation of the Midland Association, inviting an expression of opinion upon the question of the abolition of discounts. Answers are solicited to the following questions:—"(1) Should discounts be abolished altogether? (2) Or only partially—viz., on all accounts not paid at latest on 10th of the month following delivery? (3) Should the extra 1 per cent. to merchants be withdrawn? (4) What in your opinion should be the maximum discount (if any) for prompt cash against invoice? (5) Should usual discount and terms of payment be continued to export merchants?" The proposal is a serious one, and will meet with a great deal of opposition from merchants and buyers. It is stated by the promoters of the movement, however, that with the exception of pig-iron every item of importance entering into the manufacture of the finished bar is charged net—fuel, labour, purple ore, scrap iron and puddling mine. The bar maker at present allows 2½ per cent., and in some cases 1 per cent. extra, to certain merchants and others for commission, and this obtains also on the carriage where paid by the consigner. In June last, when the Workmen's Compensation Act came into operation, the Cannock Chase coal-owners, without consulting any one outside their own ranks, abolished the discounts which they had been allowing, and although vigorous opposition was aroused amongst ironmasters and dealers, it has been without effect. Discounts are said to be becoming unpopular, as shown by the fact that the War Office and many engineering firms and railway companies are asking for net quotations. The whole of the replies to the circular have not yet been received, but those which have come to hand indicate a remarkable unanimity of opinion. All the leading firms in the country who were appealed to are favourable to the proposal. Instead of replying individually the members of the Scotch Iron Manufacturers' Association have held a meeting at Coatbridge and decided to reply in the affirmative to questions 1, 2 and 3. Whilst as to No. 4 they reply "one-half per cent. discount," and to No. 5, "net cash against documents should be the terms to export merchants." A list of the names of the firms who will join the movement, which includes all the principal makers of finished iron in Scotland, is given. Another important district, South Yorkshire, has also given its adhesion to the scheme, and the local Bar Iron Association has held a meeting and passed the following resolution:—"That this Association, representing an output of 3,500 to 4,000 tons of finished iron and steel per week, is in favour of the principle of net prices being established." Here again all the leading firms of the district give in their names. The present is a most opportune moment for giving effect to the suggestion. It could only be carried out on a rising market. At the current rate of bar iron the abolition of discounts would represent a gain to producers of about 3*s.* 9*d.* per ton, but to get rid of what has been described as an "absurd anomaly," manufacturers would probably, when the next advance in prices became due, begin to charge net instead of making any alteration in selling prices. By taking this course a slight loss to makers would follow, but it is stated that they would willingly submit to this penalty upon the improvement. A meeting will shortly be held to consider the replies. The majority are already to hand, and fully 90 per cent. are favourable to the principle of net charges. The merchants will naturally oppose the scheme, and the buyers, who are users of the iron for various purposes and who explain that their customers claim discounts, will assist them. The

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action of the coalowners in suddenly withdrawing discounts has proved an unqualified success, and now no complaints are heard about it. It is understood that the discounts were originally conceded to induce payment on the 10th of the month following delivery, but now only a few purchasers are so prompt with their cash, and if the payment is deferred until the middle of the second month the 2½ per cent. is deducted all the same.

THE LAW OF TRADE MARKS.*

(Continued from last week.)

THE next point, and by far the most important one that I desire to submit, is the question of word marks. The commercial community of this country demands, and I think is justified in demanding, that a much wider range of words shall be available for registration, and obtain legal protection than the law now defined allows, and that the section dealing with the subject shall be drafted so clearly and precisely that it will be out of the power of the Courts to stifle the efforts of the promoters of such legislation. Word marks are at present refused on the ground that they are either descriptive of the goods—that they are geographical or pseudo-geographical terms—or that they are surnames. I see no reason, and I submit that there is absolutely no valid reason why a manufacturer should not be able to register any word, provided that it can be shown that such word has never been used by any other person for similar goods, and that it infringe no existing rights, and provided that it is not obviously descriptive of the goods themselves, although to some extent it may indicate somewhat of the character of the goods or purpose for which such goods are to be used, for instance, "Pepsalia," "Somatose," "Vi-Cocoa," "Lactopeptine," all of which, more or less, indicate something of the nature of the goods to which they are applied. The word "Vi-Cocoa" is now registered, but between the period of the first application and the actual registration some two or three years elapsed, during which period an enterprising German appropriated this name to himself and registered it in Germany, to the damage of the English company; and I would here point out that one of the great hardships inflicted by the refusal to register words of this nature in this country is that the owner is unable to obtain protection in many foreign countries, where, as a condition precedent to registration, it is necessary to produce a certificate, showing that the mark is registered in the country of origin. Now, as a matter of fact, there are hundreds of marks in use here of great value, and to which the owners have the sole right to the exclusive use thereof under the common laws of the country, and any infringement of the same would instantly be repressed by the Courts. Surely there can be no harm in registering such marks, and there is urgent reason to do so when it is remembered that the owner is cut off from protection abroad until he is registered here.

Then, as to the geographical objection, it is surely very absurd to say that a trader shall not use or be able to obtain protection for such words as "Sunflower," "Eureka," "Blackbird," "White Horse," "Elephant," "North Pole," and hundreds of similar words, because forsooth they are geographical names. It is true that the Court of Appeal has decided that the word "Magnolia" cannot be refused registration on the ground alone that it is geographical, but it is also true, as I said a short time ago, that the Registrar, acting for the Comptroller, refuses to be bound by and to follow that dictum; hence I submit the necessity for some amendment.

Again (while, as a fact, the Act says nothing about surnames), many words, while having one obvious meaning to the general public, are rejected on the ground that they are surnames, and, consequently, not capable of registration. Under this head such words as "Swan," "Bull," "Partridge," "Badger," "Throstle," "Crow" and many others are refused registration.

There surely can be no reason why a manufacturer, having adopted the device of a swan to denote his goods, should in registration be compelled to disclaim any right to the exclusive use of the words "Swan Brand," words by which the public know the goods in question, and words which the public use in asking for such goods.

And, while speaking of names, I would for a moment draw attention to the fact that it is provided in the existing Acts that a trade-mark may consist of:—

(*a*) "A name of an individual or firm printed, impressed, or woven in some particular and distinctive manner."

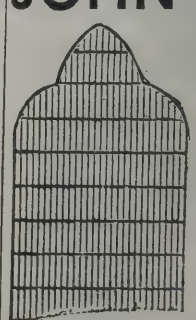
Now it appears to me to be clear that this was intended by the Legislature to provide a means whereby a person or a firm might adopt his or their name as a trade-mark, provided that it was represented in so unique a manner as to render it

* A paper read by Mr. J. E. Evans-Jackson at the meeting of the Society of Arts on the 17th ult.

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easily distinguishable by the ordinary public from any other name of a similar kind. But as a fact this provision is entirely disregarded, and is for all practical purposes a dead letter. Why it should be so is somewhat difficult to understand.

The next provision is :—(*b*) "A written signature or copy of a written signature of the individual or firm applying for registration thereof as a trade-mark."

This provision is in my opinion too restrictive and works harshly on a certain class of the trading community. It is well known that there are numbers of persons who succeed to businesses which have been carried on for years under some other name. These individuals continue to carry on the business under the name of their predecessor and adopt his signature ; thus John Brown might succeed to a business which had been carried on under the name of Jones, Brown & Co., and to change that title or signature would be detrimental, but this gentleman could not under this provision register the signature of Jones, Brown & Co., because although it is the signature he uses in his business it is not his own signature as defined in the Act. Again, a limited liability company really has no signature, and I submit that it would only be equitable to provide in such a case that the seal of such company should be registerable.

Coming to the question of disclaimers as provided under sub-section 2 of section 64, I think it is important that any such disclaimer made under this provision should be limited so that the applicant does not thereby prejudice any common law rights which he may have in the subject matter to be disclaimed, and it ought to be clearly set forth in the Act that any such disclaimer is made simply for the purpose of the registration, and is operative only in so far as it limits the rights of the applicant under the registration itself. I do not think that any objection can be taken to some such provision as this : and, as a matter of fact, the Courts of Scotland have decided in a case recently before them that the applicant had not, by disclaiming the letters "C.B." in connection with corsets, lost the common law rights which he had prior to the registration in question.

Another point which I think requires to be dealt with is the question of costs in an opposition. At present the only power which the Comptroller possesses in reference to costs is that he can award reasonable costs against an applicant who abandons his application after notice of opposition. He has no power to award costs against an opponent who abandons his opposition. This seems very unfair in view of the fact that if the applicant abandons his application he is liable to pay such costs the Comptroller may adjudge. There seems to be no valid reason why costs in an opposition should not go as in other cases, and follow the result in the ordinary course.

The next point to which I think it wise to draw attention is the absolute discretion vested in the Comptroller in dealing with the registration of trade-marks. Under section 62 it is provided that the Comptroller may, on application by or on behalf of any person claiming to be the proprietor of a trade-mark, register such trade-mark, but there is nothing whatever in the Act to compel him to do so, even with an application which complies waw, and to with the lhich there is no objection. The discretion of the Comptroller should be considerably restricted, and provided that an application is in order, and complies with the conditions set forth in the Act, the discretion of the Comptroller to register should end, and the applicant should be entitled to registration without having to go to Court, with the subsequent privilege of paying the Comptroller's costs.

This discretion at present enables the Comptroller to adopt a different procedure with different applicants, and, as a matter of fact, certain trade-marks which are now applied for in the cotton classes are refused registration, whereas marks exactly similar in all respects, and to which exactly the same objections may be raised, are accepted and registered in other classes. I submit that there ought to be an absolute uniformity in connection with all marks, and in connection with all classes of goods.

The last subject to which I desire to call your attention is the position adopted by the English office with regard to the International Convention for the Protection of Industrial Property, signed in Paris in 1883. When the 1883 Act was passed it was contemplated that the English Government would shortly accede to this Convention, and the 103rd section of the Act pointed to some such action on the part of Her Majesty's Government.

Great Britain became party to the International Convention in 1884, since which date British subjects have been able to claim in all the other contracting States the benefits of this treaty, but, curiously enough, for some reason which it is not possible to understand, the Convention, so far as relates to trade-marks, has been ignored.

The subject of this Convention was first brought before the Law Courts on the refusal of the Comptroller to register the words "Syrup of Figs," and an appeal was made from that decision, and tried by Mr. Justice Stirling, who, in giving judgment, used these words :—"Certainly, according to my construction of the Act, it does not afford the means of carrying out the article, and it will, no doubt, be for Her Majesty's Government to consider—and, seeing the Attorney-General here, I have no doubt they will consider—what legislative steps ought to be taken to give effect to that article if necessary."

This very broad hint from one of Her Majesty's judges has also been ignored, and no steps have been taken to carry out this important provision of the Convention.

The matter subsequently came before Mr. Justice North in another appeal in what is known as the "Carter's Little Liver Pill" case, when Mr. Justice North decided that the Convention entered into between Great Britain and the United States could not be enforced in the English Courts, and the Attorney-General (Sir Richard Webster) protested against either the Convention or the protocol being read, using the following words:—"The Court can only receive their direction by statute, unless there is some right by common-law principles, and except for the purpose of inducing your lordship to take the view of the statute, which I most respectfully submit is not open to you to take, this Convention and protocol ought not to be read." And further, "If there is any ground for complaint it is a matter for diplomatic interference and cannot be enforced in these Courts."

The fourth paragraph of the final protocol comprises the essence of the whole matter, and it is this which the Patent Office hesitates to carry out, and which, to my mind, ought certainly to be carried out in the form in which it has been adopted in the Convention. The paragraph reads as follows :—

"Paragraph I. of Article VI. is to be understood as meaning that no trade-mark shall be excluded from protection in any State of the Union, from the fact alone that it does not satisfy, in regard to the signs composing it, the conditions of the legislation of that State, provided that on this point it comply with the legislation of the country of origin, and that it had been properly registered in said country of origin. With this exception, which relates only to the form of the mark, and under reserve of the provisions of the other articles of the Convention, the internal legislation of each State remains in force.

"To avoid misconstruction, it is agreed that the use of public armorial bearings and decorations may be considered as being contrary to public order in the sense of the last paragraph of Article VI."

It has been contended that if this provision were properly carried out, it would enable applicants from those foreign States where the regulations as to trade-marks are very lax to register in this country such words as "Bitter" for beer, "Black" for coal, and many other common descriptive words. As a matter of fact this is not so, because an applicant under the Convention would be entitled to register any trade-mark in Great Britain which by registration would curtail any of the existing rights of British subjects.

The strongest argument employed against the adoption of this construction of the Convention is that it would be manifestly unfair to give foreigners any privileges with regard to registration which are denied to English trade-mark owners, but I cannot see that there is anything very unfair in this, when it is remembered that foreign countries adopt exactly the same course towards British subjects, and although some foreigner might register a mark in England which would be refused to an English applicant, similarly English firms in foreign countries can register under the Convention trade-marks which would be refused to the inhabitants of those countries.

I further submit that if this argument has any basis at all, it is rather late in the day to bring it forward, and it ought certainly to have been discovered before the Convention was entered into. I have not yet heard a single argument adduced against the adoption of the provisions of the Convention, which will, as a matter of fact, bear the light of day. The only objections are really matters of sentiment, and I think, as a matter of common honesty, the Government ought to take some steps to carry out the agreement into which they entered in this respect.

I think the reasons I have adduced are sufficiently reasonable to support the demand for an amendment of the existing law on trade-marks, and an amendment of a character in accordance with the just and well-known desires of the whole trading community.

PROPOSED WORKHOUSE AT EASTBOURNE.

AT the meeting of the Eastbourne Board of Guardians on the 16th inst. the following recommendation of the buildings committee was brought forward :—"That it is expedient to build a workhouse, not including an infirmary, on the site secured for the purpose at Polegate, and that Mr. F. G. Cooke be instructed to submit plans and estimate of cost to the Board on the earliest convenient date."

Mr. Maude said that the inspector gave them to understand that an attempt to rebuild the workhouse would not be approved by the Local Board. On the strength of that they looked about for various sites, and had a full report from Mr. F. G. Cooke. They then got Mr. Gorringe to attend an auction, and he bought the site of which they were now in possession at a very reasonable figure, compared with the amounts asked with regard to the other sites which were inspected. They afterwards inspected the Polegate site, and they had trial holes sunk to ascertain the best situation for a workhouse. It was then found that three landlords had a right-of-way over the site, and the Board decided to purchase the necessary land from each of those landlords to secure that right-of-way. They next got plans from Mr. Cooke, architect, who was present with a block plan showing arrangements for a complete workhouse and infirmary. The Board had, therefore, practically committed itself to build a workhouse, but it was not stated in so many words in their minutes, and it was necessary that a formal resolution to this effect should be recorded. Mr. Cooke had estimated that the present workhouse would realise from 9,000*l.* to 10,000*l.* If they sold the site of the workhouse without the chapel and infirmary it would be 47,000*l.*

Mr. Petherbridge suggested that other architects should be invited to send in competitive plans.

Mr. Maude said they were wasting the time of the committee and of Mr. Cooke, the architect, and they were wasting the ratepayers' money. Moreover, it was proposed, now that Mr. Cooke had prepared plans in consultation with the committee and others, to throw him over, and that, he argued, was not treating Mr. Cooke fairly.

Mr. Champion proposed that the committee be instructed to insert advertisements offering prizes for competitive designs for the new building.

The Clerk said Mr. Cooke was appointed architect to the Board about 1882 or 1883. That was his official title, and he had done their work since that time. Mr. Cooke had been acting in touch with the Local Government Board in the preparation of these plans.

Mr. Maude and Mr. Crake pleaded that it would be an injustice to Mr. Cooke to accept this amendment, but it was carried by 11 votes to 4.

The Clerk, appealed to as to the relations of the Board with Mr. Cooke, said the latter was in the position of the Board's consulting architect, and he had had instructions to prepare certain plans. If the Board now desired to appoint another architect they could do so.

Mr. Maude protested against this treatment of Mr. Cooke. It would be better far to dismiss him.

Mr. Cæsar moved, "That in all cases where tenders are invited for work in contemplation detailed specifications shall be drawn up, and after approval by the committee responsible for the carrying out of such work, copies supplied to each firm from whom tenders are invited."

Mr. Hamblyn seconded, and the words "by the clerk or architect" having been inserted in relation to the drawing up of the specification, this was agreed to.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

11615. Thomas Price, for "Improvements in the manufacture of window sashes and frames, and in the means or mode of securing the same, and for doors, safes, and the like."

11669. Johann M. Tietjen, for "A window cleaning appliance."

11712. Rudolf Tellenka, Johann Kolbinger and Stefan Hagyiristic, for "Improvements in moulds for casting magnesium compositions and similar cements."

11805. Thomas Rouse, for "Improvements in the manufacture of concrete and artificial stone for building, paving and other purposes."

11844. Wallace Galrey Thomson and Joseph Edward Prosser, for "An improved paving and flooring block."

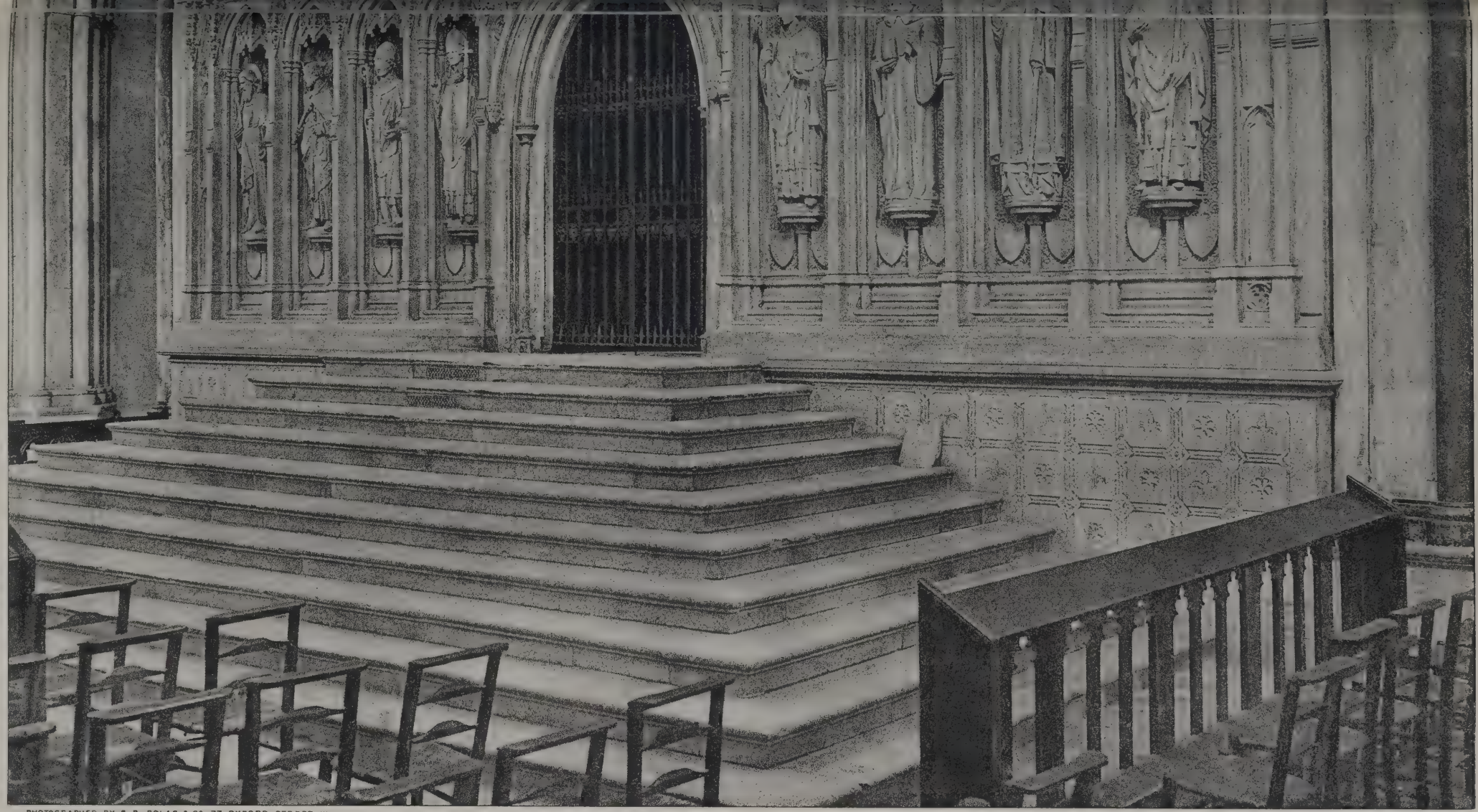
TO INVENTORS.—Patents for Inventions, Trade-marks and Designs secured; every assistance given to inventors. Specialists in Building matters. Information free.—Messrs. RAYNER & Co., Patent Agents, 37 Chancery Lane, London, W.C.





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CATHEDRAL SERIES, No. 236.—ROCHESTER: THE SCREEN.





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SHIPLAKE COURT, HENLEY-ON-THAMES.

Messrs. ERNEST GEORGE & PETO, Architects.

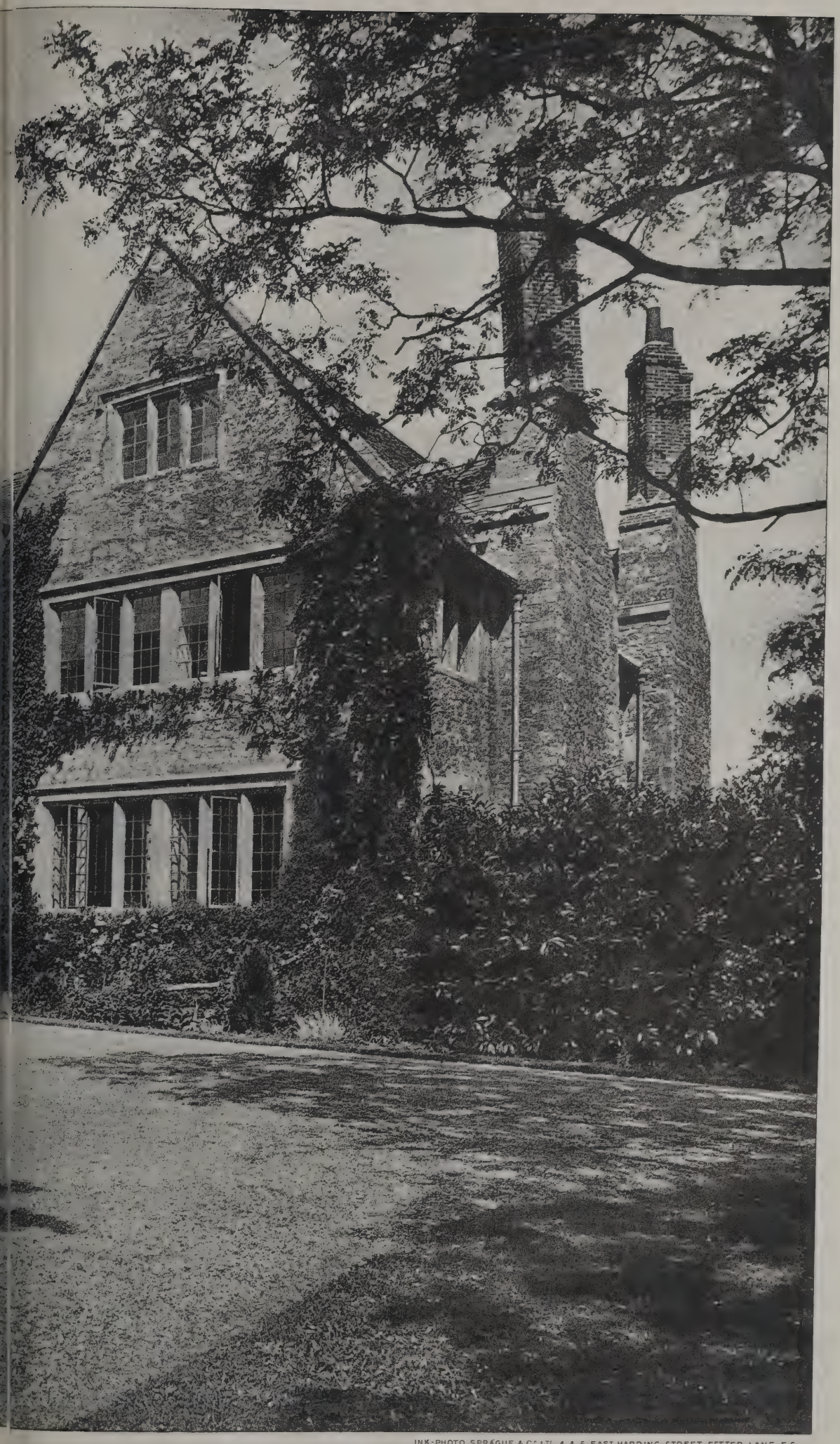


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CATHEDRAL SERIES, No. 238.—ROCHESTER: ENTRANCE TO CRYPT AND SOUTH CHOIR TRANSEPT.

The Architect.

THE WEEK.

ALTHOUGH Mr. BODLEY'S reference to his essay on "The Examination Test" at the meeting of the Institute on Monday will be interpreted as a confession of error and a revocation of conclusions, we hope his words were not intended to have that meaning. Since 1892 nothing has occurred to make the examination test an infallible means for the discovery of architectural skill. It is still true, as when Mr. BODLEY wrote, that "an architect should possess certain mental qualifications, of which a sense of the poetry of his art is perhaps the most important." Mr. BODLEY considered that a poet could not be tested by asking him questions, or his imagination revealed in that way. He introduced COLERIDGE'S expression about a great Gothic steeple which "seemed to be sent up to heaven like an unperplexed question." His comment on the words were as follows :—"This is a fine and true description of architecture in one of its highest forms—the absence of all hesitation and uncertainty of design, the effect of entire unity of idea and of a single great harmonious conception, is finely and poetically expressed. But these are qualities which in their degree are necessary to an architect for every work, be it great or small, and it is superfluous to point out the futility of any attempt to test them by examination. These so-called test examinations are a modern danger in many lines of life, and the world is already beginning to understand that this is so. Let us not bring the danger into the region of the practical art of architecture, but teach its principles and practice in the better manner of old days. It is only in such a way, we think, that our beloved art of architecture may be raised to the level on which we would have it for future, and we may hope for more artistic times." By acceptance of the Institute system Mr. BODLEY nullifies his former reasoning, and it is difficult to say which view we are to take. There is, however, more cogency in that of 1892. Like the starry GALILEO before the Inquisition, Mr. BODLEY may have muttered on Monday night, "E pur si muove!" but the inconsistency between past and present still remains.

IT was fear of another attempt on the part of individuals to carry out the continuation of the Embankment from the Houses of Parliament to Lambeth Bridge, and to introduce many improvements in the neighbourhood, which caused the London County Council to agree to the scheme, although it was only partially debated. There is no doubt the present condition of that district of Westminster is not in keeping with the importance of the Houses of Parliament. But it is not easy to discriminate between the part which is a local improvement and the part which is metropolitan and national. The company formed a couple of years ago would have taken all risks. The recoupment would, of course, be derived from the improved value of the building sites which would be created. It was too generally assumed, however, that the expenses would be insignificant and the profits enormous. As a consequence the Bill did not receive the support to which it was entitled. It is now stated that the total expense which will fall upon the metropolitan ratepayers will be only 180,000*l.* That assumes large contributions from the Government, the Ecclesiastical Commissioners and the local authorities. The new sites which will be one of the results must be valuable, and it is not certain who is to be enriched by them. Apparently the Metropolis will have to sustain an increased burden, which might have been avoided if the work were left to private enterprise.

IF in England we have reason to be apprehensive about the failure of the supply of coal, the Americans have to meet a probability of failure of wood within a much shorter period. Although from the pictures given in travellers' books and railway guides it might be supposed the United States were covered with forests, yet it is well known that the supply of some varieties is very limited. Spruce is one of them, and it is in demand for framing, especially in the Northern States. A "cord" of spruce in the form of joists and studs is worth about eight dollars, but if worked into paper pulp it acquires a value of thirty-five dollars, or more than fourfold. It is therefore more profitable to decline the appeals of carpenters and builders, and to grind spruce into powder. There is spruce in Canada, but the import duties keep it out of the States. As it is calculated that about 400 acres of spruce are daily required for consumption the existing forests cannot long endure. More expensive timber, such as yellow pine, will have to be substituted in building, but the quantity to be found is infinitely less than of spruce. Sooner or later foreign supplies will have to be invoked unless the ingenious steel manufacturers may be able to supply a product which can be substituted for timber and will cost less money.

THE Sheffield Society of Architects have already arranged the programme of papers which are to be read in the next session, viz. :—November 14, "Some Old Derbyshire Houses," by J. R. WIGFULL; December 12, "Oriental and Indian Architecture," by Professor T. ROGER SMITH; January 9, 1900, "Suggestions for Dealing with the Law as to Light and Air in Building Cases," by T. WALTER EMDEN; February 13, "A Parish Church," by C. HODGSON FOWLER; and March 13, "The Architecture of the Fifteenth Century and Early Tudor Period," by C. M. HADFIELD. It is also hoped to arrange during the summer for excursions to Derwent and Langsett.

A PART of the property of the Colmore Trustees having been acquired in order to enlarge the Council House at Birmingham, the question now arises, what is to be done? By the conditions of the lease a sum of 100,000*l.* is to be expended on buildings. Most of the departments have applied for an increase of accommodation. For example, the museum and school of art committee state that the present Art Gallery is considerably overcrowded, making it impossible to properly display the present collections, and militating against further gifts to the Art Gallery; and they have already informed the Council of the offer by Mr. J. T. MIDDLEMORE of several pictures of considerable value, on condition that a new and suitable gallery is provided. After careful consideration, the committee have come to the conclusion that the accommodation immediately required can be provided with the least disturbance of other departments, and with the greatest convenience to the public, by provision being made on the new site for the health and water departments, leaving the rooms now occupied by the former, which are principally in the basement and on the topmost floor, for the extension of the public health department and the accommodation of any committees requiring small accommodation only. The total floor space estimated by the museum and school of art committee to be requisite for a new art gallery, which, for lighting purposes, will necessarily be over the proposed health and water departments, is about 16,000 square feet. If the general proposal now submitted be approved by the Council, the committee will consult an architect qualified to act as assessor if the Council should hereafter determine to obtain plans by competition, and report further when he has advised them upon the various preliminary points that must arise.

THE building in which the annual exhibitions of pictures will be held next year in Paris is estimated to cost half a million of francs. As we have already said, the site is on the ground in the Avenue de Breteuil once occupied by the abattoirs of Grenelle. The outlay is large for a temporary building, as artists expect that the palaces of art which form part of the buildings for the International Exhibition of 1900 will be assigned to them for 1901 and succeeding years. The Government may, however, intend to use the palaces for the display of a different class of objects. M. LOVIOT, in his plans for the buildings at Grenelle, has adopted the arrangement of a double row of salles, which are sixty-six in number, around a garden which will be partly covered. The salles will be for the pictures and drawings, in the garden the statuary will be displayed. The plan is a development of that of the transformed machine gallery in the Champ de Mars, but there M. LOVIOT was hampered by the piers which carried the big roof, while at Grenelle he has a free area of 33,000 square metres to deal with. The principal entrance will be on a semicircular plan, from which avenues will lead to the galleries.

ARCHITECTS' FEES.

THE mock modesty which is one of the national failings is exemplified often in the payment of fees for professional services. Barristers and physicians cannot recover money for their work unless they were employed under exceptional conditions. The President of the College of Physicians would lose his case if he brought an action for visits to an invalid; but if he were to charge ten guineas for a modicum of Epsom salts or a small box of bread pills, the law would respect his claim. A lawyer might be able to charge as much for a sheet of foolscap on which an opinion was inscribed, but the Bar Committee would not recommend the experiment. Both professions have to suffer through the existence of a fallacy which is based on an erroneous belief about the custom in ancient times. There never was a time when the skilled adviser was under an obligation to render services without any return. When by a refined hypocrisy the dealings and by an accepted fiction the payment were not above board, many evils arose, as is always the case with transactions which are veiled. One of the excuses made for the misconduct of Lord BACON is that in his acceptance of bribes he was not unique, for other judges had also itching palms. Yet in his day the members of the Bar formed an exalted class, and were supposed to be inspired by lofty motives. The practice of receiving fees was supposed to be a toleration of the humble offerings of clients' gratitude, and in all cases did not cease when the advocate was raised to a higher position. The clergy complain of worse treatment than either lawyers or physicians, and the ease with which it is assumed that the offer of more than a nominal sum for some of the functions in which they have to take part would be an offence, is one of the causes of the poverty which afflicts many excellent ministers.

Architects cannot count on the sympathy which is felt for clergymen, lawyers and doctors. Their use is not generally recognised. It is very rarely that the services of an architect are dictated by an Act of Parliament. A trustee runs less risk by going direct to a builder than by obtaining the aid of an architect and surveyor. As a rule English law expects something material to be supplied in business transactions whenever money has to be paid. The architect prepares plans and other documents, but he only lends them, and his ownership never ceases. In spite of all the cases which have come before the Courts, the architect's position is not yet clearly understood. A lawyer may enjoy the dinners given by architects, and occasionally assist at a meeting, but he is apparently unable to realise the whole extent of the work which is paid for by a commission of 5 per cent. on the outlay. He sees a large number of houses and other buildings which resemble one another, and he concludes that one set of plans can be readily adapted to serve for all. If he should be engaged in building cases, and is compelled to glance at specifications and conditions of contract, he takes it for granted they are like many legal documents drawn from printed forms by writing clerks. He admits the existence of an organisation in every office, but the more perfect it becomes the less is the need for skilled services. Whenever a barrister delivers an address in a case in which an architect is concerned, or when a judge deals with evidence, it is easy to perceive that he believes in routine as the basis of the architectural profession.

As long as there is a belief of that kind, however erroneous it may be, it affects the judgment. Routine means, to some extent, mechanical production, and all who have had experience with lawyers know how difficult it is to convince them of the mental labour which designing involves. The best building is commonly supposed by them to be only an adaptation of another building, or of several, a feat which can be accomplished by assistants who receive modest salaries. A barrister engaged by an architect is therefore disposed to compromise from the opening of the case, for he has the conviction that whatever sum is offered will pay for the services which were rendered, and he knows there is a general prejudice which no logic can overcome. The extent to which prejudice can go was exemplified by the late Lord BRAMWELL, a judge who generally was dominated by common sense and indisposed to hair-splitting. Yet when a man who was without the connection with a church which once sitting on a free seat might confer implored the committee not to entrust the restoration of the building to the architect appointed, because he was a Wesleyan, and was bound to tamper with it and cause irreparable damage, his lordship held the letter was not a libel. When we recall the fate of many actions for fees in which architects were plaintiffs, one must wish that what Mr. Justice BAILEY said about barristers' fees should be no less applicable in all commissions to architects :—"They are to be paid beforehand, because they are not to be left to the chance whether they shall ultimately get their fees or not, and it is for the purpose of promoting the honour and integrity of the Bar that it is expected all their fees should be paid when their briefs are delivered." The honour and integrity of the Bar would, we presume, be difficult to uphold if the payment of fees were deferred to an indefinite time, but what would be the effect on barristers of such a vicissitude as has fallen on the plaintiff in START *v.* West Mersea School Board, a case which came to an end on Saturday last? Mr. J. W. START, of Colchester, was in 1897 asked by the Chairman of the Board to prepare plans for the enlargement of the West Mersea schools. As economy was desirable, it was arranged that a clerk of works was not to be employed. The additional labour was to be undertaken by the architect, who was, moreover, to accept a reduced fee of 4½ per cent. Here we may remark that any concession of that kind is not advantageous to an architect should an action arise. It confirms the notion that fees are elastic, and it is only necessary for a client to be resolute in order to have them reduced. The drawings were prepared, and the usual procedure followed. Tenders were received in due course, but they were found to be larger in amount than was anticipated. The School Board declared that the understanding with the plaintiff was to have the expense of the enlargement limited to 3,000*l.*, and afterwards the reduced sum of 2,000*l.* was fixed. On that condition the appointment rested, and when it failed the liability of the School Board came to an end. Plans were obtained from another architect, according to which the work was carried out. Mr. START's plans being of no avail the Board declined to pay for them. The jury showed some consideration for the architect. He claimed 473*l.* 5*s.* 8*d.*, and in a case of the kind it is generally considered allowable to charge for attendance at meetings, consultations, &c., which otherwise would be included in the percentage which is agreed to be paid by equitable clients. The jury considered the plans to be of some use, and as it is well for a Board to be assured about the necessity of restricting their projects, definite information on that subject is worth paying for. The jury were not unreasonable in awarding plaintiff 150*l.*, or less than a third of the amount claimed.

The School Board might well have been content with their success. But one of those pleas was set up which are always received with disfavour by English judges, although bound to admit them. It was contended that there could be no right to recover any sum because the contract was not under the seal of the School Board. We have several times warned our readers about the danger which lurks in the ruling case HUNT *v.* Wimbledon Local Board. But it must be admitted that to demand a sealed document would in many cases be taken as a slur on the good faith of a public body, and an architect in consequence might be placed in a precarious position. If a contract must be sealed, and is not, it ceases to be a contract. Vainly plaintiff's counsel maintained that the uses which the plans served were completed, and therefore the money was owing for a benefit already derived and a contract that was executed. Mr. Justice WILLS could only express his regret that the plea was raised, for he could not sympathise with it. There is not probably one experienced judge who would differ from his lordship. But the law cannot be set aside by those whose duty is to administer it. Mr. Justice WILLS admitted there was no express contract between the parties, and, indeed, one is rarely entered into in such cases. Architects have to be satisfied with resolutions which are recorded in a minute-book, and of which copies are not always given. His lordship could only set aside the verdict of the special jury and give judgment for the School Board.

The case is not uncommon. In its circumstances it corresponds with a great many which occur throughout the

country. There is a competition which is not announced. When, as in West Mersea, the erection of a building is contemplated, or an alteration of it, sketches and drawings are prepared in the expectation that one day they may be useful. Their existence becomes known to those who are in any way responsible for the building, and if one architect is superseded another is ready to take his place, and unless the town is very small there are several available. At one time an architect in Mr. START'S position would, after the receipt of the tenders, be asked to modify his plans, and to turn to account the experience about cost. But private and public building-owners have so many interests to satisfy, they now prefer to give a chance to as many architects as possible. In that way they believe all the advantages of competition are gained without expense or trouble to themselves.

MUCHELNEY: A RETROSPECT.

BY R. C. AUSTIN.

ENSHRINED amidst a matchless tradition, which merges imperceptibly from the legendary into the concrete of the actual; now obscure and well-nigh indistinguishable, then breaking out with the meteor flash of a comet, illuminating for an instant the surrounding objects with startling clearness, and with its departure leaving a gloom all the deeper by contrast in Somersetshire.

Nature, history and art have united to weave a spell over this fair county, which it would be difficult to match, impossible to surpass.

The face of nature is ever changeful, but in this comparatively small compass she has been truly bountiful. Rugged pine-capped ridges and rocky cliffs open into broad plains and fertile valleys, which gently lead into sedgy moors, where of old the lake-dwellers lived their isolated lives.

Of late years the industry of man has reclaimed these peaty marshes and transformed them into pasture lands, and now cattle graze and crops flourish where formerly the sluggish tides lapped the bases of the surrounding hills; churches and hamlets alone remain mute witnesses to the expulsion of the waters.

Our ancestors were in nowise slow to avail themselves of nature's benefits, and the village of Muchelney is no exception to the general rule. Formerly it was easily accessible by water from Langport; now, some five miles off the beaten track, it is more or less exempt from the attentions of the tripper and the relic hunter.

To the artist it is indeed a Mecca in which to dream of unattainable ideals, and let fancy wander unchecked along the vista of bygone centuries, every stone speaking to us in no mute language against our haste and preoccupation.

If we would but occasionally turn into such villages for a space of time we could learn much from the buildings which our ancestors raised—a tribute to the mighty power working within them; striving to find expression in battlemented tower and fretted tracery, the perfect union of strength with weakness, the one supporting and helping the other, and thus exemplifying a divine law which man has disregarded.

But this is a digression.

All around Muchelney are flat, reclaimed moors, watered by the river Parret, no doubt an unimportant stream in itself, and scarcely worthy the name of river, but extremely picturesque in its own quiet way, its surface covered with lilies and arrowheads, in which the water wagtails hunt their prey. The banks are lined with reeds, the haunt of the moorhen and other wild-fowl. The roads leading from Drayton and Huish Episcopi are on the outskirts, suggestive of the architectural beauties which are to follow. Old houses greet one at every turn, with picturesque thatched roofs and mullioned windows; bricks are only seen in the chimney stacks; these replace the older Ham stone chimneys, which, unfortunately, have not withstood the ravages of time.

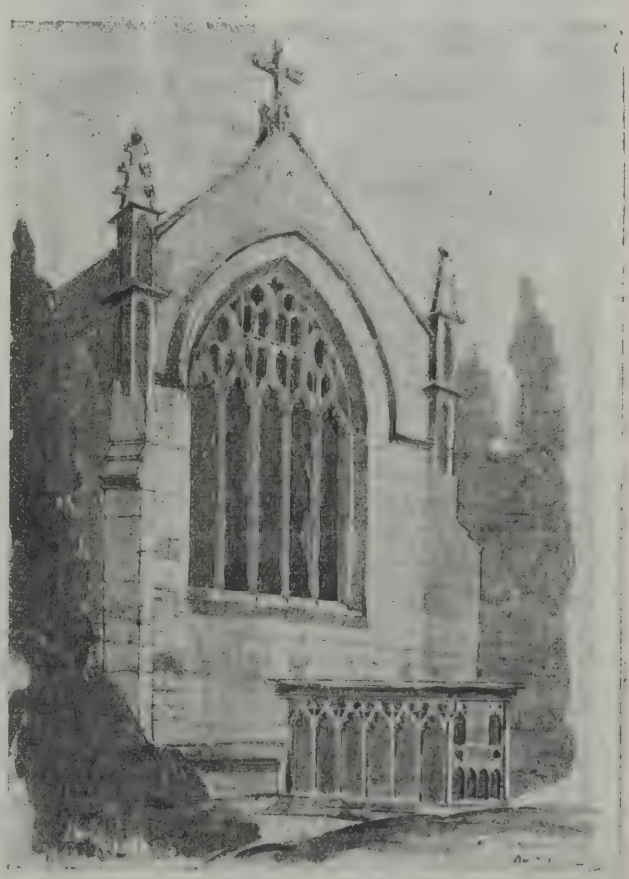
The market cross, the centre of interest in the village, stands somewhat on the outskirts; its date may be attributed roughly to the fifteenth century. The cross itself is curious in having drill-holes in the round lobes which terminate the arms. I was unable to discover the origin of these marks. The pillar on which the cross stands is a square diminishing at the top, which is surmounted by a crow's-foot gable with fleur-de-lis terminals, on which the cross stands. The base of the column is a rather high octagon, with panelled recesses in each face.



This base stands on tiers of shallow octagons, which probably formed seats for open-air services.

The material used is Ham Hill stone. Almost opposite the cross and church is the vicarage, a most interesting building, built in the latter part of HENRY VII.'s reign.

The original plan can be clearly traced, but the fine effect of the hall is spoilt by partitions and the addition of a second-floor. The tracery in the hall window is of most delicate design. This appears to have been a very favourite one, as it occurs again in the Abbey in a slightly modified form. The entrance door opening into a passage between the buttery screens is the original one. The back of the building is unfortunately in a very bad state of repair, and it has been found necessary to shore the walls in two places where the stonework has badly bulged. There has been a project on foot to pull down the whole building, but it is to be hoped that it will not be seriously entertained. The old stone-slabbed roof has been replaced by a thatched one; unfortunately it rather dwarfs the masonry.



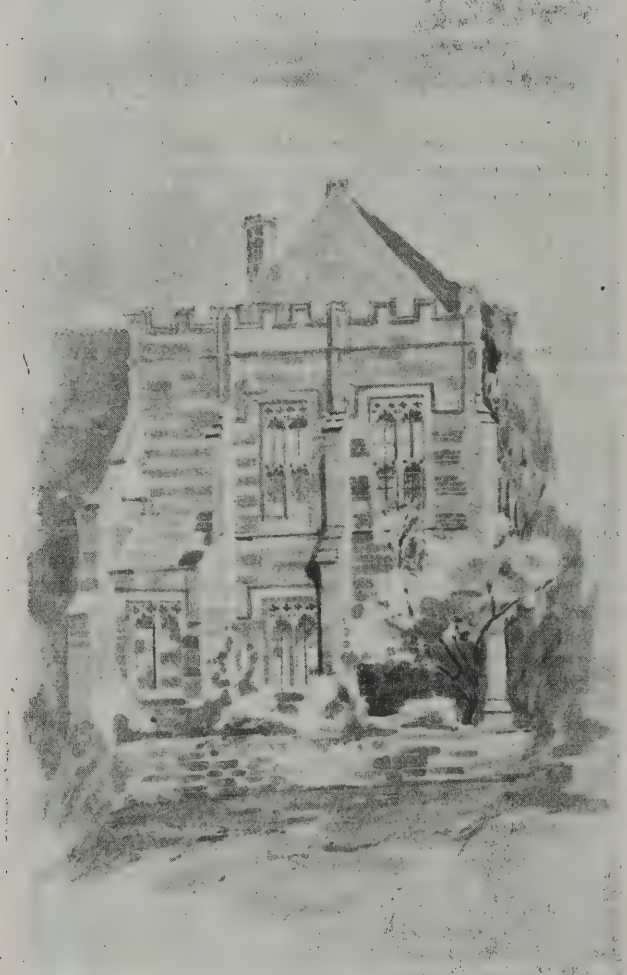
Opposite the vicarage is the church, which originally formed part of the monastic buildings. Two large yew trees in front of the north porch add greatly to the pic-

turesqueness of the churchyard. The church is now entirely disconnected from them save for the foundations, which were uncovered some time ago, and give some idea of the extent of the ground covered by the monastery.

The building standing at the back of the church is the abbot's house, now converted into a farmhouse. It remains almost intact. One wall formed part of the cloisters; this is shown by the springing of the vaulting, which is still in position.

The house, unfortunately, is not shown to visitors. It boasts a drop threshold in one of the sleeping apartments; the tracery in the windows is as sharp as though chiselled yesterday, and the remainder of the stone is in wonderfully good order considering the small amount of care bestowed upon its preservation.

The parapet is crowned by a deeply-moulded battlement of unusual section; the pilasters above the buttresses remind one of work in the Chaingate at Wells; both works



were in all probability being carried out at the same time, as the monastery was in close connection with the Wells chapter.

The "White Ways" were a peculiar feature in the history of the monastery; they were stone-flagged paths across the moors. Where dykes stopped the way, they were bridged over with stone. The reason for the name "White Ways" was probably that the stone showed clearly by night and day; only one now remains; originally they diverged in all directions from the monastery, and formed, as it were, a gigantic spider's web with connecting links uniting the radii; these paths also served for landmarks as well as passages for the monks when on some long journey which necessitated travelling by night. A great part of the monastic buildings still remains unaccounted for, and much of the foundations recently brought to light forms a subject of debate amongst antiquarians.

The abbot's hall has been converted into a barn. It is of rather earlier date than the house; on one of the outer walls may be traced curious inscriptions which are supposed to have been executed by a monk who was confined for some offence. The houses in the village are very much scattered; from end to end forms a pleasant morning's stroll. The low thatched cottages are very delightful with their three-light stone-mullioned windows and hood moulds returned down the sides. These windows are a typical feature of this part of Somerset, and are to be seen in almost every village.

Another local peculiarity is the entrance doorway, which is the usual flat four-centred stone arch common in this style, but the hood mould is about one foot six above the arch and forms a square head. The whole effect is rather unusual. This feature is more frequently met with in manor houses than in cottages.

I caught a delightful glimpse of a manor house standing right on the outskirts of the village—a two-storeyed building with mullioned windows.



The casement fasteners are of very elegant design wrought-iron, terminating in a tightly-coiled spiral.

The gable end of the wing facing the road has a fine mullioned window in the centre of its wall; beneath are panels enriched with cusping.

The wall of the return wing is supported by sturdy buttresses. I could not see any windows between them. Probably this part of the building is intended for the granary.

Both doorways in this building are worth attention; they are very characteristic of the style.

Far off one can see the tower of Huish Episcopi rising, its fretted sky-line just appearing above the trees; like Muchelney, it seems to be wrapped in foliage, and indeed the churches are similar in many respects. The tower may have been copied from its neighbour, or rather they influenced each other, as they appear to be about the same date, Huish of course taking precedence of its more humble rival by reason of its size and the beauty of its detail.



The tracery in the chancel windows of Muchelney Church is very good; the hollow moulding in the jamb is very effective. The builders in this district seem to have taken great pride in their tracery; it is worked with the minutest care, and the effect is a perfect finish without any sacrifice of boldness.

The Crucifixion over the chancel gable and the flanking pinnacles are not carved with the same degree of finish as the remainder of the work; in fact, the pinnacles savour of churchwarden restoration. But if this is the case it was done so long ago that the stone has weathered to almost the same colour as the rest of the fabric.

There is a beautiful cross on the gable wall separating the chancel from the nave.

The churchyard is most interesting, as on the south side there are considerable remains of the monastery foundations. One wall is still standing to the height of about 2 feet, with an attached tomb of an abbot. The effigy is in a fair state of preservation, and is partially supported on modern brick piers. Near this figure is a beautiful piece of tile-paving in situ, covered for protection from the weather by a piece of glass. The tomb is also covered with a rough zinc canopy; close by, towards the south-east of the church, are the remains of a circular building.

It is with reluctant steps that one leaves this county, stored with memories of past greatness, and breathing an old-world charm, now, alas! becoming rare. So much the more should one strive to capture it and hand it down to the generations yet unborn, that English traditional architecture may not be entirely lost sight of amidst the chaos of wrought-iron girders and smug middle-class houses hemming us in on every side, to the exclusion of all that makes our city life endurable.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ON Monday evening last the concluding meeting of the session was held. As it was known that Mr. G. F. Bodley, A.R.A., was to receive the Royal Gold Medal, an exceptionally large number of members attended, including some of the surviving gold medallists—viz., Sir A. W. Blomfield, Messrs. Waterhouse, R.A., Brooks and Ernest George.

Owing to the absence through illness of Professor Aitchison, R.A., the chair was taken by Mr. W. M. Fawcett, senior vice-president.

A letter was read from Sir L. Alma-Tadema, R.A., expressing his gratitude for the vote of thanks accorded to him by the Institute on his knighthood.

Presentation of Royal Gold Medal.

Mr. Fawcett said:—It is with great regret that you will all hear that our president is laid up and under the care of his doctor, who absolutely forbids his venturing here to-night. I hope his illness is not dangerous, but he is told that he must not on any account move about. I particularly regret it, for it would be much more satisfactory to you all if the Royal Gold Medal had been presented by his hands rather than by those of a country cousin, whom for the last few years you have honoured with a place on your council. There is one reason beyond that of being your senior vice-president which makes me not entirely out of place. I have known Mr. Bodley far longer than I have known anyone in this room. It was, I think, in 1852, when I was little more than a boy, that he came to Leeds to help a friend of his long since passed away. I well remember how he graphically described the delivering up of the drawings in some verses, which I fear are now absolutely lost to posterity. If long acquaintance, and I hope I may say friendship, is any title to the honour I feel in presenting this medal, I think I have perhaps shown that I possess it. I have also the further title in that I have always been a great admirer of his work, feeling that he is indeed a true artist whose designs and conceptions will receive the approval and admiration of generations yet to come. We have the further pleasure of welcoming Mr. Bodley among us as a Fellow. We all know the broad view taken by this Institute with regard to the profession—that there has never been any wish to coerce architects to join us, although we believe that the action of the Institute has been of great value not only to the architectural profession, but to architecture as an art. Feeling this, we cannot but rejoice in numbering Mr. Bodley in our ranks. Mr. Bodley's work is so well known to you all that it hardly needs comment from me. Soon after leaving Sir S. S. Scott's office he commenced practice on his own account, and St. Michael's Church, Brighton, was one of his early works. At this time he was feeling the monotony of the work done—he must have felt as what I have heard described as Gothic "revived but not revivified"—and, after some travel abroad, he evidently felt relief in the change to French work, and hoped to get life by working freely with it. This phase did not last long. He soon felt that mere variety was not life. He was a young man striving for the light, but he was also a strong man, and, like a great ship which requires the buffeting of a voyage to let it settle down in its true lines, it was necessary for him to pass through a struggle of this kind before he could grasp his work and give life to our own English Gothic. How far he is personally sensible of this I can hardly say; I am speaking as to how it appears to a brother architect. St. Martin's, Scarborough, was another of his early works where the French idea is less pronounced, and where we can feel the influence of the Priory of Kirkham not far off. All Saints' Church, Cambridge, which was built in the early sixties, has no trace of this French fever, which by this time has passed quite away. It is impossible here to enumerate and describe all the buildings he has carried out, but I may mention the church at Clumber for the Duke of Newcastle as a particularly fine work. The church at Eccleston for the Duke of Westminster is, if possible, more successful. It is hardly finished, as the screens and reredos are not yet fixed; but it has been an opportunity for carrying out a complete work with all its accessories, and the unstinted and munificent wealth of the donor has probably not made the successful result less difficult. In quite a different style is the church for the Cowley Fathers at Oxford. There the work is remarkable for its quietness and simplicity, but what a grand simplicity it is! It is not in church work alone that Mr. Bodley has won his laurels. The Eton Mission Hall at Hackney Wick, the King's College, Cambridge, and the restoration of the library at Christ's College, and many other buildings, show the same delicate care, the same longing for simplicity, truth and repose. The Deans and Chapters of York and Peterborough may be congratulated on having called in Mr. Bodley to take charge of the repairs in their cathedrals—repairs under which such delicate questions arise between the antiquary, the pure artist and the practical architect. Mr. Bodley has also shown great power in carrying out decorative work, both in colour and in that of a monumental kind. Of the latter I need only mention the tomb of Archbishop Thomson at York and that of Bishop Woodford at Ely, both of them showing great power of design and wonderful care, even to the most minute detail. He has shown also in colour the intense knowledge he has of its value when properly applied, and he has also shown how to handle it. I should be inclined to place this knowledge and management of colour as perhaps the highest of his artistic faculties. It is, therefore, with feelings of great pleasure that I have the honour of presenting the Royal Gold Medal to Mr. Bodley, and I am sure that all our members feel also the honour of having such a distinguished artist among us.

Mr. Bodley, in reply, said:—In more ways than one I am unprepared to say anything to you to-night, for I have been labouring under a mistake. I thought that to-night we were to have a pleasant family dinner, or rather a club dinner of the Institute, and that to-morrow was to be the day for speeches. So I was thinking that when I got home to-night I would think of something to say to you. I have not had the opportunity of doing so. Gentlemen, this honour that you have given me was as unexpected as it was unsought. Indeed, I may not have been quite respectful to the Institute, for it is not many years ago that I took part, with Mr. Norman Shaw, Mr. Jackson and others, in writing a paper arguing against the Institute's idea of examination being used as a test for the profession of architecture. Our feeling, and our one feeling, was that it might tend to make the profession and our work less that of an art, and too much that of a profession. Gentlemen, I think I owe this honour of receiving the Gold Medal more especially to my great love for that style of architecture which I have always held, and do hold, to be the most beautiful style—I mean the English Gothic of the Middle Ages. I believe that this style is like Greek work in its great refinement and great delicacy. Architecture then reached a perfection of which we have hardly a perception now. Our work is so confused, so mystified by many styles. In old days there was unity of feeling, and I cannot but think that the more we can hark back and try to use one style the better it would be. This may be Utopian, it may be impossible; but what a thing it must have been in those days not to have muddled in selecting a language to speak in. There was one language; for, after all, style is only language. If a Frenchman has anything to say he will say it in French, if an Englishman in English, a German in German, and so forth. And now we think so much of our styles and do not think enough of what we have to express, what we have to say, what we have to tell the world—and that is, that nature is right, nature is beautiful, and that architecture and all the arts have been established and built up, generation after generation, by the traditions of the past. I think we are rather too apt to ignore that, and are apt not to think enough of principles; I mean such principles as that of truth, and above all perhaps of refinement. For I do believe that that is a thing that is lacking in the present day in our architecture. Our buildings have grown. You know as you go through the streets of London how you see them growing. Have they grown in refinement? For in all arts—literature, painting, architecture, sculpture—you want that refinement and nicety, and it is that which makes the real and living work of art.

Mr. Aston Webb, A.R.A., proposed a vote of thanks to Professor Aitchison in recognition of the admirable manner in which he had discharged his duties during the preceding term of three years. It was seconded by Mr. H. H. Statham, and carried with acclamation.

The New President.

Mr. Fawcett then offered his congratulations to Mr. William Emerson, who had been elected to the highest dignity it was in the power of the Institute to bestow.

Mr. Emerson, in returning thanks, said that although the members had honoured him by election, it was with trepidation he would enter on his duties. He had been a member for about thirty-two years, and had filled various offices, yet he could not be forgetful of the eminence of his predecessors in the chair. He looked for a continuance of the kindly consideration he had already received, and with that expectation he would endeavour to carry out his duties to the best of his ability.

A collection, mainly of photographs, of buildings by Mr. Bodley was exhibited, including views of St. Mary's, Clumber; Queen's College Chapel, Cambridge; New Buildings, King's College, Cambridge; St. Paul's, Knightsbridge; St. Aldhelm's, Bransome, Bournemouth; St. John the Divine, Kennington; St. Matthew's, Westminster; St. Barnabas, Pimlico; Cowley Mission Church; Eton Mission Hall, Hackney Wick; Holy Innocents, South Norwood; St. Saviour's, Cardiff; and St. Mary's, Primrose Hill.

THE WORK OF MESSRS. BODLEY & GARNER.

WE have already referred to the article by Mr. E. P. Warren on "The Work of Messrs. G. F. Bodley & T. Garner," which appeared lately with an abundance of illustrations in the *Architectural Review*, which is published in Boston. The acceptance of the Institute medal by Mr. Bodley gives us an occasion to draw upon so excellent a record of the work of two English artists who have been more closely united than is usual in business partnerships. Mr. Warren says that between them "there never was a deed of partnership or any legal form. Nothing could have been less commercial in character than the partnership which bore this conjunction of names, for it would be impossible to find two artists more absolutely divested of commercial habit or instinct than George Frederick Bodley or Thomas Garner."

Both, adds Mr. Warren, were pupils of Sir Gilbert Scott, and launched on the topmost tide of the "Gothic Revival." Mr. Bodley, indeed, was Sir Gilbert's first pupil, and served an old-fashioned five years' apprenticeship, lodging in his master's house. Mr. Garner came later to the same school, and it was not until some few years after the completion of his pupilage that he joined his future partner, in the first place as an assistant.

Drilled, during his long apprenticeship to Sir Gilbert Scott, in a somewhat rigid convention of English Gothic—revived, but not revivified—Mr. Bodley not unnaturally began his independent active career with a revolt. His talents had the good fortune to meet with early recognition; and within a short time after the expiry of his pupilage he found himself with a new church upon his hands—that of St. Michael's at Brighton. Tired of the formalised versions of English thirteenth and fourteenth-century styles, with the stereotyped and elaborate mouldings and carvings which characterised the school in which he had been trained, he designed this church in an extreme severity of form and detail, and with a character suggesting the early French rather than the early English type. This building, now ruthlessly spoiled by the addition of a huge incongruous nave and aisle, by another hand, shows an original and most refined adaptation of a cognate style. Mr. Bodley struck with this, his first church, a note which is never absent from any of his subsequent work, that of suave dignity.

If Mr. Bodley's early taste in Gothic architecture inclined towards French types, that of his future partner was pronouncedly English. But for some time before his conjunction with Mr. Garner, Mr. Bodley's handling of Gothic architecture had undergone considerable change. He had become imbued with a keen perception of the beauty of English fourteenth-century, or "Decorated" work, and towards the middle of the "sixties" his designs began to show increasing evidence of that appreciation. The early French phase had passed. Austere simplicity gave way to a more suave severity, and an increasing use of softly-curved mouldings, engaged shafts and curvilinear tracery gradually testified to the conversion. The church of St. Salvador at Dundee seems to mark a middle point in this conversion. It is austere is form, but with a tempered austerity. There is a fine and graceful severity about its sharply-pointed arches of the nave arcade dying on to the capless piers, and the accentuation of the bays by the slim wall-shafts that run up to carry the roof principals. A gorgeous reredos, a gilded iron screen and diapered wall-painting, all added in later years, have done much to enrich the effect of the interior.

For the last thirty years Mr. Bodley's Gothic has always been, in so far as constructive detail is concerned, in the "Decorated" manner; but that manner has been so intensely perceived and assimilated as to become a natural, almost intuitive expression. His strong individuality shines through his adoptive fourteenth century as Wren's shone through his adoptive Palladian style.

It was doubtless kindred sympathies, kindred appreciations and kindred studies that drew together the partners, who for little short of thirty years were associated in strenuous endeavours to redeem the unhappily degraded art of architecture, and whose influence and example have had so marked an effect upon the work of their contemporaries.

Their co-operation began without actual partnership upon the church of All Saints, which stands opposite the great Gate of Jesus College at Cambridge, and whose shapely spire is well known to all frequenters of that city.

A formal partnership was entered into in 1869, and amongst other work which it immediately shared was the church, initiated by Mr. Bodley, of St. John at Tue Brook, Liverpool, a church of distinctly English fourteenth-century character, not elaborate in structural detail, but very elaborately furnished and decorated. The general effect of the interior is ornate and somewhat dim and mysterious; it is in many ways extremely characteristic of the views and tastes which stamp indelibly the united work of the next twenty years. It has the distinction, the effect of spaciousness and lofty aspiration which these gentlemen have almost invariably contrived to impart, even within narrow limits, to their ecclesiastical work. It has intensely the sense of style, less archæological than personal. It exhibits a deliberate departure from the conventional method of contemporary "Gothicists," in the "later" manner adopted for the screen, organ-case and other furniture, which suggests the fifteenth rather than the fourteenth century.

The Tue Brook Church was soon followed and eclipsed by two others, which still remain pre-eminent in character and prestige amongst the many subsequently designed by the same architects. These are the churches of the Holy Angels at Hoar Cross, Staffordshire, and St. Augustine at Pendlebury, near Manchester. They are nearly contemporary, the former begun in 1871, the latter in 1873. Though stamped with the impress of a kindred inspiration, both expressing the same lofty idealisation, and both marked by extreme refinement in detail, these buildings are as different in form and character as the exigencies of site, requirements and materials can make them.

The church is a thoroughly modern building, of frankly expressed construction, and if it were the sole instance of the united efforts of its authors, would still be sufficient to give them high rank amongst their brother artists. Flanking the southern side of the churchyard, and slightly eastward of the church, stands the school building, a large low range of red brick, quiet, simple and proportionate.

The School Board offices on the Thames Embankment, begun in 1873, was intended as a portion only of a final scheme. It has been, since, most unfortunately completed by other architects. It is distinctly French in feeling, and that character, probably suggested by its environment, falls in, not unpleasantly, with the somewhat continental impression of the tree-lined highway that it faces.

It is built of brick, shown only in sparingly striped courses, with intermingled ashlar bands on the front, and the imposing chimney-stacks. The whole façade, in spite of its horizontal entablatures that mark the storeys, presents a strong effect of vertical tendency. The slender pilasters and engaged columns, the tall mullioned windows and their leaded panes, all add to this effect. It was pleasant in colour a score of years ago in its pristine newness; it is pleasanter still to-day when London has overlaid its Portland stone and bright red brick with her softening veneer of grime. Its high-pitched roof and tall pedimented and buttressed dormers complete the sense of graceful lift which gives it an extreme distinction amidst its ill-considered neighbours. Within it is adroitly planned upon its narrow site, and contains a handsome board-room and a number of committee-rooms and offices—quiet, distinguished-looking rooms, many of them provided with high, imposing chimney-pieces. In this instance I believe I am safe in saying that for the planning of the structure and the design of the river front Mr. Garner is mainly responsible, while Mr. Bodley devoted himself more especially to the decorative finish of the interior.

A couple of miles further west, and still upon the embanked river shore, is another building, this time purely domestic, by the same architects. River House stands on the Chelsea Embankment at the corner of Tite Street. It was completed in 1879, and is, though barely aspiring to the title of a mansion, a dignified and admirably proportioned dwelling-house of sufficiently imposing dimensions. It is faced externally with buff-coloured stock bricks, while its window quoins, cornices, pediments and string-courses are of gauged red brick. It is a staid and careful composition in the earliest eighteenth-century manner, a close and studied adaptation of the style of Queen Anne. Again, as in so much of their civil work, the design of the structure is chiefly due to the junior partner, while in the interior, with its fine sobriety of scholarly detail and quiet

rmonies of decorative treatment, it is hard to say where r. Garner ended and Mr. Bodley began.

But no indication of their mutual work would be complete thout some notice of the collegiate work at Oxford and mbridge, which has so greatly added to the high reputation hieved elsewhere.

In both cities they have done much. In Oxford, to give the ual precedence to the older University, they made their ginning, and their mark, at Christ Church College with their dition to the library, and the great tower that stands at the uth-eastern corner of the principal quadrangle, known as m Quad, and rises over the well-known and splendid old ircase leading to the hall, and which, with its slender central aft and fan-traceried vaulting, is one of the prime archi-ctural glories of Oxford.

This work at Christ Church was closely followed, and deed overtaken, by another addition to another college, and e "Master's Lodge" at University College was built between e years 1876 and 1879, and is the dignified dwelling of the ad of that Society. It is, as an Oxford house should be, of ne, and is another and a striking instance of the talent for corporation with old buildings, for the acceptance and similation of a dominant note, that characterises Messrs. dley & Garner. It is full of quaint dignity in the Elizabethan nner of the college—a manner in which Mr. Garner is culiarly happy.

The scaffolding had barely been removed from the Master's dge when the foundations for a newer and larger building, s time at Magdalen College, were begun in the year 1880. is, though now forming a conspicuous portion of the college, an entirely new and distinct building. It is known as St. ithin's Quadrangle, and was entrusted to Messrs. Bodley & rner.

The late fifteenth-century manner of the college has been nkly accepted, and Mr. Garner's studiously careful detail ows a close assimilation to the character of the adjacent ildings of St. John's Quadrangle, of which, indeed, some ht years later, he completed the northern side by the wing own as the President's Lodgings, and forming the complete d dignified dwelling of the head of the college. This house ntirely of Mr. Garner's design, and, with its thick walls, ep window embrasure, imposing stone chimney-piece and c panelling, has to an extraordinary degree the effect and ling of an old building; an impression which is heightened by t reinstation of a charming eighteenth-century staircase, some winscotting of a similar period, and by the magnificent arras estries and beautiful heraldic glass belonging to the college.

If at Oxford Mr. Garner has borne the lion's share of the rk accredited to the partnership, Mr. Bodley has redressed balance at Cambridge, and at Oxford is responsible for a e non-collegiate building in the church of St. John the angelist, in the suburb of Cowley.

At Cambridge Mr. Bodley has added new and distinct ldings to two colleges, King's and Queen's; at the former h has placed on the river-front, facing the "Backs," the mplete quadrangle known as Bodley's Buildings. At een's College Mr. Bodley is responsible for the new red-ck chapel, a tall, somewhat severe building of an un-tentious character, the asceticism of whose lofty interior is tapered by the rich colouring of the vaulted ceiling and the arpiece, and by the glow of Kempe's glass, which fills many the windows. Mr. Garner made his individual contribution t the embellishment of Cambridge in the very handsome can-screen of Christ's College, and the partners were con-jntly responsible for other work in various colleges.

Between the years 1870 and 1880 they produced many signs beside those already alluded to, and amongst them se of two cathedrals: one the unsuccessful competitive sign for Truro, and the other that for the cathedral church of bart Town, Tasmania, which has been carried out, and is a ridly English design in the typical manner of its authors. lso saw the beginning of the church of St. Michael, Camden wn, London, mainly attributable, I think, to Mr. Garner. e period between 1880 and 1885 was a busy one for the tners, and one of the most striking and successful of their tual achievements, the church of St. Germain, at Cardiff, in uth Wales, belongs to it. This was a work of close collabora-n, and is marked by such an apparent singleness of intention d unity of handling, that only the most perfectly initiated servers could allot to either partner his individual share in design. There is a breadth of treatment, a spaciousness, intrinsic grace about St. Germain's Church which places it y high amongst the many beautiful creations of this order ich we owe to Messrs. Bodley & Garner. Its building was sely followed by that of another church in Cardiff, that of Saviour's, designed by Mr. Bodley—in a manner of extreme ntrast. It is very long and low, and the effect of its length increased by the inward inclination on plan of the chancel lls. It is full of character and has a dignity of its own, but kes no attempt to vie in scale or impressiveness with its tely sister.

A charming country-house at Godden Green, in Kent designed by Mr. Garner, belongs also to the early eighties, and to Mr. Garner was chiefly due the new chapel of Marlborough College, completed a year or two later, and richly decorated by his partner.

1886 brought Mr. Bodley an opportunity in many ways similar to that offered by Hoar Cross. This was the new church designed by him for the Duke of Newcastle at Clumber, near Worksop.

Clumber Church indicates a point of departure, a cessation of the real collaboration of the partners. For several years before the actual severance of the tie it had become practically nominal, and though intimately friendly and sympathetic, had ceased to have its former significance of close consultation, of interdependence and of mutual contribution to a mutual result.

For the sake of clearness it is, therefore, better to deal henceforward with their work as that of independent artists, influenced, indeed, as such intelligence must inevitably be, by a long course of associated labours, but performing each his individual task in virtual separation.

I take Clumber Church as marking the beginning of this period, though one or two previous designs which bore the names of both partners were perhaps just as absolutely the work of one of them. The great marble reredos in St. Paul's Cathedral, which is so well known as to need no description, was, for instance, absolutely Mr. Garner's.

The competitive design for Liverpool Cathedral, a competition in which no award was ever made, was also Mr. Garner's in actual conception and elaboration.

Mr. Garner during the same period was responsible for several buildings, ecclesiastical and secular, for the country churches of Bedworth, Peasdown and Camerton, for additions to Bosworth Hall, for Mr. Sidney's delightful house at Hampstead, and above and beyond all for what may be regarded as his *magnum opus*, the splendid mansion for Lord Windsor, known as Hewell Grange, in Worcestershire.

No notice of the work of Messrs. Bodley & Garner could be complete without mention of the numerous monuments to the dead which they have designed. Of these perhaps the most striking is the series of monuments erected in the several cathedrals to the memory of the Archbishop of York, and the Bishops of Lincoln, Ely, Chichester and Winchester; the first Mr. Bodley's design, the remaining four Mr. Garner's.

These monuments, placed as they are in ancient churches, have the merit of fitness and accordance; they are designed in a spirit of reverence, not only for the dead they directly commemorate, but also for the handiwork of the long-dead artists who wrought their stately surroundings.

Mr. Bodley and Mr. Garner, in the innumerable opportunities that have fallen to their lot, conjointly and separately, of repairing and adorning ancient buildings, have ever shown the most careful and tender solicitude for the preservation and expression of their intrinsic beauty and historic significance, as for the picturesque accretions of time, accident and naïve traditional craftsmanship. As single instances of their methods in this regard I have chosen two views of interiors—that of the old village church of Hickleton, near Doncaster, repaired and adorned by Mr. Bodley, and that of his own drawing-room, at Fritwell Manor in Oxfordshire, redeemed from a sorry state of dilapidation, receiled, repanelled and rehabilitated by Mr. Garner.

In their treatment of new buildings, as in their handling of old, Messrs. Bodley & Garner have ever maintained an uncompromising standard of excellence. They have unceasingly and ungrudgingly bestowed the most infinite pains upon even the minutest details of their work.

In their methods they have been a law unto themselves, bowing to no convention but their own. They have attached to them a circle, outside of which they seldom stray, of builders and approved workmen of various crafts, who by constant association and repeated realisation of their patrons' designs, have grown to a thorough understanding of their ways. Both possessed of charming country houses, it is their habit to do much of their designing in the peace and solitude of their own homes. Ignoring all precepts of professional advancement, moved by a mutual shrinking from publicity, they have held their independent course in quiet and unassuming self-confidence.

MESSRS. FOSTER sold on Wednesday, at 54 Pall Mall, a portrait of Lady Hamilton as Bacchante, by Sir Joshua Reynolds, an exceptionally fine example of the master. This is the picture which J. R. Smith engraved and published in September 1784, under the simple title of "A Bacchante," but the engraving differs somewhat from the picture itself, of which the canvas measures 30 inches by 25 inches. The bidding started at 1,000 guineas, and at 4,300 guineas it became the property of Mr. C. Davis, Bond Street. An illustration of the picture has appeared in *The Architect*.

NOTES AND COMMENTS.

THE inhabitants of Scranton, in the United States, deserve mention, for more liberal patrons of superintendents of municipal works could not easily be discovered. For example, a culvert which cost 772 dollars to construct required overseeing to the extent of 122 dollars, or nearly a sixth more. Inspection commonly costs 11 per cent., and is never lower than 4 per cent. If the work were satisfactory there might be little grumbling, but the city engineer says all his care in preparing specifications is of no avail, for with such a system of superintendence there is no use in demanding the best materials and workmanship. The paving, according to the engineer, has excited very general enmity and indignation among the public on account of the disgraceful and dangerous condition of the streets in the central city, and he adds, "There is hardly a man living in this city, should these conditions prevail in the immediate vicinity of his own home, but would, on the approach of a stranger, lock the door and hide himself out of shame." He recommends the appointment of a pair of inspectors at 60 dollars a month each, to supplant the horde of inefficient loafers who now have charge of works, and in ordinary business that course would be adopted; but in America appointments of the kind are rewards for political influence and activity. Easy work and liberal pay are therefore required.

WE suppose it is unavoidable for archæologists to escape wasting their emotions over shams. Their inability to distinguish counterfeits from realities has afforded subjects to satirists in all ages. A case has occurred in Sussex which resembles many which preceded it in that county and elsewhere. The name of WILLIAM DE WARRENNE recalls the days of Norman supremacy. He was a stout warrior who ruled in Sussex, and his wife GUNDRADA may have had the virtues and accomplishments with which the old romance writers endowed all ladies in her position. But they died just like the peasants and were buried in Southover Church. If their dust has mixed with that of meaner mortals their cists at least are supposed to have survived, and have been on view in the church. The leaden cases received due reverence from lovers of antiquity. But the appalling announcement was made a few days ago that the cists only date as it were from yesterday. They were cast in 1848. A plumber in Lewes says:—"My brother, WILLIAM DAVEY, cast two leaden cists like the old ones, and the bones of WILLIAM and GUNDRADA were placed into them and not into the old ones again. These new cases were placed in a square vault in the floor in the middle of the chapel, and a plate glass was put over them. The old coffins were left on the floor for exhibition. I was eight years old at the time, and I have never been in the church since." To confirm the statement an excerpt is supplied from the plumber's ledger, from which it appears an account was opened for "the late GULIELMUS DE WARRENNE," and on February 12, 1846, the following entry appears:—"To use of packing-case and time packing the lids of your own and wife's lead cists to send to the Archæological Institute, 4*s.* 6*d.*" On June 24, 1848, the Norman is further charged with 8*l.* 8*s.* for "two lead cists, &c." Whether he returned to Sussex to pay his debts does not appear, but the warriors of his time were rather indifferent about the settlement of accounts. The question which has more interest is whether the Southover cists are ancient or are simply the copies made by WILLIAM DAVEY in 1848? On that subject archæologists are divided, and are not likely to come to an agreement in a short time.

A CONGRESS of French architects has just been concluded at Tours, under the presidency of M. DUCHÂTELET. About eighty representatives of the profession were present. One of the advantages of Tours as a centre was the number of interesting places which could be visited. Among them were Langeais, Ussé, l'Islette, Azay-le-Rideau, Loches, Poitiers and Angoulême. Among the subjects considered was the development of the industries of art in the provinces, and how far they could be promoted by an extension of the system of teaching in the schools of art, and more particularly by the influence of architects. The latter was, of course, considered to be the most potent factor, although the officials held a different opinion. Last year the French Legislature passed a measure resembling the English Workmen's Compensation Act. As it is no less obscure in its clauses, there is apprehension that the onerous responsibilities of French architects may be increased by the application of some of the clauses to them. The congress declared that, as they were artists, all architects should be excluded from direct or indirect liability for damages. But inasmuch as the Code treats architects and contractors with equal rigour, the judges may be disposed to interpret the new law in a similar spirit.

IN spite of unceasing efforts, the supplementary attraction which is to resemble the Eiffel Tower in novelty, and to secure success for the Paris Exhibition of 1900, has yet to be discovered. Novelties have been suggested, but their value is indicated by the indifference of financial speculators to them. Under the circumstances, the project of a representation of Pompeii, as it appeared before the destruction in A.D. 79, is now receiving more attention than when first announced. Several artists and archæologists have expressed approval of the attempt, and the Italian Minister of Fine Arts has promised to give all his aid to insure accuracy. There would be some appropriateness in having such a restoration in Paris, for it was during MURAT'S reign of seven years that the systematic excavation of Pompeii was attempted. In the prior excavations portable objects alone were sought, and the buildings were sacrificed or neglected. The forums, temples, theatres, quarters for gladiators would allow of the introduction of groups and performances which would enable crowds to realise scenes in the everyday life of the Romans. A rival scheme is proposed in order to exhibit Pompeii as it is to the untravelled. But the time to produce a satisfactory restoration of the living or dead city is very limited, and apparently the exhibition will have to depend for attraction on works which exemplify modern art and industry.

ILLUSTRATIONS.

CATHEDRAL SERIES.—ROCHESTER: LOOKING SOUTH-WEST.—THE NAVE ARCHES.—THE TRIFORIUM.—EAST END OF CHOIR.—THE WESTERN TURRETS.

WHEN we began the series of illustrations of Rochester Cathedral we expressed regret that CHARLES DICKENS'S anticipations of being able to have his name bound up, as it were, with the old building was never fully realised. The brass which was erected after his death on the wall of the south-west transept records the aim of his representatives to carry out his wish, for it bears the following words:—"To connect his memory with the scenes in which his earliest and his latest years were passed, and with the associations of Rochester Cathedral and its neighbourhood, which extended over all his life, this Tablet, with the sanction of the Dean and Chapter, is placed by his Executors." There is also a melancholy interest in knowing that the last effort of his imagination was to create a vision of the cathedral as it appeared on such a day in June as he was then enjoying. His memorable words were:—"A brilliant morning shines on the old city. Its antiquities and ruins are surprisingly beautiful, with a lusty ivy gleaming in the sun, and the rich trees waving in balmy air. Changes of glorious light from moving boughs, songs of birds, scents from gardens, woods and fields—or rather, from the one great garden of the whole cultivated island in its yielding time—penetrate into the cathedral, subdue its earthy odour, and preach the Resurrection and the Life. The cold stone tombs of centuries ago grow warm, and flecks of brightness dart into the sternest marble corners of the building, fluttering there like wings." DICKENS'S admirers must always be glad that such a scene was before his mental vision a few hours before the singular expression of trouble and pain appeared on his face and his thoughts and words ceased to be coherent. As we close the Rochester series, we feel bound to recall the picture which the cathedral formed for the most popular of English writers, and which humbler people can also enjoy if they desire.

BLUE POSTS, ARLINGTON STREET, W.

SUMMER HOLIDAYS AMONG FRENCH CATHEDRALS.

BY THE AUTHOR OF "ECCLESIOLOGIA GERMANICA," &C.

(*Continued from page* 402.)

XXV.

Noyon.

FOR a considerable time after leaving Senlis, the solitary spire of Notre-Dame remained visible across a treeless plain. Then it was lost, the train stopping at a succession of villages, some of them with high-sounding names, and churches having crocketed spires of the Creil type together with lofty chancels like those met with in the vicinage of that convenient *point de départ.*

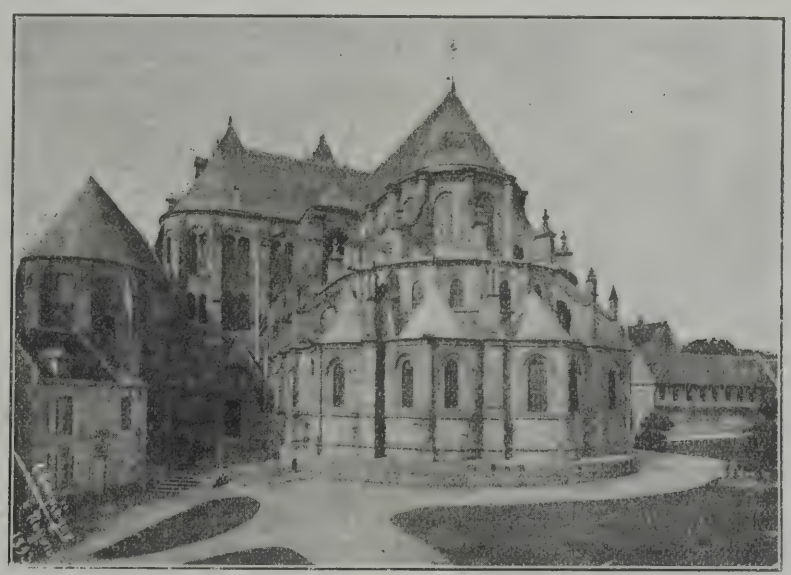
To those with a superabundance of leisure, or intent on prosecuting stricter researches into the ecclesiology of the district, not a few of these churches would doubtless prove highly interesting and instructive.

At Crepy-en-Valois, which had a temptingly architectural look, carriages had to be changed, and shortly after the train passed, among others, the village of Jaux, whose small three-gabled church of red brick with an Early Pointed spire and rendering a post-prandial saunter round the city, upon its cessation, highly agreeable.

Although not so diversified as those of Senlis, the streets of Noyon are very old-world and enchanting. There is a fine market-place dominated by the steeples of Notre-Dame; shady boulevards screen the old part of the city from the modern one that has grown up around the railway station; and the streets, although ordinarily wearing an appearance of drowsiness, show no symptoms of decay. Everything in Noyon has a substantial, prosperous look, and through the *porte cochère* of many an eighteenth-century house with its louvred and red-tiled roofs, where strut colonies of pigeons, glimpses may be caught of really well-kept gardens bright with vivid masses of scarlet geranium.

One thing only Noyon lacks, and that is a grandly-performed daily office in its quondam cathedral of Notre-Dame,* one of the most beautiful and complete monuments of the Transitional period in France or elsewhere.

Viewed from the east its most striking feature is the apsidal termination to either transept, which, together with the employment of projected steeples at the angles formed by the eastern and transeptal limbs, may be attributed either to the long connection of Noyon with the see of Tournay or to its proximity to the German border.



NOYON: APSE AND SOUTH TRANSEPT OF NOTRE DAME.

Flamboyant traceried windows, had a very captivating appearance. I regretted afterwards that I did not break the journey at Crepy, for at Compiègne, where I allowed myself a couple of hours, I was disappointed in the two churches of St. Jacques and St. Antoine. The former, a large Early Pointed structure, has had its interior almost completely masked in a remorseless rococo fashion; the latter, a jejune Flamboyant edifice, enshrines a black marble font, similar in motif to those in Winchester Cathedral, St. Michael's, Southampton, and East Meon, but wanting the angle shafts.

Another short railway ride, during the progress of which I noted several churches with saddleback towers on either side of the line, and presently the two noble western steeples of Noyon came in sight.

An omnibus met the train and rattled me over the stony streets of the little city, depositing me in good time for dinner at the doors of the Hôtel du Nord, which combines the advantages of an excellent cuisine and an uninterrupted view of the choir and transepts of France's most delightful Early Pointed cathedral—one which it is a duty to see and a pleasure and privilege to have studied.

The summer during which the tour I am now describing was taken was one of unusual brilliancy and splendour, but a very heavy thunder-storm which broke over Noyon whilst sitting at dinner, when the western steeples stood out like two great white cliffs against a sky of inky blackness, thereby producing a very fine effect, was by no means unwelcome, for it lowered the temperature without breaking up the fine weather, besides

The illustrations which I have given of this most charming parallel triapsal cathedral's exterior preclude me from entering into a detailed description, but in the view of it from the east I would draw attention to the position of the doorway, which, as in some Rhenish churches, occurs in the eastern side of either transept;† to the curious fenestration of the clerestory in the same portion of the building, and to the double tiers of windows necessitated by the extraordinarily grandiose triforium, another feature borrowed from Tournay, and of which I shall speak presently when describing the interior of this most fascinating church, whose austere western façade fitly prepares the mind for the chastened grandeur of the interior. Few great French churches of the Early Gothic period can show an exterioral ensemble so little disturbed by the accretions of later ages.

The divergency in the detail of the gracefully elongated belfry stages will be noticed, also the noble range of Geometrically traceried windows lighting the Salle de Chapitre to the north, while the exquisite carving in foliage above and below the now shaftless and figureless jambs of the triple western doorways, sheltered by the simple porch extending the length of the façade, deserves the closest attention from the student of thirteenth-century detail.

Entering Noyon Cathedral from the west—though perhaps

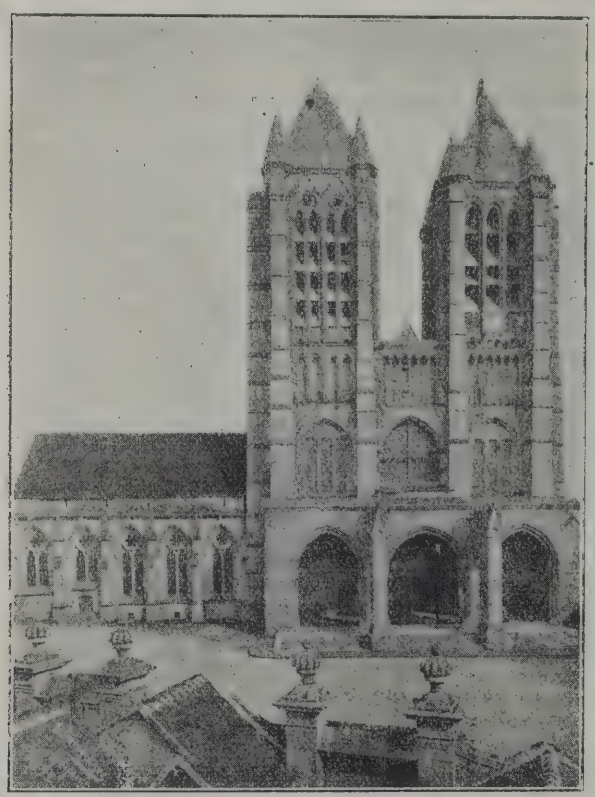
* The see of Noyon was suppressed in 1801, and, with that of Senlis, placed under the jurisdiction of the Bishop of Beauvais.

† S. Maria in Capitolio and the Apostles Church at Cologne exemplify this. We meet with it also at Mayence and in the eastern pair of towers at Bamberg.

the most impressive *coup d'œil* of its interior is to be had from the threshold of either of the transeptal portals—you are not overwhelmed as at Amiens, or Beauvais, or Bourges, or Chartres, but you instinctively feel yourself to be in the presence of a most charming and reposeful church—one that grows upon the mind and imparts renewed pleasure at successive visits.

Immediately you set foot in the nave a striking feature presents itself in the tall Pointed arch which opens on either hand into the space formed beneath the towers, and which, together with that spanning the church transversely, constitutes, as at Peterborough, a species of gigantic internal narthex or space distinct from the nave proper. This has ten bays of Pointed arches broken up into couples of five by the vaulting shafts, each pair springing from a cylindrical shaft, with almost classically foliaged capitals, similar to, but not so refined as those at Senlis.

A series of Pointed arcades opens above the pier arches into the tribunes. These spacious vaulted galleries, lighted in this instance by Romanesque windows in pairs, are peculiar to several great churches of this part of Europe, and, corresponding to the grandly developed Anglo-Norman triforia of Norwich, Ely and Peterborough, afforded accommodation for the spectators of processions and of those miracle plays which in Mediæval times were so frequently enacted in the naves of churches.



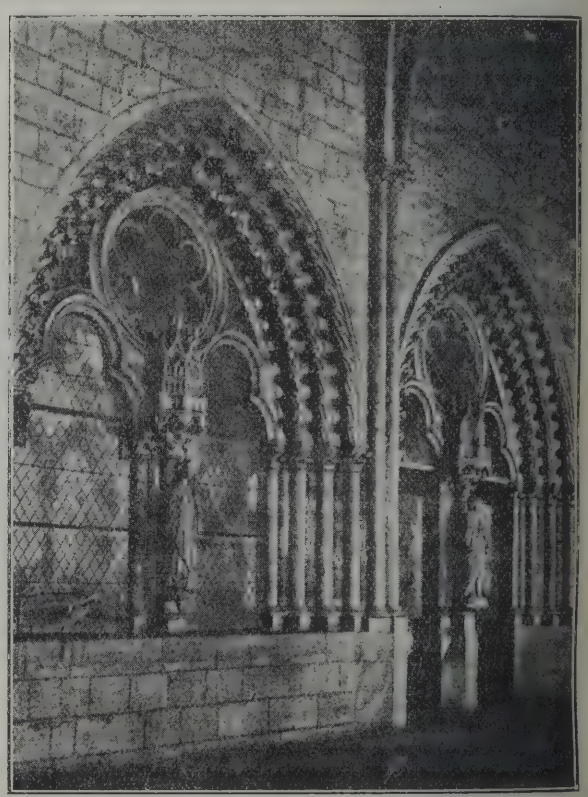
NOYON: WEST FRONT OF NOTRE DAME.

Surmounting these is a low arcade of semicircular arches unpierced, and, above all, a tall clerestory of very simple round-headed windows in pairs, similar to those lighting the tribunes. Such a quadruple division in height constitutes another feature borrowed, doubtless, from Noyon's prototype, Tournay. Here it is productive of a very grand effect, and perhaps nowhere in France is the struggle that was going on at the period of the church's erection (1150-70) between the round and pointed arch, resulting long before the close of the century in the triumph of the latter,* so finely illustrated.

Laon Cathedral furnishes us with another noble instance of this quadruple division of the elevation. There it is entirely Pointed. Tournay, the Romanesque example, is very majestic, but suffers somewhat from the two lower ranges being of almost equal dimensions, while its uppermost storey, together with the roof, is poor sham Romanesque of the last century. Taken together, however, Tournay, Noyon and Laon afford three most interesting comparative studies.

In the first three bays of the eastern limb we find both the quadruple division of elevation and the admixture of the round and pointed arch; but in the apse, where the too frequent filleting of the vaulting shafts hardly constitutes an agreeable feature, the latter reigns supreme; albeit the Romanesque element peeps out in the circular plan of the shallow chapels radiating from its processional aisle. Throughout the choir's clerestory the simple lancet is employed with beautiful sublimity of effect, and in the three central ones of the apse a beginning of good modern stained-glass has been made.

From the nave aisles there is a slight ascent of steps into the transepts, which have not the circumambient aisle possessed by the similarly-planned ones of Soissons and Tournay. Here again we find the quadruple division in the elevation, the low blind arcade occurring below the division corresponding to the tribunes in nave and choir. The walls in the lower part are relieved by tall Early Pointed arcades, some of the divisions having been scooped out to form Grecianised niches. The door leading into either transept has been likewise Grecianised, but not obtrusively. Above the southern one I read the following inscription from St. Cyprian:—



NOYON: ENTRANCE TO CHAPTER-HOUSE.

Ecclesia istic non clauditur,
Nec episcopus alicui denegatur.

This is one of the great French churches preserving the basilican arrangement, the high altar, a really imposing affair albeit Grecian, standing just under the eastern arch of the great crossing. In front of it, and extending the whole width of the transept, is the ritual choir, separated from the nave by a tall plain iron gate and side screens. The stalls for those engaged in the musical part of the offices find room in the spacious *arrière chœur* behind the high altar.

Returning into the nave, we pass into its south aisle to find the original Doric simplicity of the twelfth-century church disturbed by a series of those Middle-Pointed accretions in the form of chapels from which few great French churches of its age are free. However, at Noyon the work exhibited by not a few of these chapels is good, and their picturesque ensemble somewhat compensates us for the loss of the original aisle fenestration.*

Having paused to admire the magnificent cross views of the

* An interesting article on the chronology of Notre-Dame at Noyon appeared in *The Architect*, November 25, 1898.

* At Sens Cathedral during M. Viollet-le-Duc's restoration the Middle Pointed chapels were removed, and modern Transition work substituted for them.

church to be had from various points in the south aisle, we may proceed to inspect sundry of these chapels, each of which is co-extensive with the coupled arcades of the nave. The first, counting from the west, disused at the time of my visit, is good Late Decorated, with tracery in its two windows, which in point of delicacy nearly approaches our own of the same epoch. The second chapel is inferior Decorated, its late character being indicated by great pendant bosses and by the tracery of its three windows, of which the centre one is equipped with a Radix Jesse in modern stained-glass, apparently copied from an ancient example, but in which one desiderates white to relieve the enormous quantity of positive colour. However, the poverty of this chapel's structure is in some degree compensated for by a most elaborate reredos which, like those in certain Oxford college chapels, occupies the whole of the eastern wall space. A wooden screen filled in with iron, simply cross framed, and fencing this chapel from the aisle, is interesting.

The northern range of nave chapels do not present any features of much interest beyond their detail, which is earlier and better than that of the opposite series. The windows, which are all Geometrically traceried and filled with indifferent modern stained-glass, "give" on to the remains of a very graceful little cloister, where a pêle-mêle of fruit trees, wild and silver beeches, sombre firs, vines and creepers springing from a carpet of rank grass, only too plainly bespeaks the word "Ichabod." But no visitor to Noyon should omit to visit this half-deserted, half-cared-for looking spot, not only for the sake of the magnificent ensemble presented by the northern elevation of the nave and steeple, with its hipped gabled roof and gracefully elongated belfry stage, but to study one of the loveliest pieces of Early French Gothic of its kind in existence—the entrance to the chapter-house in the western walk of the cloisters, and of which I append an illustration. Several times did I repair thither, so fascinated was I by the combination of nature and art, which, lovely as they appeared at the time of my visit, must be doubly so in autumn. In fact, I was charmed with the whole place, both from an ecclesiastical and secular point of view. To those in search of "fair quiet and sweet rest," combined with study of one of France's noblest Early Gothic temples, my advice is, go to Noyon.

SOCIETY OF ARCHITECTS.

AT the meeting of the Society of Architects this week in Sheffield, which was one of a series to be held in order to obtain the views of provincial architects, the following paper was read:—

The Statutory Registration of the Profession.

By ELLIS MARSLAND.

I do not propose to occupy your time at any great length this evening, but desire to point out as briefly as possible the main features of the movement we are now met to discuss.

Although the question of the statutory registration of the profession has for many years occupied the minds of architects, it was not till the year 1886 that any very definite organisation was determined. In that year, on April 6, a Conference of Architects was called at the Freemasons' Tavern, London, and its views were expressed in the following resolutions:—

"That, in the interests of the architectural profession and of the public alike, it is desirable that all architects in the kingdom should be united in one body, having branches in the provincial cities and towns and a central council in London, including amongst its members representatives from the provinces.

"That a committee be formed without delay to give effect to the foregoing resolution, and to facilitate the formation of committees in the provinces.

"That it is the opinion of this meeting that instructions should be given to the committee to consider the means necessary in order to obtain an Act of Parliament making it compulsory for all architects to hold a Government diploma."

A committee was then formed called the Architects' Registration Committee, to give effect to these resolutions, and after careful consideration came to the conclusion that in the last of the three lay the essence of the whole. Accordingly they issued a circular to some 2,500 architects in practice in the United Kingdom, with a request that they should sign, if they thought fit, the following declaration:—

"Whereas we, the undersigned, are of opinion that it is for the benefit of the public and the architectural profession alike that legislative powers should be obtained, so that all persons hereafter entering the profession shall be duly qualified by examination, we are desirous that committees should be formed to promote the object in view and to obtain the necessary Act of Parliament."

Some 1,300 replies were received to this circular, of whom 165 were Institute members and 175 members of the Society of Architects.

After the receipt of these replies the committee set to work, with the result that a Bill was introduced into Parliament in 1887, which included architects, civil engineers and surveyors. This Bill excited the opposition of the two last-named bodies, and it was eventually decided that the Bill should deal only with architects, and a fresh Bill was introduced and was ordered by the House of Commons to be printed on March 7, 1893. This is the extent of progress that has been made up to the present.

Before any further progress can be made it will be necessary to show that there is something like unanimity among architects upon this question, and with the purpose of obtaining the views and opinions of provincial men, whom this question affects much more seriously than men in London, the Society which I have the honour to represent here to-night is organising a series of meetings in the chief provincial centres, that architects may be brought together; and should it be found, as a result of these meetings, that there is a great preponderance of opinion in favour of registration, we shall, having the knowledge of your support, be encouraged in our efforts to realise the object at which we aim.

We, of course, cannot expect to make much headway with any Bill until we have convinced the Institute that their present attitude is a false and mistaken one, and by these meetings we hope to show them that they are acting in opposition to a large section of their provincial brethren, and also contrary to the best interests of the progress of architecture in this country.

My Society has no wish to take the lead in this much-needed reform, and if the Institute will but take the matter up in earnest and see it through, they will have our hearty co-operation. Then, with a united front, we shall be able to show Parliament that we are resolved architecture shall in reality, and not as at present by courtesy, be recognised as one of the professions.

It may be asked what is meant by registration. It means, in the present, that every man practising architecture shall be duly enrolled in an official register under an Act of Parliament, and be duly responsible for his professional actions, and that no one be allowed to practise until he has been duly enrolled. In the future, it means that no one be allowed to practise architecture until he is duly qualified and has been found so by undergoing a qualifying examination.

At present there are only three recognised professions—the Church, Law and Medicine—to all of which it is considered an honour to belong, and why? Because to be a member of one of them implies the fact of having undergone a prolonged and complete course of study and preparation, which has fitted him for the position to which he has attained.

Why is architecture excluded? To possess the knowledge to build, and the skill to plan and design a building, and to deal with innumerable questions—scientific, artistic, legal and sanitary—which continually present themselves in ordinary practice, requires a training as arduous and as prolonged as that of any to which I have alluded. If the men who provide for our spiritual and physical welfare, and those who conduct us through the mazes and intricacies of the law, are to be honoured with the dignity of being called professional gentlemen, surely the men who provide the necessary skill to erect our churches and public buildings, and to make our homes healthy and artistic, are entitled to the same dignity.

But the answer is not far to seek. At present any person with or without a fair general education, any builder, builder's foreman, clerk of works, clerk in a local board office, auctioneer, undertaker, *et hoc genus omne*, with the sole qualification of being able to provide a brass plate, is at liberty to advertise himself as a person qualified to give advice to the public in the science and art of architecture. Builders and others going out of their proper province boldly proffer their services as architects to their customers gratis, and the tempting bait of an apparent saving of 5 per cent. is not to be resisted.

Can it be a matter for wonder that we are still unrecognised while such a condition of things exists? For at present the public have no guarantee that the class who call themselves architects are any better qualified to plan and design their buildings than the contractors who erect them, and should they employ an architect they have no means of ascertaining that his knowledge is greater than that of the builder, and the only certainty about it from their point of view is they will have to pay the professional charges.

Of what use is it for the Institute to say that their examination is a panacea for the existing evils unless this examination is made compulsory? Until men find that by undergoing a course of study and passing an examination they are placed in a better position in the eyes of the public than the man who possesses no qualifications at all, it is very unlikely that an appreciable number of men will voluntarily come forward and avail themselves of this means of entering the profession.

The necessity for a higher standard of professional excellence and public confidence is of essential importance to provincial men. There is a feeling, a mistaken one if you will, that local architects are all very well for the ordinary work of the town, but so soon as any work of primary importance is to be executed, architects from outside must be invited to compete. Does not this arise partly from a want of confidence, there being no guarantee in employing a man who is styled an architect that he really knows his business? But in nine cases out of ten it is the local man who, from his knowledge of the materials of the locality and the special requirements of his fellow townsmen, is more likely to carry out the work satisfactorily than an architect from a distance.

The advantages arising from registration are these—

Closing the doors to incompetent men.

Raising the standard of the profession.

Obtaining the confidence of the public and State recognition.

It is not proposed for one moment to say that all who desire to build should employ an architect, but what we do propose is that henceforth, in the interests of the public, no person shall be entitled to call himself an architect whose name is not enrolled as qualified under an Act of Parliament, and any person wishing to employ an architect may, by consulting the "Official Register," ascertain what men are qualified.

Objection has been urged against the movement that it will create a monopoly, and thus be opposed to the principles of modern legislation, but there cannot be a monopoly created where it is made possible for any one who proves himself qualified to share the rights.

Another objection is that it will be necessary at the outset to register some of the very men who have caused all the mischief. This is very true, and unless you do this you will find that Parliament will not listen to you. That you must respect vested interests is an axiom of parliamentary practice, and where a man can show that he has practised architecture, Parliament will say you must not derive him of his rights, and the obstinate attempt to exclude this principle from the Medical Act was the chief cause of delaying its passage through Parliament for thirty years.

The first effect of a Registration Act would be to put a stop to any further increase in the number of incompetent practitioners, and henceforth they would become a diminishing quantity.

The general outline of a Registration Act would consist of—

A preamble, shortly stating its objects.

A title, which might shortly be the "Architects' Act."

The provision of a general council and branch councils to administer the Act, composed of members of existing architectural bodies, as well as members nominated by the Privy Council and registered practitioners.

A provision as to the appointment of registrars and the necessary machinery for registration.

The qualification for registration at the commencement of the Act should include all members of existing architectural bodies and such other persons as could show, to the satisfaction of the council, that they were actually practising architecture; and afterwards only such persons as had been duly articled and had passed a qualifying examination.

The provision of an examination, either by the general council or some already existing architectural body.

And, lastly, fines upon unqualified or unregistered persons practising as architects, and a provision as to their inability to recover charges for professional services rendered.

A Bill prepared on the above lines has been drafted by the Registration Bill Committee, and I take this opportunity to correct an erroneous impression that is abroad that this Bill is the child of the Society of Architects. That it meets with the general approval of that body is no secret, but the Society is by no means pledged to it in all its details; it may be necessary to amend it in some particulars, and the object of this meeting is to elicit the opinion of architects on the general question, and not upon the details of any particular Bill. The time may come when with certain modifications the Society of Architects may adopt it, but not until the general sense of the architectural profession has been declared definitely in favour of the principle.

If architects want such a measure, this Society will leave no stone unturned to bring about its realisation. If, on the other hand, the general feeling is against any registration scheme, we shall be content to let the matter drop. Gentlemen, the matter is in your hands.

The Designs sent in for the diploma to be used in connection with the Paris Exhibition of 1900 have numbered 109. The authors of the five designs considered most worthy, and who will take part in the second competition, are MM. A. Besnard et Vaudoyer, Camille Boignard, Diogène U. N. Maillart, Michel Lançon, and Rosset-Granger. The first prize is 10,000 francs, and 1,000 francs will be paid for each of the four other designs.

ST. NICHOLAS, SEVENOAKS, AND KNOLE.*

AFTER leaving the station and passing through the town of Sevenoaks, attention was drawn to the interesting parish church dedicated to St. Nicholas, over which the rector, the Rev. T. S. Curteis, M.A., F.S.A., was good enough to conduct us; he has dwelt with so much interest on the points of attraction in this church that it leaves very little for me to tell you.

The nave is of the late thirteenth-century period of architecture, the north aisle of the Decorated period about 1320; the chancel, chancel aisles, south aisle, south porch and tower are all in the Perpendicular period. Over the south porch is the parvise, now used as a choir vestry. The aisles and the south porch are embattled; the latter is large and handsome with octagonal staircase turret.

The tower at the west end is 90 feet to the embattlements, resembling many others in the neighbourhood, and is three storeys in height. It contains a clock and eight bells. The west door is set in a square heading with panelled spandrels, and above is a good window of five lights; the belfry windows are square headed. There is a battlement and octagonal corner turret. The windows are mostly of three lights except those in the north aisle, which are of two; and those in the clerestory are of four, but not large.

The interior is handsome and in good preservation, the length being 150 feet. The nave has lofty Pointed arches on each side with octagonal piers, and the chancel has two with piers of clustered shafts.

The roof of the chancel is new, in the Perpendicular style. On the north side of the chancel is a vestry embattled. The sanctuary is well decorated and the altar well elevated, adorned by a handsome jewelled cross and candlesticks, and vested with rich silk frontals and embroidered. There are two handsome candelabras on the steps in front of the altar. The organ was built by John Avery in 1798. It was opened, as a window bill in existence records, "in a solemn and patriotic manner," and the offertory at the service was given to the widows and orphans of the gallant soldiers and sailors who fell in Lord Nelson's celebrated victories.

The windows are very beautiful, especially the east, and that in the tower is very fine, and was erected by public subscription to commemorate the Queen's Jubilee, 1887, at a cost of 700*l.* It represents Our Lord's Ascension.

A fine panoramic view of Sevenoaks and its surrounding country was obtained from the tower.

There are over forty different monuments and monumental slabs on the walls and floor. That to Earl Whitworth is surmounted by a bust by Chantry. The pulpit now in the church was made (according to an entry in the Wrotham Register) by the "Joyner of Sevenoke" in 1636, for 8*l.* 10*s.*, at the order of the churchwardens of Wrotham. A new pulpit was provided for the latter church, and the discarded old pulpit was bought for a trifling sum, cleansed from its many coats of paint and whitewash and restored to the church.

Knole.

I need hardly say any more about the church, but proceed to describe the noble seat of Lord Sackville, which stands in its fine park immediately contiguous to the town of Sevenoaks, the park gates being opposite Sevenoaks Church. The area of the park is nearly one thousand acres, about two miles long from north to south and one and a quarter mile from east to west, the park being delightfully undulated and beautifully timbered, and the view from the south, from the staging erected for the purpose, over the Weald of Kent, is probably unsurpassed.

In the reign of King John, Knole belonged to Baldwin de Bethun, Earl of Albemarle. It afterwards passed to the Mareschalls, Earls of Pembroke, and the Grandisons and the Sayes, and in the reign of Henry VI. to James Fiennes, or Fynes, created in 1446 Lord Saye and Sele, and so barbarously murdered by Jack Cade. His son, Sir William Fiennes, second Lord Saye, sold Knole, "with all its appurtenances," for 400 marks to Thomas Bouchier, Archbishop of Canterbury, in 1456.

Bouchier enclosed the park, rebuilt the house, made it his residence, and died in 1486. His successor, Cardinal Morton, also died here in 1500. It continued to be the seat of the Archbishops of Canterbury, one of their sixteen palaces, until Henry VIII., who had often visited Archbishop Warham here, and taken a liking to the place, forced Cranmer to an involuntary surrender of it.

The deed of indenture by which Cranmer surrendered Knole to the king was dated November 30, 1537. It remained in the Crown until July 1550, when Edward VI. granted it to John Dudley, Earl of Warwick, created Duke of Northumberland 1551, who, however, in 1553 changed the lordship and manor with the king for other estates, but reserved to himself the house and appurtenances. These by his attainder the same

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* From a paper read by Mr. Cooper-Penn at the visit of the members of the Upper Norwood Athenæum.

year reverted to the Crown, and Queen Mary soon after granted the house and manor to Cardinal Pole, whom she had nominated Archbishop of Canterbury—the last archbishop who possessed Knole. The cardinal archbishop died a few hours after Queen Mary, and Knole was at once resumed by the Crown, though the grant was to Pole for his life and a year after, as he should by his will direct. Queen Elizabeth granted Knole in 1561 to Sir Robert Dudley, afterwards Earl of Dudley, but five years afterwards he resigned it to the Queen. It then passed to Thomas Sackville, afterwards Lord Buckhurst and Earl of Dorset, who came into possession about 1605, and who rebuilt and greatly extended the house. The third Earl sold Knole in 1612 to Alderman Smith, reserving, however, a lease of it to himself and heirs. It was held on this tenure by the Sackvilles till Richard, fifth Earl of Dorset, redeemed the lordship and estate in 1661. The estate still continued to them till the decease of the fourth Duke of Dorset, when it went to his sister Mary, who married the Earl of Plymouth; from her the house and lordships have passed in tail to the Hon. Mortimer Sackville-West, Baron Sackville of Knole, 1873 to 1888. The present possessor, Lionel Sackville Sackville-West, was born July 19, 1827, succeeded 1888, entered the diplomatic service 1847, became secretary of Embassy 1867, accredited Minister Plenipotentiary at Paris in absence of the ambassador, 1871; minister to the Argentine Republic 1872-78, to Madrid 1878-81, and to Washington 1881-88; K.C.M.G. 1885, G.C.M.G. 1888. The Hon. Wm. Edward Sackville-West, brother of the present Earl, born 1830, is the heir presumptive (under special remainder).

The principal front is unbroken except for the towers and central gate-house, dormers in the wings. A tall central gate-house has square, embattled flanking towers. The wings have each five stepped dormer gables. The gate-house is probably Bouchier's, 1456-86; the rest of the front has been ascribed to Archbishop Morton, 1486-1500. The second gateway on the south of the first court, the inner court, hall, chapel and lower storey of the buildings are said to be Bouchier's. A large portion may be assigned to his successors. A large part of the building was erected by the first Earl of Dorset, reign of James I., but parts are of the time of William III. and later.

In the Wood Court you may see specimens of all the styles of Domestic architecture which have prevailed in England for 400 years. Looking west with our faces towards the house we have on the extreme right the Gothic buildings of the archbishop's. At right angles stand the stables and the Tudor upper storey, which still bears the name of the king's stables. The portion of the house immediately facing us is composite in character, the lower part is early and the upper Elizabethan and later work. Further towards the south the Stuart period comes in distinctly; and then we have a window which was inserted probably after 1700. A fire in 1623 will account for other alterations. Another fire some thirty years afterwards has left its mark in some modern windows to the right. The south end of the Wood Court is occupied by the laundry, a Stuart building, and its lawn. The south-east has still a small apartment which retains its name of the Gaol, and may possibly have been used as a place of punishment for the archbishop's servants. It is of the archbishop's time. (Loftie, Knole House, Archæologia Cantiana, vol. lx. and comp. Thorne's Handbook.)

House.

The entrance to the rooms open to the public is by the central gate-house. This leads to the Green Court, at the opposite side of which is the second gateway. Observe the fine oriel, and Bouchier's cognisance, the Eagle and Bouchier Knot.

Passing through into the Stone Court see in front an Ionic portico or colonnade which opens to the hall, with which the tour of the public rooms commences.

The hall is of the Bouchier period, ceiling Lord Buckburst's adding. It is well preserved, and enables a fair notion to be formed of its appearance in the days of the first Sackvilles, when seventy to eighty persons sat daily at dinner in the hall, and my lord had a constant household of 119 persons independently of visitors (ex household book). On screens, walls and windows are bearings of the Sackvilles. One of the Jacobean long tables stands here, its top marked for the game of shuffle-board.

Among the pictures, notice Silenus and Bacchanals (Rubens); Boar Hunt (De Vos); George III. and Queen Charlotte (Ramsey); Lionel Cranfield, first Earl of Middlesex, with Treasurer's stick in left hand; John Lord Somers (Kneller); Lord Buckhurst and Lady Mary Sackville (Kneller); a large and curious procession to Dover Castle (Wotton). On the dais is a good life-sized antique marble statue called Demosthenes, and an inferior recumbent statue of the nymph Egeria.

Observe on ascending the principal staircase the curious monochrome decorations of the walls, the shield and arms in the windows, the leopards sejant on the rail standards, and the quaint carvings beneath.

From the staircase the Brown Gallery is entered, which is 88 feet long with floor and sides of oak; the room is low and dark. In the windows are the arms of England in a garter, the Tudor rose and the Prince of Wales's plume. It contains curious carved walnut furniture, the chair of King James I., inlaid tables, silver sconces of James I. and his queen, and quaint seats and stools with noticeable wrought silk and velvet coverings. There are numerous portraits, especially to be noticed, Oliver Cromwell by Walker, Thomas Sackville, first Earl of Dorset, by Holbein, and an excellent portrait of Margaret Roper, ascribed to Holbein. A masked ball given by Wolsey to Henry VIII. and Anne Boleyn.

Lady Betty Germain's chamber was next visited. It contains a curious old oak bedstead and furniture, heraldic glass and tapestry, &c. The dressing-room, which contains portraits of Anne, Countess of Dorset, Pembroke and Montgomery, and her first husband, Richard, third Earl of Dorset (Jansen), Thomas, first Earl of Dorset, Sir Walter Raleigh, in armour; Villiers, Duke of Buckingham, was next inspected.

The Spangled Bedroom, which was next seen, has in it furniture presented by James I. to Lionel Cranfield, Earl of Middlesex, an Indian cabinet, ebony cabinet, Venetian mirror, tapestry with Mercury and Argus, and other classical subjects, also the portraits of the Duke of Monmouth.

The Spangled Dressing-room has several pictures, particularly James Compton, fifth Earl of Northampton, ascribed to Vandyke, some miniatures and a good Venetian mirror.

The billiard-room contains a quaint old billiard-table, said to be 140 years old, with pockets not unlike the billiard-tables in use at the present time, far less substantial legs but more in number, and bent cues with ivory tips for the ladies. There was one large ball and two smaller ones on the table, so that it is evident there has been some changes since the game was played in the last century. There is a noble portrait by Vandyke of Sir Kenelm Digby, Sir Thomas More, Philip of Spain and his queen.

In Leicester Gallery, James I., his son Prince Henry, and Nicolo Molino, the Venetian ambassador, all by Mytens, &c. The elaborate and richly-illuminated pedigree of the Sackville, Clifford and Curzon families, prepared 1623 by Sir Wm. Segar and Richard and Henry St. George, Garter Morroy and Richmond Heralds, for Edward, fourth Earl of Dorset, were particularly noted, and the fine views from the windows very much enjoyed.

The Venetian Bedroom, so called from having been slept in by Nicolo Molino, the Venetian Ambassador, contains superb furniture, quaintly shaped and carved, and covered with green-cut velvet, with which it was originally fitted. The costly State bed was prepared for James II. The toilet table and mirror are of silver. The portrait of the Empress Catherine II. of Russia, in red military uniform, was given by her to Lord Wentworth. In the adjoining dressing-room some noteworthy seventeenth-century furniture and several portraits were inspected.

The organ-room received its name from an ancient organ being so placed that by opening a window it could assist the choir during the service in the chapel below. There is some fine early sixteenth-century furniture in this room.

The chapel is of Bouchier's time (1456-86), but has been much altered. Under it is a vaulted crypt. The carving in wood of the Crucifixion is said to have been given by Mary Queen of Scots to Robert, second Earl of Dorset, shortly before her execution. In the chapel gallery and chapel-room is more tapestry.

The ballroom has finely carved panelling on the walls, an elaborate frieze, ornamental ceiling and rich old marble chimneypiece; the carved furniture, ebony cabinet, carved with the story of Jonah, andirons and sconces were particularly noticed, also the interesting portraits—Robert, second Earl of Dorset and Margaret, second Countess, by Deborers; Edward, fourth Earl, the hero of the murderous duel with Lord Bruce, fought without seconds under the walls of Antwerp, 1613, and a devoted adherent of Charles I., a fine portrait in armour and red dress (Vandyke); Charles, sixth Earl "Dorset, the grace of courts, the Muses' pride," whole length, in robes and collar of the Garter, white stick in right hand (Kneller); John Frederick, third Duke of Dorset (Reynolds); Lord George Sackville (Gainsborough) half-lengths, seated in court dress.

The crimson drawing-room (or Sir Joshua Reynolds's room) contains the best and most interesting pictures, apart from the portraits at Knole. A sibyl (Domenichino), a replica of the Marquis of Hertford's picture, Judith with the head of Holofernes, a powerful picture (Garofalo); Cupids at Play (Parmigiano), a charming picture; Mary Queen of Scots (Zucchero); Henry VIII. (Holbein); A Morning Party (Wouvermans); Frances, fifth Countess of Dorset (Vandyke's best style of courtly elegance); Card Players (Ostade); A Village Fair, or Kermis, and a Guard Room (Teniers), much admired; Travellers by the Wayside (N. Broghem), a crisp piece of work; half a dozen semi-historical and fancy subjects by Sir Joshua Reynolds, help to glorify the room; Robinetta

an arch little damsel, feeding her caged bird, whilst her dog peeps over her shoulder; The Fortune Teller, another of the master's best known and most-admired works; the portrait of a Chinese Boy, who had been educated in Sevenoaks; and a portrait of Madame Schindlerm, the singer.

The cartoon-room, 90 feet by 18 feet by 15 feet high, is so named from certain early copies in oil, said to be by D. Mytens, of the six celebrated cartoons by Raphael. The furniture, silver and irons, sconces, chandeliers and mirror frames are memorable and were much admired, also the curious seventeenth-century treasury and travelling chests, and also the Gobelin tapestry, the principal pictures in this gallery which were noted being that of Lord Albemarle (by Dobson) and George IV. in regimentals (by Lawrence).

The King's Bedroom was next inspected. It is so called from having been fitted up for the reception of James I., and only used by him. It contains original furniture said to have cost 20,000*l.*, the bedstead and fittings of gold and silver tissue having cost 8,000*l.* The tables, sconces, mirror frames, baskets and vases are of chased silver. The rich silver toilet service which stands on the dressing-table was not a part of the original royal furniture, but bought at the Countess of Northampton's sale in 1743. The cabinets, one of ebony, the other ivory carved, are choice of their kind. In the ivory cabinet are two chamberlains' keys of office.

The dining-room is devoted to wits and poets. The first and sixth earls were poets themselves and the friends of poets. The portraits of Chaucer, Shakespeare, Sir Philip Sidney and Sir Walter Raleigh were shown; that of Ben Jonson, the well-known portrait by Honthurst; and Otway, by Lely; Thomas Flatman, by himself; Cowley, by Du Bois. The Knellers are numerous; at their head is the earl himself, Dryden, Locke, Newton (supposed Kneller), Sir Charles Sedley, &c. A picture by Vandyke of Sir Francis Crane and himself; Addison and Waller, both by Jervis; Handel, by Denner. By Reynolds are several of rare interest, including his own portrait, Johnson, Goldsmith, Edmund Burke, Garrick, Mrs. Abingdon, and one of Sir Walter Scott, by Phillips, R.A., all of which were much appreciated.

To conclude, in the words of Horace Walpole, "The park is sweet with much old beech, and an immense sycamore before the great gate which makes me more in love than ever with sycamores."

The beeches are even finer than the sycamores, with tall silvery boles, splendid foliage and wide branches, trees in themselves. The oaks are almost equally fine, and one now a venerable ruin, its hollow trunk 30 feet in circumference, was known as an old oak more than two centuries ago.

The broad beech avenue which we have traversed led to a point at the south extremity of the park, about 600 feet above sea-level, from whence was obtained one of the finest views in the county, looking over Tunbridge Castle, Hever Castle, Penshurst and Eridge, and the entire Weald of Kent to Ashdown Forest. Finally, in the words of our esteemed member, Mr. W. Harradence, who in a letter to me says, "Of the treasures of the house and the beauties of the park one never tires."

TURNER'S "KILGARRAN CASTLE."

IN the article on the Guildhall Exhibition which appeared in *The Architect* of April 14 it was said:—

"The earliest picture—for chronology is respected in the hanging—is 'Kilgarran Castle,' which was painted in 1799. Turner was then twenty-four, and had gone through a laborious education imposed by himself. The castle stands on a rocky hill, which is separated from another of similar form by a narrow V-shaped opening through which a river passes, connecting as it were the sky with the river Teif, which is in the first plane. The hills indicate that in those days Turner was impressed with mountain beauty, and drew rocks with as much care as an anatomist would take with a skeleton. There is a replica also exhibited which is in a much brighter condition, but the only other difference we can perceive is in the laying on of the paint, and both show a treatment which would not now be considered as the most effective. 'Dunstanborough Castle' was a subject which enabled him to contrast rocks and sea as worthy opponents. 'A Mountainous Scene with Cattle,' dated 1802, indicates some of the mystery in cloudland which Turner was afterwards to reveal, and another disturbed sky is to be seen in a small view of 'Kilgarran Castle.' The fine 'Conway Castle' also belongs to 1802. Here, in defiance of rules, he places the building in the centre of the picture, and in representing it we see that loving labour to do justice to architecture, as if a building were comparable to a work of nature, which characterises his earlier architectural drawings. When he introduced a barge on the shore, with its sloping mast, he also rebelled against an accepted principle. Turner had a curious perversity for inclined lines, and especially with trees. He may have thought the verticality of other forms was made more emphatic in that way, but it is more likely the contrast was intended to show his disregard for an arrangement that he considered to be conventional."

We are glad to see our theory of the peculiar technique in the two pictures is confirmed by so experienced a painter and expert as Mr. James Orrock, who in a letter to the *Times* says:—

As it has been my privilege to have the opportunity of studying Turner's pictures, in my own house, both in oil and water-colour, for about forty years, I feel that I have some claim to a voice in the controversy which is taking place in your columns about the "Kilgarran Castle" (No. 3) now in the Guildhall Exhibition. I have carefully examined, with delight, the Turners in that magnificent collection, and agree with all in thanking Mr. Temple for the delight and instruction he has given to all lovers of English art. I admit, however, when I came to the No. 3 "Kilgarran" I stopped dead, and wondered at the comparative coldness of tone of this Turner. After a minute examination of that picture, however, I came to the conclusion that it was genuine. My reasons are—first, it is Turner's colour, what we know as the painter's "voice," which, although not so rich and mellow as in most of his works of that period, still, considering the shameful treatment it has had from the hand of some unscrupulous and ignorant cleaner, it is, nevertheless, strong enough to distinguish the "voice" of that master. The second reason is the fact, which on careful examination is an absolute proof, viz. the presence of myriads of sand-like particles which Turner at that period almost always sprinkled "rough-cast" on the middle portions chiefly of his pictures, his object, of course, being to give air to the middle distance, without deadening the colour by mixing with it opaque paint. This can be clearly demonstrated in most of the Turners of that date now in the Guildhall. As to the history which Mr. Rawlinson speaks of regarding the Monro Catalogue, nothing might be more deceiving. The picture may have been in what one knows as the "box-room collection," which exists in most amateurs' houses, and which might, with others, have been missed out, or left out in ignorance. Monro, being as Mr. Rawlinson truly states, "the intimate friend and patron of Turner," would hardly be the man to have so important a picture, and which is now declared to be a false one, from the easel of his god. It is still less likely that a man who had always his pictures from Turner himself should allow a false one to infect the collection of works by his illustrious friend.

The technique, I admit, is not quite so clear as might be, but it is nevertheless that of a master and a colourist. Personally, judging from long experience, I firmly believe that artistic colour, not the imitation of natural colour, has always been the rock upon which the multitudes of history-men and most others split. Our greatest landscape painters have always suffered from neglect and contempt, and, indeed, with few exceptions, have suffered in the main also from the majority of their brother artists. The times may be changed now, but still the greatest colourist and painter per se suffers to-day. Mr. Rawlinson's remarks about the difference between sunrise and sunset are scarcely conclusive. On canvas they can only be described from "incident" or by a title. Perhaps Mr. Rawlinson, when he speaks of the effect of sunset in No. 3 "Kilgarran" being painted for early morning, has not observed that the same ruthless hand of a cleaner has scoured and ground down the thick impasto "behind the trees on the ridge," and has not only taken all the life out of the sky, but has scrubbed the edges of the trees quite away in some places. Would not the whole picture have lost tone from such scarification; and would it not have been likely, to quote Mr. Rawlinson's words, to be "a powerful and attractive work, coming as it did from the Novar collection" before it had been stripped of its tonings and glazings which it doubtless had when it left Turner's studio? One is only surprised that after such drastic treatment anything like the original is left. MacWhirter in his letter says Turner did not repeat himself. I can prove to him he did in the case, for instance, of the small but exquisite drawing known as the Berwick in the Scott series. There was only one master, however, who had the artistic colour of Turner in his early time—the Rev. John Thomson, of Doddington, who know Monro and also Turner. But those who know both masters well know their peculiar characters. I have never seen the speckled, sandy-looking texture in Thomson's pictures, or indeed in any other pictures. Müller's use of ground plaster casts was not to rough-cast parts of his pictures, but to mix the prepared powder in the colour which he used. The intention, however, of both masters was the same. Having been a collector for more than forty years, and having the honour of having half a dozen fine Turners in my possession, I have felt it my duty to state what I know, so as if possible to clear up this so-called mystery. I beg to apologise for taking up so much of your valuable space.

Fifteen Architects have sent in plans for the reconstruction of the Mid-Lothian County Buildings. The assessor is not yet appointed.

THE DUMBUCK CRANNOG.

THE work of examination and excavation of this remarkable archæological discovery still continues (says a correspondent of the *Glasgow Herald*), as does the lay and scientific interest in its features and revelations. In a world-wide correspondence which has flowed in upon Mr. Donnelly, the discoverer of the crannog, it is seen that the conditions of the Clyde in the distant past have a very wide interest both for the student and the historian. Since its discovery in July last year the crannog has been visited by some dozen learned societies and thousands of the general public. It has also been the special study of experts in this field of archæology, with the result that the find stands to-day an assured evidence and relic of the ancient dwellers on the banks of the Clyde—the men of the Stone Age. Amongst the eminent scientists who have taken special interest in the crannog, and in practically examining the objects recovered from it, is Sir Arthur Mitchell. Sir Arthur, after hearing Mr. John Bruce's paper read before the Society of Antiquaries in Edinburgh, suggested that Mr. W. A. Donnelly, artist, should, besides his large collection of drawings of the crannog, its features and finds, execute a number of sections and all still remaining unrecorded features. Sir Arthur further extended his sympathetic interest by requesting Mr. James Deas, sen., engineer to the Clyde Trust, to include this crannog in the present survey being made of the Clyde and foreshores, and the taking of levels on and near the crannog. This has been done. Mr. Deas instructed two of his assistants—Mr. Robertson and Mr. Mitchell—and their men to make a special and minute record of the crannog site, features and levels. This work has been executed to the entire satisfaction of Mr. Donnelly, who guided in the work in such a way as to make it possible to have many important features recorded which, under other circumstances, would have been omitted, or would have cost much expense and labour to re-excavate. At the crannog these June days the scene was very picturesque, the boats of the Clyde Trust riding idly in the offing, while the sun-browned Clyde Trust men, so physically fit, toiled and laboured in the tropical sun, guided by Mr. Mitchell and Mr. Robertson. Many cuttings and sections were made, east, west, north and south. Mr. Donnelly made it possible for them to do what has not hitherto been done—a section right into the crannog proper, wedge-shaped, in fact, a segment of the circular structure, revealing the fact so often recorded, that it is a timber structure not a stone one. Several valuable finds were made while prosecuting this work—some stone spear-heads and also horn implements, large teeth, ribs and chisels of horn. Mr. Robertson also unearthed a very formidable oaken war-club 4 feet 6 inches long. The outstanding feature was revealed that the crannog was built on the secure foundation of a splendid bed of the finest blue clay. When Mr. Deas has his plan and sections made from the very exhaustive measurements and levels it will form an independent and authoritative chart from which the actual position and levels of the crannog can be ascertained. The work was very trying in the waters and mud of the foreshore under a sun which recorded a temperature of 117 degrees in the light. Scientists all over the country are greatly indebted to Mr. Deas for the sympathetic and practical manner he has approached this antiquarian work, and Mr. Donnelly speaks in glowing terms of the efficient and practical manner in which the Clyde Trust men have executed the work on every occasion. Mr. Donnelly and his men, on behalf of the Helensburgh Society, have excavated 30,000 cubic feet of clay, sand and mud since first the excavations were begun. Some of the most important parts are yet to be done, such as the well, the southern breakwater and the dock in which the great war-canoe was found. Advantage is being taken to have this work done while the weather is favourable, and, as hitherto, all important facts of value will be recorded in the press.

GERMAN CRITICISM OF AMERICAN ARCHITECTURE.

IN a notice of American architecture apropos of the recently-published book of Paul Gräf, "New Structures in North America," the *Berliner Tageblatt* says :—

When the German architects, who have been in Chicago, are asked how they build over there, they answer, with a certain significant look, "Donnerwetter." And they are right. The same exclamation of admiration is called out by Paul Gräf's book, and it is not only a platonic satisfaction that finds expression thus, but at the same time the feeling that there is something to be learned from it.

To begin with, the simple practicality of the buildings is to be observed. The qualities that so often come to the front in German buildings, straining for effect, intentional conspicuousness and strangeness, are entirely lacking. "Most of us," remarked Gabriel Seidl recently, "build not a house, but a poster for our building business." For this reason the decoration goes beyond the limit of what is necessary and in good taste. The Americans know as little of this "architecture game" as our older architects; they have the same sound, craftsmanlike feeling that lays all the stress on the thing done, none at all on exploiting the person who does it.

In the next place, admiration is called forth by the originality of each house, its individuality, gained only through the fact that its form is determined in each case by its interior arrangement, and nothing is built for the sake of the façade. That is the reason, in the last analysis, why there is seen so little ornamentation intended merely to cover the intellectual poverty of a façade.

In the third place, the observer is struck with the way in which delicate decorative elements of old periods are utilised. The builder is never under the sway exclusively of one old style. Antique art is not to the child of this country, which has no old castles and no traditions, something that he must accept in its entirety, whose style he must copy with scientific accuracy; it is, on the contrary, as it was to the artists of the Early Renaissance, a treasury of "motives," with which he can work freely, according to his taste. It never occurs to him that he must build a Romanesque church or a Romanesque house; but he builds a modern church or a modern house, for which he chooses here and there a Romanesque decorative motive. Compare the little churches in Detroit with the Berlin churches and see what this means. Our churches are almost without exception school examples of old styles; on their walls is piled everything that has been preserved as an ornament of the period, not on one building, but on many. Their effect is always cold and petty, while the American churches mentioned have a pleasant and dignified appearance, though almost without ornamentation. Or compare the Romanesque house of Chicago with the Romanesque Kaiser Wilhelm Memorial Church, which, with its endless round-arch arcades, has the effect of a mausoleum. And in the American building, how gracefully the ornamental capitals come out as central points, while in the Berlin church the mass of uniform ornamentation leaves no impression.

On examining in detail the chief points of superiority in the effect of American buildings a special charm is found in the admirable use of the material. The rough peasant-like finish of the hewn stone, though it often seems a little exaggerated for our taste, gives, nevertheless, the impression of being hand-work, and quite excludes the idea of machine-like smoothness that with us is a dominating one. By the contrast with smooth blocks or simple surfaces of terra-cotta or of wood, or both, fine artistic effects are produced.

Now what is the significance of these buildings for us, for our architects and builders? Are they models to be copied? Certainly not, for their own lesson is precisely against imitation. They tend rather to stimulate design according to the need predicted by each building, according to the material at hand and according to the national taste. They tend to show us how great the possibilities are in such a procedure; how much more genuine richness lies in following it than in exaggerated bedizenment with superfluous ornamentation. Our best architects, indeed, are travelling in this same road. But the American buildings speak more plainly on account of their energetic and almost extreme carrying out of this tendency.

And these teachings are not limited to exterior architecture. The same spirit has controlled the planning of the comfortable interiors, which are, to be sure, better known to us, and have had their influence.

TESSERÆ.

Chiaroscuro.

THE ends which chiaroscuro subserves are three—first, by dividing the surface of the picture into light and dark masses to please the eye and prevent that confusion and perplexity incident to its being attracted by too great a number of parts of equal importance at once; secondly, to relieve or push into notice the principal objects and to keep others in proper subjection, or sink them into obscurity according to their several degrees of consequence or use in the composition; and lastly, by the manner of it to aid expression and give the first impression of the nature and predominant sentiment of the piece. But whether the shadows roll in midnight masses, enveloping the greater part of the picture, or are so faint as to be scarcely perceptible; whether they break with abrupt violence or sweetly and gently steal upon the sight; whether they are warned and enlivened by reflexes or preserve a sullen and uniform breadth, one quality they should never under any circumstances be without, and that is transparency, which, at the same time that it is indispensable, is unfortunately one of the greatest practical difficulties of art. Of that which depends on delicacy of eye, dexterity of hand and practical knowledge of the materials, little of course can be explained by words; but every one will easily perceive, by experiment and by study of the works of others, that a dark colour laid thin upon a light

one will generally appear clear and pleasant, but that a light colour laid thin upon a dark one is almost always opaque and disagreeable. Hence the most efficacious way of preserving the transparency of shadows is to paint them rather faint at first and give them their full warmth and depth by a second operation. The chiaroscuro of a picture does not, however, depend on lights and shadows merely. Hot and cold, bright and dark colours, start from and avoid one another with nearly as much vivacity as light from shadow; but a composition painted entirely on this principle will necessarily be feeble and flimsy from the want of roundness and depth which it is the property of shadow alone to bestow. Good pictures must partake of both principles, leaning to the opposition of colours in subjects of a gay, and to the opposition of light and shadow in subjects of a graver or grander cast. But, whatever the subject, the principal mass of light should maintain its pre-eminence in size and splendour like the centre of the system from which all the others emanate and by which they are supported. Let the inferior ones be diversified in shape and quantity as much as possible, for equal quantities and similar shapes always produce hesitation and perplexity unless the reason for it be immediately obvious; and in addition to this let the masses, if possible, lie somewhat in an oblique or diagonal direction with respect to each other, by which they will appear to fall more naturally into the stream of light, and consequently be more pleasing to the eye.

John Riley.

This painter, who was born in London, 1646, was the first Englishman that attained any excellence in portraiture, unless perhaps Dobson may be considered as an exception, and in that department he remained unrivalled by any native artist until the appearance of Sir Joshua Reynolds. He was instructed in his art by Fuller and Zoust, but he adopted Vandyke as his model, and painted much in the style of Lely. His draperies were admirable. Riley was a modest and unassuming man, and excessively diffident and distrustful of his powers. "With a quarter of Sir Godfrey's vanity," says Walpole, "he might have persuaded the world he was as great a master." And the same writer observes that his "talents while living were obscured by the fame rather than by the merit of Kneller, and depressed since by being confounded with Lely, an honour unlucky to his reputation." Upon the death of Sir Peter Lely, Riley came into general notice and obtained the patronage that he merited. He was introduced to Charles II. and painted his portrait, who said, upon seeing it, "Is this like me? Then, odd's fish, I am an ugly fellow," which greatly disconcerted the modest painter. He painted also the portraits of James II. and his queen, Mary of Modena, and after the Revolution in 1688 he was appointed State painter to William and Mary, whose portraits he also painted. Riley's masterpiece is reckoned the portrait of the lord-keeper North at Wroxton, and amongst his most successful performances are mentioned also the portraits of Bishop Burnet and the celebrated Dr. Busby, master of Westminster School. Riley died in London of the gout, 1691, in the forty-sixth year of his age. His property, which, according to Walpole, amounted to only 800*l.*, came to his scholar, Richardson, who had married his niece.

The Italian Sala.

In its stricter architectural meaning, saloon (from the Italian sala and its augmentative salone) signifies a room answering in some respect to the idea of a hall, that is, not only the principal room as to spaciousness, but loftiness also, height belonging to the character of a saloon in like manner as length does to that of a gallery. Thus if the plan be square, the proportions may vary from those of a cube to a cube and a half, or even more in height, but should never be much less than the first-mentioned. Like all others, however, this rule admits of exceptions, because a room may be both lofty in itself and in comparison with the others in a building, although its proportions may not be strikingly so. It is further usual for a room of this description to be either a perfect square in plan or of some shape that can be inscribed within such figure, that is, circular, octagonal, or some other regular polygon. At present, however, the term is not understood in so strictly technical a sense, but the name of saloon is indiscriminately or ostentatiously bestowed on any unusually large room, be its proportions and character what they may, even though it would answer better to that of a gallery. Except that it is not used for banquets, the saloon may be considered, in modern residences, what the hall was in the mansions of "olden times." Its destination differs from that of drawing-rooms and other apartments of that kind, as serving rather as an approach to and communication between them, and as a room of general rendezvous for the visitors at a house. Blenheim, Castle Howard and other mansions erected by Vanbrugh have lofty and stately saloons; but one of the most splendid modern examples of the kind would have been that designed by Adam and published in his works, for Sion House, the inner court of which he proposed to convert into a magnificent rotunda enclosed within a circular or ring-shaped gallery, with openings from one to the other between columns, and with niches in the intermediate piers.

Schiller's Æsthetics.

The doctrine which Schiller has often inculcated is that to Man there rests but the choice between the pleasures of sense and the peace of the soul, but both are united in the life of the Immortals, viz. the higher orders of being. Still it may be ours to attain, even on earth, to this loftier and holier life—provided we can raise ourselves beyond material objects. The Fates can only influence the body and the things of time and matter. But, safe from the changes of matter and of life, the Platonic Archetype, Form, hovers in the realm of the Ideal. If we can ascend to this realm—in other words, to the domain of Beauty—we attain to the perfection of Humanity—a perfection only found in the immaterial forms and shadows of that realm—yet in which, as in the gods, the sensual and the intellectual powers are united. In the Actual Life we strive for a goal we cannot reach; in the Ideal the goal is attainable and there effort is victory. The Ideal is not meant to relax but to brace us for the Actual Life. From the latter we cannot escape, but when we begin to flag beneath the sense of our narrow limits and the difficulties of the path, the eye, steadfastly fixed upon the Ideal Beauty aloft, beholds there the goal. In Actual Life strength and courage are the requisites for success, and are doomed to eternal struggle, but in the Ideal Life struggle exists not; the stream, gliding far from its rocky sources, is smoothed to repose. In the Actual Life, as long as the artist still has to contend with matter, he must strive and labour. Truth is only elicited by toil—the statue only wakens from the block by the stroke of the chisel; but when he has once achieved the idea of Beauty, when once he has elevated the material marble into form, all trace of his human neediness and frailty is lost, and his work seems the child of the soul. Again, in the Actual world, the man who strives for Virtue finds every sentiment and every action poor compared to the rigid standard of the abstract moral law. But if, instead of striving for Virtue, merely from the cold sense of duty, we live that life beyond the senses in which Virtue becomes as it were natural to us; in which its behests are served not through duty but inclination, then the gulf between man and the moral law is filled up; we take the Godhead, so to speak, into our will, and Heaven ceases its terrors when man ceases to resist it. Finally, in Actual Life, sorrows, whether our own or those with which we sympathise, are terrible and powerful; but in the Ideal World even Sorrow has its pleasures. We contemplate the writhings of the Laocoon in marble with delight in the greatness of Art; not with anguish for the suffering, but with veneration for the grandeur with which the suffering is idealised by the artist or expressed by the subject. Over the pain of Art smiles the Heaven of the Moral world. Man thus aspiring to the Ideal is comparable to the Mythical Hercules. In the Actual world he must suffer and must toil; but when once he can cast aside the garb of clay, and through the Ethereal flame separate the Mortal from the Immortal, the material dross sinks downward, the spirit soars aloft, and Hebe (or Eternal Youth) pours out nectar as to the gods.

GENERAL.

The Painting by Mr. Ernest Crofts depicting the opening of the first Royal Exchange by Queen Elizabeth will be unveiled in the Royal Exchange on Monday next. It is the gift of the Mercers' Company.

Mr. James Lovegrove, who has been surveyor of Hackney for over forty years, having retired, he was on Saturday presented by the staff with an illuminated address.

The Marquis of Granby will preside over the fifty-sixth annual Congress of the British Archæological Association, which will be held at Buxton during the week which commences on July 17.

Mr. Walter Armstrong, director of the National Gallery of Ireland and formerly an art critic in London, received knighthood on Monday at the Viceregal Lodge, Dublin.

The Queen has subscribed 100*l.* towards the fund for the restoration of the Abbey of Paisley, where so many members of the Royal House of Stuart lie buried.

Mr. S. W. Williams, architect, of Radnor-High Sheffiras shire, has sent the treasure-trove found by a boy near Rhayader to the British Museum. It consists of a gold ring set with onyx, a gold armlet in four pieces, and a gold necklet in ten pieces.

Mr. G. J. F. Bryant, who was the senior practising architect in Boston, U.S., recently died in that city. He was born in 1816, and designed an immense number of buildings. For several years he served as supervising architect of the Treasury Department.

THE

Architect and Contract Reporter

IMPORTANT NOTICE.

WORKMEN'S COMPENSATION ACT.

In view of the many difficulties which are certain to arise in connection with the law, practice rules and procedure under the above Act, we have added to our staff A VERY EMINENT BARRISTER, who has made the subject a special study, and will be glad to answer in the columns of this paper any questions relating to the complicated matters arising from the provisions of this difficult Act. Our LEGAL ADVISER will further answer any legal question that may be of interest to our readers. All letters must be addressed "LEGAL ADVISER," Office of "The Architect," Imperial Buildings, Ludgate Circus, London, E.C.

EDITORIAL NOTICES.

The authors of signed articles and papers read in public must necessarily be held responsible for their contents.

No communication can be inserted unless authenticated by the name and address of the writer—not in every case for publication, but as a guarantee of good faith.

Correspondents are requested to make their communications as brief as possible. The space we can devote to Correspondence will not usually permit our inserting lengthy communications.

TENDERS, ETC.

*** *As great disappointment is frequently expressed at the non-appearance of Contracts Open, Tenders, &c., it is particularly requested that information of this description be forwarded to the Office, Imperial Buildings, Ludgate Circus, London, E.C., not later than* 2 P.M. *on Thursdays.*

NEW READING CASE.

To Librarians of the Public Libraries and Reading-rooms.—A new handsome Reading Case can be supplied at a nominal charge of 2s., by post 2s. 6d., on early application to the Publisher, Imperial Buildings, Ludgate Circus, London, E.C.

For Advertisement Scale, see page xiii.

COMPETITIONS OPEN.

HARROGATE.—July 3.—Premiums of 150*l.*, 100*l.* and 75*l.* are offered for designs for erection of a new Kursaal, &c., in connection with the Spa Concert Room. Cost not to exceed 20,000*l.* Mr. S. Stead, Municipal Offices, Harrogate.

PLUMSTEAD.—July 27.—Designs are invited for proposed new municipal buildings and public library, to cost about 40,000*l.* Premiums of 100*l.*, 75*l.* and 50*l.* Mr. Edwin Hughes, vestry clerk, Vestry Hall, Plumstead.

SCOTLAND.—Plans and specifications are invited for a sheriff court-house and police buildings at Dunoon, to be erected at a cost of 5,000*l.* and 3,500*l.* respectively. Premiums of 30*l.* and 20*l.* are offered. Mr. M. Sinclair, county clerk, Lochgilphead.

CONTRACTS OPEN.

ALNMOUTH.—For additions and alterations to golf club-house. Messrs. Forster & Paynter, Fenkle Street, Alnwick.

ASHTON-UNDER-LYNE.—For erection of a detached villa residence. Mr. T. D. Lindley, architect, Market Avenue, Ashton-under-Lyne.

BAKEWELL.—For erection of retort-house at the Gasworks. Mr. Vernon R. Cockerton, clerk, Bakewell.

BARNSTAPLE.—July 8.—For erection of a shop and premises in Boutport Street. Mr. Fredk. W. Petter, architect, Barnstaple.

BARROW-IN-FURNESS.—July 12.—For erection of abattoirs in Crellin Street. Mr. C. F. Preston, town clerk, Town Hall, Barrow-in-Furness.

BARTON-ON-HUMBER.—For rendering of the walls of a gasholder tank, and for the puddling and concreting of the bottom of the same. Mr. W. H. Goy, secretary to the Gas Company, Barton-on-Humber.

BEDFORD.—For erection of a public convenience in St. Paul's Square. Mr. J. Lund, borough surveyor, Town Hall.

BEESTON.—July 8.—For erection of a house. Messrs. Buttery & Birds, architects, Morley.

BELVEDERE.—July 10.—For erection of four additional classrooms to the Picardy schools, at Belvedere, Kent, to accommodate 240 additional children. Messrs. Ford, Son & Burrows, architects, 21 Aldermanbury, E.C.

BIRKENHEAD.—July 10.—For additions and alteration for operation ward and covered way at the workhouse. Mr. Edmund Kirby, architect, 5 Cook Street, Liverpool.

BIRTLE.—For erection of residence, with stabling, &c., at Penn Green, Birtle. Mr. D. Hardman, architect, Silver Street, Bury.

BRADFORD.—For plastering of six through houses. Mr. F. Wear, New Buildings, Parkside Road, Bradford.

BRIGHTON.—July 27.—For alterations and additions to the public library, museum and art gallery on the Pavilion estate. Mr. Francis J. C. May, Town Hall, Brighton.

BUXTON.—For erection of schoolroom, Ladmanlow. Messrs. Garlick & Flint, architects, 5 Terrace Road, Buxton.

CORK.—For rebuilding premises, 104 Patrick Street. Mr. Arthur Hill, architect, 22 George's Street, Cork.

DARTFORD.—July 24.—For erection of technical schools and buildings. Mr. G. H. Tait, architect, Lowfield Street, Dartford.

DERBY.—July 6.—For erection of the new depôt, Nottingham Road. Mr. John Ward, borough engineer, Babington Lane, Derby.

DEWSBURY.—For erection of twenty-seven houses, outbuildings, boundary walls, &c., and forming streets on the Salter Square Estate, Batley Carr. Messrs. Holtom & Fox, architects, Westgate, Dewsbury.

DORCHESTER AND WESTBURY.—July 18.—For alterations and additions to the passenger station at Dorchester, and for erection of a new stable at Westbury station, Wilts, for the Great Western Railway Company. Mr. G. K. Mills, secretary, Paddington Station, London.

EARLSHEATON.—July 20.—For erection of an infectious diseases hospital at Chickenley Wood, Earlsheaton. Messrs. Holtom & Fox, architects, Westgate, Dewsbury.

ELLERTON.—For rebuilding a cottage. Mr. Joseph Tate, Ellerton.

FAREHAM.—July 12.—For alterations and additions at police station and petty sessional court. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

FARNBOROUGH.—July 4.—For erection of a cottage at the sewage farm. Mr. R. Walter Knapp, surveyor, Town Hall, Farnborough.

GIRLINGTON.—For erection of four through houses in Letton Road. Mr. R. Drake, architect, 142 Allerton Road, Bradford.

GLOUCESTER.—July 10.—For altering and extending the ventilating arrangements at Widden Street Board schools. Mr. H. Medland, architect, Gloucester.

GLOUCESTER.—July 10.—For repairs to barn and buildings at Hollybed Farm, Castlemorton. Mr. Thomas Cadle, surveyor, Lynwood, Denmark Road, Gloucester.

GREAT AYTON.—For erection of four houses at Great Ayton. Messrs. T. & A. Harbottle, Albion House, Great Ayton.

GRIMSBY.—For erection of a villa residence at Holton-le-Clay. Mr. R. A. Robertson, 23 Osborne Street, Grimsby.

HALIFAX.—July 8.—For erection of a foundry, 18 yards by 15 yards. Messrs. W. G. Gray & Son, architects, 28 George Street, Halifax.

HEREFORD.—For erection of extensive business premises. Mr. W. W. Robinson, architect, 10 King Street, Hereford.

HEREFORD.—Aug. 1.—For extension of the existing roofing of the up platform at Hereford station, for the joint committee of the London & North-Western and Great Western Railway Companies. Mr. A. E. Bolter, secretary to the joint committee, Paddington Station, London.

HEYWOOD.—July 8.—For erection of offices, workshop, &c., in Hind Hill Street. Mr. James Diggle, C.E., Waterworks Offices, Heywood.

HIGHER ASHE.—July 8.—For repairs to the farmhouse and outbuildings at Higher Ashe, Stoke Gabriel. Messrs. White & Colley, land agents, Wrangaton, South Brent.

HOYLAKE.—July 11.—For converting the old school building into new infants' school at the Hoylake National schools. Messrs. H. & A. P. Fry, architects, 18 Hackins Hey, Liverpool.

IPSWICH.—For conversion of the Ipswich Board school from three departments into two. Mr. E. F. Bisshopp, architect, Museum Street, Ipswich.

IRELAND.—For restoration of the manor house, Moneymore. Mr. Henry Byrne, Moneymore.

IRELAND.—For erecting presbytery and offices at Ballygran, co. Limerick. Mr. J. Carroll, architect, Killacolla, Ballygran, Charleville.

IRELAND.—July 6.—For erection of a lighthouse, keeper's dwelling, stores, fog-signal house, outbuildings, walls, roads, &c, on Blackhead, co. Antrim. Drawings and specifications may be seen at the Irish Lights Office, Dublin, or at the coastguard station at Whitehead, co. Antrim.

IRELAND.—July 10.—For erection of a new post-office at the Curragh Camp. Mr. H. Williams, secretary, Office of Public Works, Dublin.

KEIGHLEY.—For additions to Vulcan Works, Strawberry Street. Messrs. John Judson & Moore, architects, York Chambers, Keighley.

KENDAL.—July 13.—For erection of a house and buildings at Bannel Head, Staveley Road. Mr. Stephen Shaw, architect, Kendal.

KENDAL.—July 13.—For enlarging the Wesleyan church, Arnside, by erection of a new nave, porch and other alterations. Mr. Stephen Shaw, architect, Kendal.

KETTLESHULME.—For erection of a Wesleyan chapel and school. Mr. C. W. Johnson, architect, Whaley Bridge.

KINGSTON.—For erection of two shops in London Road. Mr. Spratt, architect, 90 Queen Street, Cheapside, E.C.

LANCASHIRE.—For erection of an infants' classroom at Coppull Moor school. Messrs. Heaton & Ralph, King Street, Wigan.

LANCASTER.—July 10.—For taking-down Penny Street bridge and certain property adjoining, and erection of abutments, retaining, boundary and parapet walls for the new girder bridge over the Lancaster canal. Mr. T. Cann Hughes, town clerk, Town Hall, Lancaster.

LEEDS.—For erection of educational buildings at Garforth. Messrs. Smith & Tweedale, architects, 12 South Parade, Leeds.

LEEDS.—For erection of a clothing factory Messrs. J. M. Fawcett & Son, architects, Basinghall Chambers, Leeds.

LEEDS.—July 6.—For erection of classrooms and enlargement of Wesleyan schools at Crossgates. Mr. G. F. Danby, architect, 10 Park Row, Leeds.

LEEDS.—July 10.—For erection of a new boiler-house, &c., at the union workhouse, Beckett Street. Mr. Thomas Winn, architect, 92 Albion Street, Leeds.

LEWES.—July 6.—For erection of a temporary timber bridge across the river Ouse, in the parish of Lindfield, for taking down the stone arch walls, &c., and rebuilding new abutment walls, &c., in connection with the reconstruction of Lindfield Bridge, and for taking down and rebuilding a circular brick culvert 8 feet in diameter, known as Ridgewood Bridge. Mr. F. J. Wood, county surveyor, County Hall, Leeds.

LONDON.—For erection of a chapel and schools on a site situated in the St. John's Road, Woodberry, N. Messrs. Hickton & Farmer, architects, Walsall.

LONDON, W.—July 8.—For forming a strong-room at the offices of the Acton District Council. Mr. D. J. Ebbetts, surveyor, 242 High Street, Acton.

LOUGHBOROUGH.—For alterations to the Blue Boar inn, stables, &c., The Rushes, contiguous to the new depôt. Mr. Albert H. Walker, borough engineer.

LOWESTOFT.—July 18.—For erection of an electric-light station. Mr. Albert E. Pridmore, architect, 2 Broad Street Buildings, London, E.C.

MANSTON.—For erection of four houses in Sand Bed Lane. Mr. G. W. Atkinson, architect, 1 Mark Lane, Leeds.

MELTON MOWBRAY.—For plastering of twelve cottages on Ashfordby Hill. Messrs. the Holwell Iron Company, Limited, Ashfordby, Melton Mowbray.

MIDDLESBROUGH.—For pulling-down of two Sercombe kilns and chimneys and cleaning bricks. The Normanby Brick Company, Limited, near Middlesbrough.

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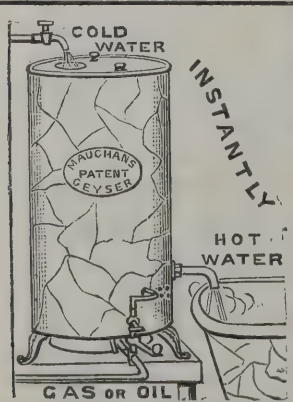
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MILNROW.—For erection of a villa at Newhey Road. Messrs. S. Butterworth & Duncan, architects, Rochdale.

MORECAMBE.—July 10.—For erection of six houses in Ardlamont Road. Messrs. Marshall Bros., architects, Back Crescent, Morecambe.

NOTTINGHAM.—For alterations at the People's College Schools. Messrs. Evans & Son, architects, Wheeler Gate, Nottingham.

NOTTINGHAM.—July 6.—For alterations to and extension of the boiler-house at the Epidemic Hospital, Bagthorpe, including the setting of two Lancashire boilers and economiser, for the health committee. Mr. Arthur Brown, city engineer, Guildhall, Nottingham.

OLD HILL (STAFFS).—July 17.—For extension of the Council offices at Lawrance Lane. Messrs. Meredith & Pritchard, architects, Bank Buildings, Kidderminster.

PIMLICO, S.W.—July 11.—For removal of the eight existing boilers and the breaking-up and clearing away of their seatings, also the construction of four new boiler seatings and an economiser chamber, together with flues, &c., at the western pumping station, Grosvenor Road. Apply for particulars at the Engineer's Department, County Hall, Spring Gardens, S.W.

PRESTON.—July 10.—For erection of the new County Sessions Hall. Mr. Henry Littler, architect, County Offices, Preston.

PRESTON.—July 10.—For alterations and additions required at the Grammar School, Cross Street. Mr. Henry Hamer, town clerk, Town Hall, Preston.

RAWTENSTALL.—For alterations to 66 Bank Street. Mr. Thomas Bell, architect, 14 Grimshawe Street, Burnley.

RINGWOOD.—July 12.—For alterations, additions and re-drainage at the police station. Mr. W. J. Taylor, county surveyor, The Castle, Winchester.

RIPON.—For plastering twenty-two cottages. Mr. William Sixton, Ripon.

RYE.—July 8.—For erection of a Sunday school, &c., in connection with Wesleyan Church, Rye, Sussex. Mr. Moon, 3 Sloane Terrace, Rye.

RYTON-ON-TYNE.—July 15.—For erection of seven houses in stone at Clara Vale. Colliery Office, Clara Vale, Ryton-on-Tyne.

SALFORD.—July 10.—For erection of additional wards, &c., at the Ladywell Sanatorium. Mr. Henry Lord, architect, 42 John Dalton Street, Manchester.

SANDBACH.—July 8.—For erection of a detached villa in Middlewich Road. Mr. Alfred Price, architect, Sandbach.

SAXMUNDHAM.—July 13.—For installing gas-mains and fittings in the schools and painting outside of schools, and including other works. Mr. George Peskett, clerk, Saxmundham.

SCOTLAND.—For erection of four-storey tenements at High Street, Kinghorn, consisting of shops and dwelling-houses. Messrs. Swanston & Leggie, architects, Kirkcaldy.

SCOTLAND.—July 8.—For reflooring the infant-room at the public school. Mr. D. Reid, clerk.

SCOTLAND.—July 10.—For erection of new façade and other alterations in connection with the Mechanics' Institute. Mr. John Forrest, architect, Forres.

SEATHWAITE.—July 7.—For erection of a schoolmaster's house. Mr. J. Gunson, Oak Bank, Ulpha.

SHEFFIELD.—For construction of additional cellaring, &c., at the Old Albion Brewery, Ecclesall Road. Messrs. Hall & Fenton, architects, 14 St. James's Row, Sheffield.

SHEFFIELD.—July 3.—For erection of infectious diseases hospital at Lodge Moor, Sheffield, comprising six pavilions for scarlet-fever patients, two isolation pavilions, one receiving pavilion, administrative buildings, nurses' and maids' homes, water-tower, &c. Messrs. Flockton, Gibbs & Flockton, architects, 15 St. James's Row, Sheffield.

SHOREDITCH.—July 12.—For erection of workshops, stores and offices at the Flemming Street depôt, and erection of an addition at rear of 15 Little Essex Street, adjoining. The plans, &c., may be seen at the office of the Surveyor to the Vestry, Town Hall, Old Street, E.C.

SLEDMERE.—For alterations and additions to Sledmere Vicarage. Messrs. Brodrick, Lowther & Walker, architects, Hull.

TILNEY ALL SAINTS.—July 8.—For erection of a Wesleyan chapel and repairs to schoolroom at Tilney All Saints. Rev. W. Millican, Valinger Road, Lynn.

UTLEY.—July 10.—For erection of house at Utley. Mr. Henry Smith, architect, Compton Buildings, Keighley.

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WALES.—For erection of two dwelling-houses and shop premises in Windsor Street, Griffithstown, Pontypool. Mr. B. J. Francis, architect, Abergavenny.

WALES.—For alterations and renovations to the Crown and Sceptre, Mardy, also to the Market Tavern, Abergavenny. Mr. B. J. Francis, architect, Abergavenny.

WALES.—For rebuilding the Bell inn, Abertillery, Mon, Messrs. Swalwell & Creighton, architects, Steam Packet Chambers, Dock Street, Newport, Mon.

WALES.—July 6.—For altering and renovating the Calvinistic Methodist chapel at St. Fagan's. Mr. Seth Evans, St. Fagan's.

WALES.—July 10.—For reslating and repairing portions of the roof of the Aberdare market. Mr. Thomas Roderick, architect, Clifton Street, Aberdare.

WALES.—July 12.—For erection of an infectious diseases hospital at Cymmer. Mr. George F. Lambert, architect, Bridgend.

WARRINGTON.—July 18.—For erection of an electric-light station and central sanitary depôt at Wharf Meadows, Howley. Mr. James Deas, engineer, Municipal Offices, Warrington.

WEST HAM.—July 4.—For cleansing, repair and painting of fourteen schools, to be executed during the summer vacation from July 28 to August 28, 1898. Mr. William Jacques, architect, 2 Fen Court, E.C.

WICKHAM MARKET.—July 3.—For reconstruction of the sanitary and rainwater arrangements at the union house, Wickham Market. Mr. Henry J. Wright, architect, 4 Museum Street, Ipswich.

WIGAN.—For erection of five houses and shop near Collins Green station. Mr. T. Worthington, auctioneer, 2 Victoria Buildings, King's Street, Wigan.

WIMBLEDON.—July 17.—For erection of public baths in Latimer Road. Mr. R. J. Thomson, architect, 47 Hill Road, Wimbledon.

WRETTON.—For restoration of the tower of Wretton Church. Mr. Arthur J. Lacey, architect, 6 Upper King Street, Norwich.

TENDERS.

ASHTON-UNDER-LYNE.

For construction of earthenware pipe sewers, with manholes, ventilating shafts, &c. Mr. EDWARD GARSIDE, engineer, Town Hall Chambers, Ashton-under-Lyne.

Meadows	£5,669 0 0
Ethridge & Clarke	3,299 0 0
J. Ridyard	3,298 0 0
J. Ainscough & Son	3,263 0 0
G. Freeman	3,212 0 0
H. Varley	3,110 0 0
G. Bell	3,089 0 0
J. Bentley	3,068 0 0
R. FISH, Ashton-under-Lyne (*accepted*)	2,836 0 0

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E. TEMPEST, 74A Lancaster Avenue, Manchester (*accepted*) £1,961 2 6

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For erection of six blocks of buildings containing sixty-one tenements on the dual system.

B. WHITEHOUSE & SONS, Monument Road (*accepted*) . . . . . about £10,000 0 0

BRADFORD.

For erection of shop and house, Dracup Road, Great Horton. Mr. S. SPENCER, architect, 344 Great Horton Road, Bradford. Quantities by the architect.

O. Booth, mason.
Smith & Foster, joiner.
J. Smithies, slater.
Berry & Crabtree, plasterer.
O. Smith, plumber.
R. F. Fowle, painter (per schedule prices).

BRAINTREE.

For erection of a house in Drury Lane, for Mrs. Anne Downing. Messrs. CLARE & ROSS, architects, Chelmsford, and 1 West Street, Finsbury Circus, E.C.

Smith & Son, Witham	£835 0 0
J. ENNESS, Braintree (*accepted*)	755 0 0

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BRISTOL.

For plumbing-work at the Luckwell school, Bedminster. Mr. H. C. M. HIRST, architect, 30 Broad Street, Bristol.

Beavan & Sons	£810 10 9
S. H. Povey	650 0 0
J. Wilkins	628 0 0
A. S. Scull	627 0 0
Chivers & Son	610 0 0
G. F. Tuckey	599 0 0
J. E. B. JAMES, Bristol (*accepted*)	598 0 0

BURSLEM.

For painting the outside work of the workhouse and hospital and the interior of the chapel, board-room, hospital, &c. Mr. W. H. WHALLEY, architect.

T. W. EARDLEY, Moorland Road (*accepted*) £210 0 0
Lowest of six.

BUXTON.

For erection of a chimney-stack for the generating station at the electric-light works.

G. Webster	£1,090 0 0
F. Pattinson	954 0 0
H. Vickers	915 0 0
J. BOOTH & SON, Derby Street, Cheetham, Manchester (*accepted*)	755 0 0

COLWYN BAY.

For taking-down, removal and erection with additions of school workshop and various outbuildings, Rydal Mount school, for Mr. T. G. Osborn, M.A., J.P. Mr. T. E. LIDIARD JAMES, architect, 50 Lincoln's Inn Fields, London.

J. BERTH JONES, Colwyn Bay (*accepted*).

For erection of a new hall and additional house, Rydal Mount school, for Mr. T. G. Osborn, M.A., J.P. Mr. T. E. LIDIARD JAMES, architect, 50 Lincoln's Inn Fields, London. Quantities by Mr. T. M. DEACON, F.S.I., 32 Craven Street, Charing Cross, London.

Foster & Dicksee	£10,992 0 0
J. Barnsley & Sons	10,688 0 0
John Roberts	10,400 0 0
Evan Jones	10,307 0 0
J. Berth Jones	10,172 0 0
W. W. Freeman	9,650 0 0
JOHN GETHIN, Shrewsbury (*accepted*)	8,995 0 0

DOVER.

For supplying and laying surface drains and sewers in various parts of the borough, comprising about 2,100 lineal feet of 9-inch and 700 lineal feet of 12-inch stoneware socket pipes, with manholes, gullies, &c. Mr. H. E. STILGOE, borough engineer.

T. T. Denne	£779 0 0
W. J. Logan	679 0 0
J. Jackson	661 15 4
G. MUNRO, Heathfield Avenue, Dover (*accepted*)	650 16 11

DURHAM.

For alterations to premises, 25 Market Place. Mr. H. T. GRADON, architect, 22 Market Place, Durham.

J. Kell & Sons	£987 0 0
M. R. Draper & Sons	928 0 0
I. Oates	800 0 0
T. Coates	779 10 0
G. Gradon & Son	774 5 0
F. CALDCLEUGH, Durham (*accepted*)	727 0 0

EPSOM.

For whitewashing, painting and varnishing the workhouse infirmary.

BRISCOE & BAKER, Sutton, Surrey (*accepted*) £169 10 0

FALKIRK.

For erection of tenements at Firs. Mr. JAMES STRANG, architect, Falkirk.

Accepted tenders.

J. Gardner, Falkirk, mason and brickwork.
J. & A. Main, Falkirk, joiner.
Drummond & Crowe, Laurieston, slater.
R. Brown, Falkirk, plumber and gasfitter.
Total estimated cost of tenements are £6,300.
Note.—Plaster-work contract not yet accepted.

FELSTEAD.

For erection of stables, coach-house, &c., at the Yew Tree. Messrs. CLARE & ROSS, architects, Chelmsford, and 1 West Street, Finsbury Circus, E.C.

J. BROCK, Rayne (*accepted*) £158 0 0

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For construction of the second section (about 368 lineal yards) of the new main outfall sewer across the foreshore to the channel of the River Tees from south bank, for the Eston Urban District Council. Mr. C. MCDERMID, surveyor, Grangetown, Yorks.

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J. B. FOWELLS & SON, Middlesbrough and Redcar (*accepted*)	2,562 0 0

HALESWORTH.

For erection of a new entrance-porch and cloakroom at the Wissett Board school. Mr. ARTHUR PELLS, architect, Beccles.

W. J. Hurren	£89 15 0
G. A. DUNN, Beccles (*accepted*)	65 0 0

HALSTEAD.

For replacing drains, new sanitary arrangements and water supply at the workhouse, for the Board of Guardians. Messrs. CLARE & ROSS, architects, Chelmsford, and 1 West Street, Finsbury Circus, E.C. Mr. J. S. PARMENTER, quantity surveyor, Ipswich.

S. Wiles	£737 0 0
E. West	699 0 0
F. Johnson	698 0 0
G. Sudbury & Sons	656 0 0
W. Sudbury, sen.	647 15 0
Runnacles & Co.	638 0 0
G. Sharp *	625 12 6
H. R. Sudbury	567 13 6

* Recommended for acceptance.

IRELAND.

For repair of the spire of St. Mary's Church, Rathkeale. Mr. J. HORAN, architect, 50 George Street, Limerick.

P. Dillon	£450 0 0
J. O'Malley	300 0 0
M. Gough	275 0 0
W. Larkins	155 0 0
D. H. & W. Newth	145 10 0
Blackburn, Starling & Co.	137 10 0
J. Faulkner	125 0 0
W. HOGG & SON, Liverpool (*accepted*)	110 0 0

KIDDERMINSTER.

For erection of a lodge near the infectious hospital. Mr. ARTHUR COOMBER, borough surveyor.

H. Smith	£311 0 0
J. Parker	290 0 0
A. Gittins	258 10 0
R. THOMPSON, Kidderminster (*accepted*)	235 0 0

LONDON.

For erection of a factory, Minories, London, E.C. Mr. E. J. SADGROVE, architect, Surrey Street, W.C.

Colls & Sons	£36,350 0 0
W. Downs	35,990 0 0
Ashby & Horner	35,000 0 0
Edwards & Medway	35,000 0 0
Dove Bros.	34,985 0 0
STEPHENS, BASTOW & CO., LIMITED, Bristol (*accepted*)	34,888 0 0

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For new school—boys, 242; girls, 242; infants, 244; total, 728. School on arches, with apartments under for schoolkeeper, and playground on top of school for girls, Wood Close.

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C. Cox	17,912 0 0
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R. S. Ronald	70 0 0
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For new house for the schoolkeeper, and enclosing, draining and tar-paving the additional land, filling in arches forming girls' and infants' covered playground, providing windows to classroom on north side of graded school on the first and second floors, Woolmore Street.

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For providing and fixing complete low-pressure hot-water apparatus for two halls, two corridors, three cloak-rooms, drawing classroom and providing auxiliary heating to six classrooms in graded school. Also providing and fixing three stoves in infants' hall and two gas radiators in cloak-rooms, Invicta Road.

E. Oldroyd & Co., Limited	£386 0 0
Vaughan & Brown, Limited	343 0 0
J. & F. May	322 0 0
J. Wontner-Smith, Gray & Co.	321 0 0
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J. Grover & Son	369 0 0
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R. Durell & Co.	2	7
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The Salvation Army	2	7½
C. H. Glover & Co., Limited*	2	7

District No. 7.

The Salvation Army	2	8
C. H. Glover & Co., Limited	2	7
F. Entecott*	2	6

District No. 8.

The Salvation Army	2	9
C. H. Glover & Co., Limited	2	8
F. Entecott*	2	8

* Recommended for acceptance.

LONDON SCHOOL BOARD—*continued.*

For providing and fixing glazed partition to divide main room in each of the boys' and girls' departments, and painting interior of school, "Fox."

G. H. Sealy	£631 10 0
F. Britton	615 0 0
Lathey Bros.	482 0 0
W. Hammond	469 10 0
W. R. & A. Hide	455 0 0
F. T. Chinchen*	426 0 0

For providing and fixing hot-water coils, and fixing tubular boilers for warming corridors, Walnut Tree Walk.

J. Gray	£79 0 0
W. G. Cannon & Sons	72 0 0
J. & F. May	72 0 0
H. C. Price Lea & Co.	69 0 0
J. Defries & Sons, Limited	66 0 0
Berry, Campbell & Co.	62 10 0
Stevens & Sons	52 10 0
T. S. Knight & Sons	51 0 0
Palowkar & Sons*	48 15 0

For providing and fixing complete low-pressure hot-water apparatus to three halls, six classrooms, cloakrooms and drawing classroom, also to corridors, cloakrooms and lavatories in existing building, Snowsfields.

G. Davis	£560 0 0
J. Grundy	522 0 0
J. Wontner-Smith, Gray & Co.	476 0 0
Comyn, Ching & Co.	468 10 0
Turner & Co.	446 10 0
W. G. Cannon & Sons	432 0 0
W. Truswell & Son	428 0 0
J. C. & J. S. Ellis, Limited*	355 0 0

* Recommended for acceptance.

LITTLE WALTHAM.

For erection of a house, shop, stables and slaughter-house, for Mr. L. Campen. Messrs. CLARE & ROSS, architects, Chelmsford, and 1 West Street, Finsbury Circus, E.C.

Smith & Son	£1,697 10 0
F. Johnson	1,689 0 0
G. Holland	1,673 0 0
E. WEST, Chelmsford (*accepted*)	1,525 0 0

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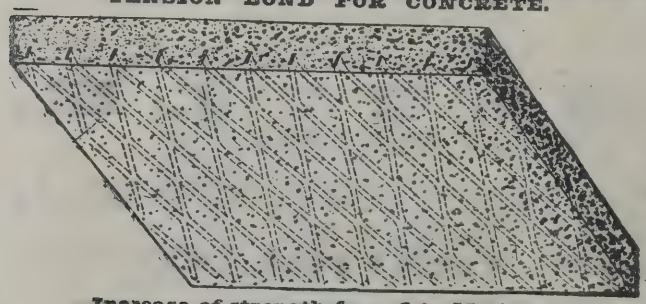
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LOUGHBOROUGH.

For alterations and extensions to the Corn Exchange. Mr. A. H. WALKER, borough surveyor.

J. F. Price	£2,175 0 0
Watson & Lovatt	2,110 0 0
W. Tailby	1,983 1 6
W. Moss & Sons, Limited	1,980 0 0
W. Harding	1,980 0 0
MAIN, KENDALL & MAIN, Loughborough (*accepted*)	1,910 0 0

MAIDENHEAD.

For sewering Bell Street. Mr. PERCY JOHNS, borough surveyor.

F. W. Edwards	£129 16 0
F. Talbot	117 5 0
FREE & SON, Maidenhead (*accepted*)	111 16 6

MERTHYR.

For furnishing new infirmary, for the Guardians.

B. EVANS & CO., Swansea (*accepted*)	£1,439 6 0
Trapnell & Gane	1,415 18 4
Howell & Co.	1,385 19 11
Bevan & Co.	1,122 5 7
G. Freedman	1,080 0 0

NANTWICH.

For erection of a bridge over the Crewe Brook. Mr. JOSEPH BEBBINGTON, district surveyor, Willaston, Nantwich.

J. PEAK & SONS, Nantwich (*accepted*)	£264 10 0

NOTTINGHAM.

For erection of four villas, Sherwood Rise. Mr. F. PARKIN, architect, Prudential Buildings, Nottingham.

W. Wilson	£3,409 0 0
A. B. Clarke	3,288 0 0
J. Musson	3,049 0 0
T. Long	3,026 0 0
W. MAULE, Nottingham (*accepted*)	2,988 0 0

POKESDOWN.

For making-up Granville Road. Mr. E. W. INGAMELLS, surveyor.

J. Corbin	£187 2 4
W. H. Saunders	186 10 0
GROUNDS & NEWTON, London and Bournemouth (*accepted*)	183 10 0

RUGBY.

For laying 1¼ miles cast-iron water-mains, Newbold-upon-Avon. Mr. T. W. WILLARD, surveyor, Rugby.

Rowland	£792 18 3
H. Law	666 0 0
J. Young	647 0 0
Jenkins & Son	615 0 0
A. JEWELL, Market Harborough (*accepted*)	555 17 10

SUTTON.

For erection of Council offices and fire station at Sutton (Surrey). Mr. C. CHAMBERS SMITH, surveyor.

A. Bush	£8,844 0 0
C. F. Kearley	8,675 0 0
W. Wallis	8,451 0 0
D. Stewart & Sons	8,080 0 0
S. Grist, Limited	8,008 0 0
F. & H. F. Higgs	7,975 0 0
T. H. KINGERLEE & SON, Oxford (*accepted*)	7,972 0 0

WALES.

For erecting six houses and a shop at Cwmcarn, Mon. Mr. R. L. ROBERTS, architect, Abercarn.

T. Westicott	£2,841 0 0
J. Jenkins	2,100 0 0
E. Williams	1,700 0 0
C. F. Morgan	1,650 0 0
DAVIES BROS., Abercarn (*accepted*)	1,550 0 0

WHITEHAVEN.

For erection of an infants' school to Trinity schools and for enlarging St. James's infant school, Whitehaven. Mr. J. S. MOFFAT, architect, 53 Church Street, Whitehaven.
CHAPPLE & SON, Moor Row (*accepted*).

For erection of latrines, &c., at St. Nicholas schools. Mr. J. S. MOFFAT, architect, Whitehaven.
J. WALKER & SON, Tangier Street (*accepted*).

WIGAN.

For erection of a dwelling-house at the sewage outfall works, near Plank Lane.

E. W. & R. Battersby	£335 0 0
Platt & Balshaw	304 4 4
H. & F. LOMAX, Platt Bridge, near Wigan (*accepted*)	280 0 0

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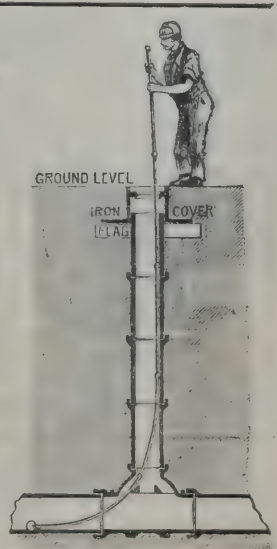
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WIGMORE.

For alterations at the police court. Mr. A. DRYLAND, county surveyor, Shire Hall, Hereford.

T. OVERTON & SONS, Leintwardine (*accepted*)	£60	10	0

WIGTON.

For painting Blennerhasset school and schoolhouse.

J. McKnight	£11	2	6
W. M. Mark	9	12	0
T. Mackenzie	7	17	0
R. CARRICK, 69 High Street, Wigton (*accepted*)	6	16	0

WREXHAM.

For erection of the Victoria Board schools.

Lewis Bros.	£11,875	0	0
James Hughes	11,759	9	10
W. E. SAMUEL, Wrexham (*accepted*)	10,800	0	0

TRADE NOTES.

MESSRS. BURNHAM, WILLIAMS & CO. announce that their London office has been removed from 36 Lime Street, E.C., to 110 Cannon Street, E.C.

MR. CHARLES MYERS, contractor, Woodhouse Street, Leeds, announces that he has taken into partnership his two sons, John S. Myers and C. Frederick Myers, and that in future the business will be carried on under the style of Charles Myers & Sons.

MESSRS. ARCHIBALD SMITH & STEVENS, of Queen's Road, Battersea, ask us to mention that all the hydraulic lifts fitted at the new Royal Hotel, Weymouth, a notice of the opening of which appeared in our issue of May 19, were supplied by them.

THE Endowed Schools, Watford, are being warmed and ventilated by means of Shorland's patent Manchester grates.

THE large clock in the central tower of the Hotel Great Central, Marylebone Road, has four illuminated dials, each 8 feet 6 inches across, and has been made and erected by John Smith & Sons, Midland Clock Works, Derby.

THE recent disastrous fire at the Hotel Windsor, New York, seems not to have failed in impressing hotel proprietors with their responsibility in securing the most efficient means for the protection of their premises from fire. It is therefore satisfactory to learn that the Royal Pavilion Hotel at fashionable Folkestone, has just been fitted up with an additional supply of fire appliances by Merryweather & Sons, of London, thereby rendering the lives of its many visitors much more secure.

MESSRS. JAMES SUMMERHILL & CO., Beaver Works, Wolverhampton, are meeting with considerable success in the introduction of their patent carburised iron, which is largely superseding galvanised iron in the various uses to which the latter has been hitherto applied. It is claimed that the black carburised iron is practically unacted upon by any of the mineral acids which, when the iron is properly coated, produce no effect on it whatever. Pure water also has no effect on it, so it is eminently suitable for the manufacture of vessels for domestic purposes.

BUILDING AND BUILDERS.

IT has been decided by the Keighley Parish Church Council to proceed with the renovation scheme at once, as far as regards the new west entrance and outside repairs.

THE erection of a new Primitive Methodist chapel in Station Road, Pendlebury, is to be commenced at an early date. The old chapel is being demolished.

THE University authorities at Oxford have sanctioned the plans of a pathological block in connection with the University Museum. The total cost is estimated at 10,000*l*. The architect is Mr. J. Augustus Souttar, 61 Gracechurch Street, E.C.

MEMORIAL-STONES were laid on Tuesday in connection with the new Wesleyan chapel now being erected in Boothferry Road, Goole. The building, which is expected to cost between 3,000*l*. and 4,000*l*., is in the best part of Goole, and will be supplemental to the chief church of the circuit.

AT the meeting of the Ripon Guardians on the 22nd inst. a report from the building and board-room committees was adopted recommending that Mr. G. Corson, of Leeds, should be asked to prepare plans and report on the ventilation of the infirmary and the better accommodation of the Board-room.

A SUITABLE site has been secured in the Whitehall Road, Cradley Heath, for the erection of a mission church in connection with St. Luke's parish. The estimated cost of the building is about 300*l*, towards which the Church Diocesan Society have contributed 30*l*.



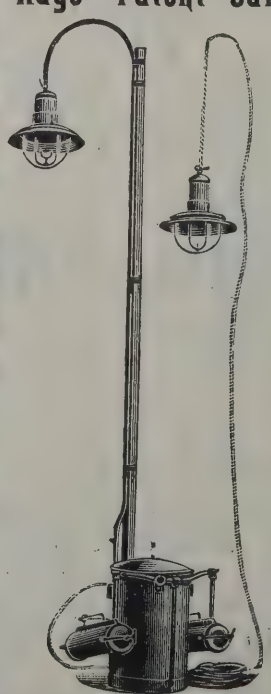
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CATHEDRAL SERIES.—ROCHESTER: LOOKING SOUTH-WEST.—THE NAVE ARCHES.—THE TRIFORIUM.—EAST END OF CHOIR.—THE WESTERN TURRETS.

BLUE POSTS, ARLINGTON STREET, W.

THE new chapel at Malvern College was dedicated on Friday last. Built from a design by Sir Arthur Blomfield, A.R.A., it will accommodate about 500 boys and the teaching staff. The cost, when completed, will be nearly 13,000*l.* Old Malvernians have promised an organ, and a gift of a stained-glass window has also been made.

A MEETING has been held at Malahide, near Dublin, to raise funds for the erection of a spire to the existing tower of St. Sylvester's church. More than 1,100*l.* were raised at the first meeting, and it is anticipated that the work will cost about 2,000*l.* The designing will be entrusted to Mr. J. J. O'Callaghan, F.R.I.A.I., architect, 16 Nassau Street, Dublin.

THE memorial-stones of a new Wesleyan chapel, in course of erection at Nettleham, near Lincoln, were laid on the 21st inst. The site of the chapel is at the Lincoln end of the village, on what was known as the Bishop's Park. The building will cost over 1,000*l.* The contractor is Mr. R. Mawer, of Louth, and the architects are Messrs. W. Mortimer & Son, of Lincoln.

MESSRS. ASPINALL'S ENAMEL, LIMITED, New Cross, London, S.E., advise us that they have commenced rebuilding their extensive premises at New Cross, which were totally destroyed by fire last year, and hope to have them completed by the end of November. The architect is Mr. Max Clark, of Queen Square, W.C., and the contractors are Messrs. L. Whitehead & Co., Limited, Portland Works, Clapham Road.

THE dedication of the church of the Holy Trinity, Newington Avenue, Belfast, took place on the 25th inst, the ceremony being performed by the Right Rev. Dr. Henry, Bishop of Belfast. It has been erected at a cost of 4,000*l.*, and is of suitable design for the surroundings. It is believed that it is Dr. Henry's intention to erect many such churches in his diocese, rather than erect fewer and more pretentious buildings.

THE memorial-stones of new schools in connection with Brookfield Unitarian Church, Gorton, were laid on Saturday. They are in line with and in close proximity to the church, with which they will harmonise, being of parpoint stone with ashlar dressings. There will be a large central hall for meetings and entertainments, surrounded by classrooms, and it is anticipated that the increased accommodation provided will be adequate for a long time to come.

THE building plans sub-committee of the Leeds Corporation had a "record" meeting on Friday last with regard to the number of new plans which came before them. The total number of plans inspected was 143, which included 10 which had been postponed, and 133 new plans. The latter dealt with 275 houses, 13 warehouses, workshops, &c, one clothing factory and one engineering works. Most of these were passed.

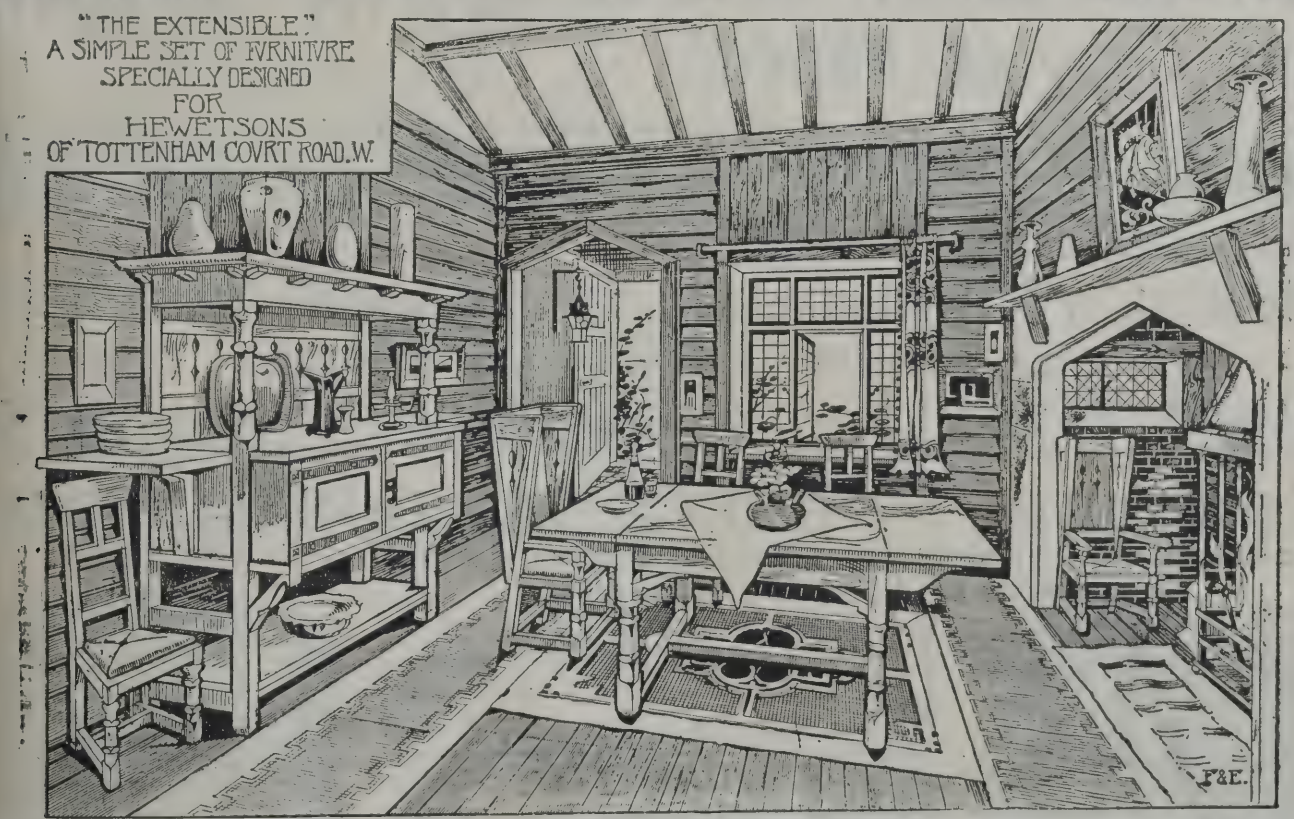
A SERIOUS fire occurred late on Sunday night at Guttridge's brickworks, Brighton. Three workmen were drawing some paraffin from a cask in a shed, when the oil ignited from a candle held by one of the men, setting the whole of the building alight. Two of the men were terribly burned and were removed to the county hospital, where one succumbed to his injuries on Monday. The third man marvellously escaped injury. The building was destroyed.

THE contracts for the first section of the scheme for the restoration of Paisley Abbey have been fixed as follows:—Mason, joiner, slater and plaster work, Messrs. Boyd & Forrest, Kilmarnock; plumber work, Messrs. Jas. Kilpatrick & Sons, Paisley; glazier work, the Glass Stainers' Company; iron and steel work, Messrs. J. M'Millan & Co. The first section of the work comprises mainly the restoration of the transepts and the arches for the central tower, and the estimates amount to about 13,000*l.*

AT last week's meeting of the Tendring Board of Guardians the Local Government Board intimated that they would be prepared to sanction the increased loan for the new infirmary which would be necessitated should the Board accept the lowest tender opened at the previous meeting. A resolution accepting the lowest tender—that of Mr. Shurman, of Ipswich, at 10,799*l.*—was eventually passed. It was incidentally mentioned that the tenders came out about 40 per cent. in excess of the estimate, a result attributed to the rise in the cost of material and labour.

THE new county hospital at Bedford was opened last week by the Duke of Bedford, who, together with Mr. S. Whitbread, has been a great benefactor to the hospital. The buildings stand in the grounds adjoining the old infirmary, which is to be pulled down, and the site covers 10 acres. The three wards

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for men, women and children are built on the pavilion system, and are over 100 feet apart. The administrative block, the operating block and out-patient's departments are all separate. A handsome chapel is provided, and there is a nurses' home, which has been built as a county memorial of the Queen's Diamond Jubilee. The cost of the whole hospital is 38,000*l.* The architect was Mr. H. Percy Adams, of London, and the contractors Messrs. Kerridge & Shaw, of Cambridge.

THE memorial-stones were laid on Saturday of the new Free church which is being erected in Grace Drive, Linthouse, N.B., on a site which was purchased for 909*l.* It contains about 2,530 square yards, and space has been reserved for the future erection of a manse. The new buildings comprise a church containing about 1,000 sittings, a hall with upwards of 300 sittings, a session-house, which may be added to the hall by means of folding doors, a vestry, a ladies' room, a church officer's house, and other necessary accommodation. They were planned by Mr. James Miller, architect for the 1901 Exhibition buildings, who has been able to combine commodiousness and economy with novel, simple and yet effective architectural details. The total estimated outlay was 7,800*l.*

A NUMBER of steeple-jacks had a tragic experience on Wednesday at Bridge Mills, Tintwistle, near Manchester. The main building of the mill was recently destroyed by fire, the damage amounting to 50,000*l.* While the men were engaged on the fifth storey demolishing the old walls, several tons of brickwork fell in, crashing through what remained of the wooden floors. Three steeple-jacks were carried down with the falling débris. One, Eli Jones, of Rochdale, was killled instantly, while two others, James Denton and Richard Holt, received shocking injuries. Three workmen narrowly escaped being crushed.

THE Board of Trade have received information from the British Chamber of Commerce in Egypt to the effect that the Municipality of Alexandria will give out in December next a contract for the construction of a large quay and collector drain. Copies of the specifications for this contract have also been received, and can be consulted by persons interested in the matter at the offices of the Board, 7 Whitehall Gardens, S.W., between the hours of eleven and five. Copies of the plans and drawings can be obtained from the Municipality of Alexandria at the cost of 10 Egyptian pounds or 10*l.* 5*s.* 2*d.* sterling. The Chamber of Commerce also state that a loan of 500,000*l.* is contemplated in order to pay for the work, and that this loan will probably be issued at the beginning of next year.

VARIETIES.

THE Archbishop of Canterbury consecrated the new church of Emmanuel, South Croydon, on Monday last.

THE dedication service of the new Welsh church in Lime Grove, Oxford Street, Manchester, took place on the 23rd inst. The building, including site and furniture, has cost about 3,500*l.* The architect was Mr. R. B. Preston, and the builder Mr. Carlyle, jun., Ardwick.

THE historic Derwentwater House, Acton, in the grounds of which there is a monument to the ill-fated Earl of Derwentwater, who was executed for high treason on Tower Hill in 1716, has just been acquired by the members of the Acton Liberal Club as their future headquarters, and as a central registration office.

THE *Standard's* Denver (Colorado) correspondent on Tuesday telegraphed: — Mr. Lewis, a civil engineer from Chicago, has passed through here en route for China, on behalf of a syndicate interested in a concession for the destruction of the famous wall. Two British, one French and three German syndicates are competing.

THE famous Surly Hall hotel, near Windsor, a well-known landmark on the river, familiar to all past and present Etonians, will disappear at the end of the present river season. The property has been purchased by Sir A. K. Rollit, M.P., and the Dowager Duchess of Sutherland, who intend to build a residence there.

THE Bristol Congregationalists have almost completed the task of raising 15,000*l.* in order to secure the offer of 5,000*l.* made by Sir W. H. Wills, M.P., for church extension work in the city and suburbs of Bristol. The amount already subscribed closely approaches 14,000*l.*, and the local authorities anticipate that the balance will be forthcoming within the next few weeks.

IN the course of a service in the old Greyfriars Church, Edinburgh, there was a most unusual occurrence on Sunday. The service had not long started when a smell of gas prevailed. The connection was closed at the meter, but the leakage increased, and in a little while a number of the congregation were overcome, and had to be carried outside. As the escape could not be stopped the service was brought to an abrupt termination.

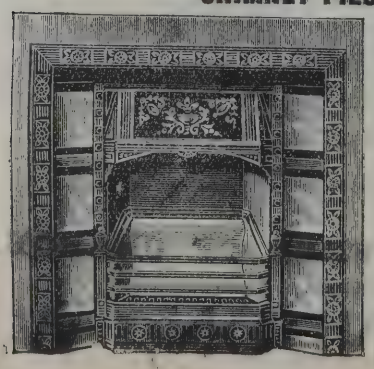
THE new church in St. Phillip's district of the West Bromwich Christ Church parish was opened on Sunday for public worship. It is pleasantly situated on the Beeches, and

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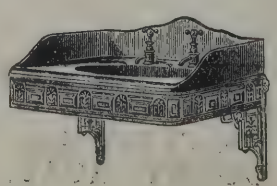
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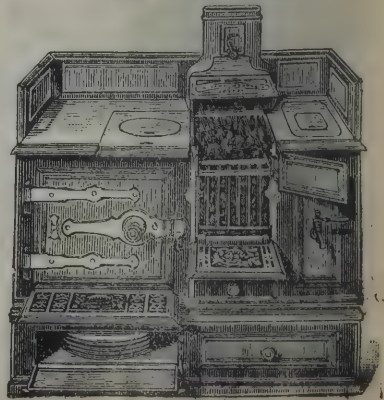


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capable of accommodating 750 persons. The estimated cost was 6,000*l.*, but owing to the lack of funds the major portion only has been erected, at an estimated outlay of 4,000*l.*, and of this there is still 1,700*l.* to be raised. The work has been executed by Mr. John Dallow, and Messrs. Wood & Kendrick were the architects.

THE new extension of the Midland Counties Home for Incurables at Leamington was opened on Wednesday. For some years the demands for admission of patients to the home have been much in excess of the capacity of the existing building to supply accommodation, and two years ago it was decided that, in commemoration of the Diamond Jubilee, an extension should, as soon as funds permitted, be set on foot. A scheme providing accommodation for fifty-three additional patients, and for a new and larger chapel, a recreation-room and more convenient domestic offices, at an estimated cost of 17,000*l.*, was adopted. The accepted plans were those of Mr. Hawley Lloyd, of Leamington, and Mr. W. Henman, of Birmingham. It was decided that the scheme should be proceeded with in sections, and it was the first section—completed at a cost of 7,300*l.*—which was ready for opening on Wednesday. The new wards, which many of the visitors had the opportunity of inspecting, are large, light and airy, and give room for thirty-three additional beds. The floors are of teak laid on concrete, and the wards have been built in accordance with the most modern principles of hospital construction.

A NEW Union church at Beeston was opened on the 20th inst. It has been fitted with all the latest appliances for heating, ventilation, &c., and has been built to accommodate about 400 people. The architecture is of the Perpendicular period, the main front is of Bulwell stone, rock faced with dressings of Coxbench stone, and the roof is tiled with American sea-green slates. The heating of the place is obtained by the low-pressure hot-water system, and the ventilation is on the Boyle system. The benches for the congregation are of Columbian pine, and the materials of the rostrum are pitch pine and mahogany, which are decorated with iron scroll-work. In front of the rostrum is situated the baptistery, let in 3 feet 6 inches below the floor of the chapel, and lined with white glazed bricks. At the rear are minister's and choir vestries, kitchen, and a large schoolroom, 51 feet long by 18 feet wide. The edifice is 66 feet long, 36 feet wide and 37 feet from the floor to the ridge. Mr. C. N. Holloway, of Newcastle Chambers, Nottingham, is the architect, and Mr. W. Turner, of Beeston, the contractor. The building and site have cost 2,684*l.*

THE fine old parish church of Wellington, Salop, which was closed in August last for extensive alterations, has assumed an appearance which entitles the edifice internally to rank among the most beautiful churches in the county. The interior of the structure was formerly marked by its extreme plainness, but this has disappeared entirely under the scheme which, though by no means complete, was sufficiently far advanced for the reopening services to be announced for the 21st inst. Alterations have already appeared in these columns, but the new decorations, Classical in style, consist principally of a magnificent carved oak screen erected over the chancel, and made from wood more than twelve hundred years old taken from the old parish church; a new gallery with improved seating accommodation, supported by marble columns and fronted with neatly carved wood-work, and substantial carved choir stalls have been put in. All the old oak seats in the body of the church, on which great value is placed, have been preserved and refixed in the rearrangement of the side aisles. Prominent among the improvements are the mouldings on the ceiling with various intersections. The general harmony of the decorations is advanced by the introduction of a marble pulpit. It is octagonal in shape, and has panels occupied by figures representing "Christ Preaching to the Multitude," "Christ in the Garden of Gethsemane," "Christ as the Good Shepherd," and "The Ascension."

THE arrangements of the British Fire Prevention Committee for July include the following series of fire tests:—The fire resistance of casements glazed with patent wire glass by Messrs. Pilkington & Co., of St. Helens. The fire resistance of skylights glazed with patent wire glass by the same firm. The non-flammability of a match-boarded partition constructed by the British Non-Flammable Wood Company. The fire resistance of a matchboarded partition, with silicate cotton filling, constructed jointly by Messrs. Anderson and Messrs. Broadbent. The fire resistance of a ceiling constructed jointly by the same firms. The automatic recording of an outbreak of fire on the Pearson automatic fire-alarm system. The fire resistance of a 2-inch solid partition constructed by the Mural Decorations Company. The fire resistance of a floor of wood joists provided by the Mural Decorations Company. The comparative fire resistance of ordinary glazed sashes glazed with 32 oz. glass, plate glass and lead lights respectively. The

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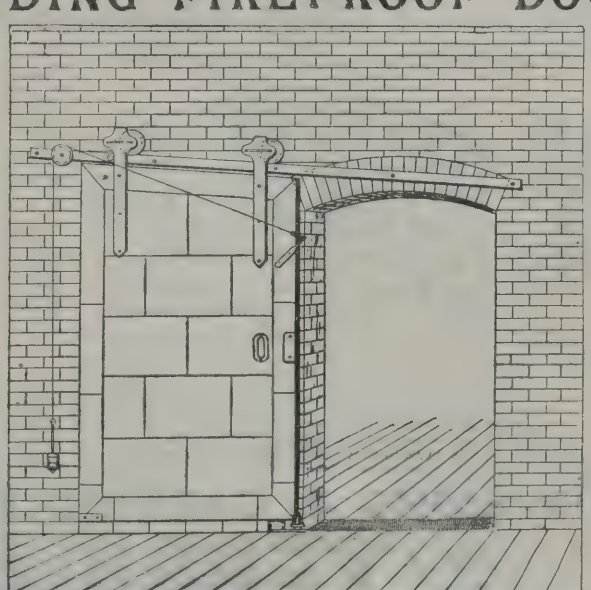
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FULL PARTICULARS AND ESTIMATES FREE.

comparative fire resistance between a 2-inch solid teak door and a 2-inch solid oak door. These tests will be carried out according to the usual procedure of the committee at their testing station near Regent's Park.

THE new Liverpool Stock Exchange, which has been erected at the corner of Dale Street and Exchange Street East from designs by Messrs. Grayson & Ould, was opened on the 23rd inst. The building has been erected in Elizabethan English Gothic style, the material used being red sandstone and Portland stone. Two large windows—probably the largest windows in Liverpool—in Exchange Street East let the light of day into the "room." Over these windows there is a cornice and carved frieze. Two side windows light the members' private rooms. The Dale Street entrance has been abolished, and instead of it there are now two entrances from Exchange Street East. Above each a carved panel, designed by Mr. E. Griffiths, sculptor, of Liverpool. Inside the room is practically the same as before, but there are new adjuncts—large vestibule, secretary's office, telephone and telegraph-rooms, clearing-room and reading-rooms. Though the premises are the same in size, more accommodation is provided, because the space is now better utilised.

ELECTRIC NOTES.

AT a meeting of the Chesterfield Town Council on the 20th inst. it was resolved to proceed at once with the works necessary to the provision of electricity for light and power.

A GOOD joke concerning electric light is just going the round of the Bedfordshire papers. It seems that at Bedford an old lady on seeing electric light in that town for the first time was struck with amazement. After gazing at it for some time, she entered a grocery shop, and addressing the assistant, said, "I say, mister, how do you make that big light o' yours? I am tired of burning paraffin." The shopman replied, "Oh, it is caused by a series of electric currents." "Oh, is it?" said the old woman. "Then weigh me a pound; if they won't do for lighting they'll come in for puddings."

THE Examiners of the House of Lords had before them on Friday last, for proof of complying with the further Standing Orders, a Bill to confirm two provisional orders made by the Board of Trade under the Electric-lighting Acts 1882 and 1888, relating to Leamington Spa. The Bill has already been passed by the House of Commons, and formal proof having been given, the Examiner decided that the further orders had been duly complied with. The Bill will accordingly be reported in the usual course for second reading.

THE Bill promoted by the Central Electric Supply Company, the preamble of which was passed on Friday last, came again before the committee of the House of Lords on Monday, presided over by Lord Brougham, for the adjustment of clauses. A clause was inserted providing that the company should not be entitled, except with the consent of the St. Marylebone Vestry, to open more than one trench with such bifurcation as might be necessary to connect with the stations of the two companies (St. James's and the Westminster) to whom the supply has been restricted by the committee. Another clause so restricting the supply was added to the Bill, which was ordered to be reported to the House.

CANDELABRA FOR ST. PAUL'S CATHEDRAL.

Two massive candelabra will shortly be placed in position at the entrance to the nave of St. Paul's Cathedral. One of the bronze pieces, says the *City Press*, is the gift of Mr. Douglas Murray in memory of his father, a prebendary of the Cathedral, and the other has been presented by the members of the decoration committee. Work on these beautiful ornaments has been in progress for the past three years, and the result justifies in every way the care that has been bestowed upon them. Each piece is 14 feet 6 inches in height. The subject has been taken from the first chapters of Genesis, the underlying motive being "Benedicite, omnia opera." At the angles of the base the white, yellow and black races of mankind are represented by three figures. On the sides of the base, in low relief, are represented "Sin"—Eve eating the forbidden fruit; "The Punishment"—Adam's mortality implied by his labour, and "The Atonement"—Christ's crucifixion. Beasts and birds occupy positions beneath the earth, which is covered with flowers and girdled by the sea. The firmament is represented by a fiery column, around which angels are moving. Above are archangels, who support the rose, from which springs the cross, surrounded by stems for the lamps. These beautiful specimens of workmanship were cast by Messrs. Hollinshead & Burton, of Thames Ditton, according to the designs of Mr. H. Pegram, of 26 Norfolk Road, St. John's Wood. The candelabra are mounted on massive slabs of Irish fossil. When they are lighted by electricity a beautiful radiance will be shed over the whole entrance to the nave, which up to the present has been sadly in need of a better means of illumination.

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LEONARD DAKIN, Designer and Manufacturer, is now dropping the prices considerably in this line. The price of a Grille similar to "The Avenue," herewith, of the best Workmanship, including Letters, and finished in Dead Black, 4 feet by 2 feet 6 inches, £3 18s. Highest class work at the most moderate prices. Special coloured designs, with estimate sent by return of post. Address all communications to
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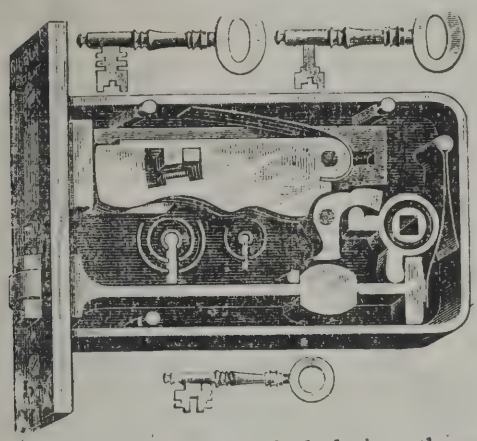
NOTICE OF REMOVAL.
During the Rebuilding of the Strand Premises, which have been occupied by "THE ARCHITECT" for the last 30 years, the Editorial, Publishing, and Advertisement Departments have been removed to the
City Offices, Imperial Buildings, Ludgate Circus, London, E.C.
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NEW CATALOGUE.

MR JAMES GIBBONS, of St. John's Works, Wolverhampton, and Southampton Row, W.C, has prepared an elaborately illustrated catalogue of artistic door-furniture, consisting of locks, hinges, handles, finger-plates, brass cabinet rim and mortise locks, &c. Designs of all styles and periods are shown by means of excellent reproductions of photographs, and all prices are given. Perhaps the greatest novelty to which attention is drawn is Gibbons's new "Mastership" lock, which is a lock made on a new principle, and suitable for hotels and public institutions, the great advantages of which are at once obvious, as while in making locks to differ with a Master key under the old system, the levers of the locks must all be made the same, on account of the Master key going over them, and



the only variance that is made on the locks is on the wards. It is thus simple for a man to file the ward out and make an ordinary key into a Master key. As has already been done at the Hôtel Cecil, London, Mr. Gibbons varies all his locks on the levers, so that one key does not indicate in the slightest manner what another key may be on the building, and still his Master key, entering through another keyhole, will open all the locks. Thousands of locks may be made to differ entirely on this method, which affords great security in hotels, and has also already been largely adopted in asylums, institutes, banks, &c.

BRICK PAVING.

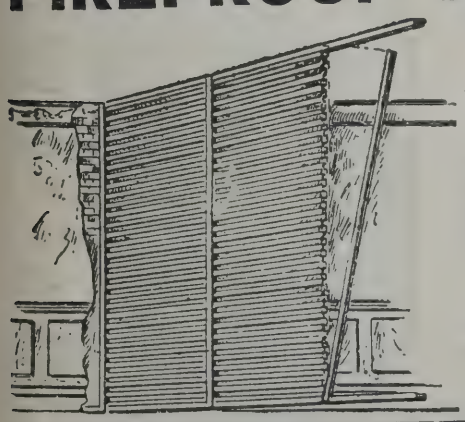
ACCORDING to the report of the city engineer of Wheeling, in the United States, brick paving has been in use in that city since 1883. To secure satisfactory results he finds it necessary that the brick should be purchased by the Board of Public Works, and inspected at the kiln by a competent man employed by the city. In this way unsuitable material is prevented from reaching the city. During the past year the inspector for Wheeling found it necessary to condemn many bricks. It has also been found advisable in awarding contracts to base the payments on the number of cubic yards of actual excavation, the amount of stone or gravel actually used in preparing foundations, and the number of square yards of sand cushion, bricklaying and sanding. If this method is followed, the contractor has no incentive to slight the excavation or filling. It has been found that contracts of this sort have resulted in greatly improved work, because a good foundation is the most important element of a satisfactory pavement. The present practice, after the excavation has been finished, is to consolidate the subgrade with a 17-ton steam roller; in this way all soft places are detected and can be filled with stone or gravel. When this has been done the foundation is sometimes strong enough to receive the sand cushion directly, but frequently it is necessary to cover it with 9 inches of stone and gravel thoroughly rolled before a suitable base can be obtained. Tar and pitch were formerly used for filling the joints, but it has lately been replaced by sand at a reduction in cost of about 10 cents and without any material injury to the durability of the pavement. On a bad foundation tar has been found of some value in keeping water from softening the earth, but with a well-drained foundation it is not considered essential. Moreover, the use of sand has also made it much easier to repair pavements, as tarred brick are cleaned with difficulty, and even after being cleaned are frequently of little value.

DISCOUNTS IN THE IRON TRADE.

THE proposal of the finished iron manufacturers of Birmingham and the Midlands to discontinue the allowance of discounts has already called forth a strong protest. The following circular, signed by eight of the leading merchants, has been issued to the members of the Association proposing to take action:—

"We, the iron merchants of Birmingham, note that the

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To SUIT ALL STYLES of DECORATION.

iron and steel manufacturers are discussing a proposal to discontinue the allowance of cash discounts and make the selling price of manufactured iron and steel net. This is a question of such vital importance to merchants (and, therefore, to yourselves), that we ask you to give it your most serious considera tion before deciding to adopt so revolutionary a change of system. It may be taken as absolutely certain that merchants in the distribution of your products amongst thousands of consumers cannot avoid giving long credits, and the only equivalent for such credits, and their only remedy for defence against the dilatory system of payment which is almost universal, is the allowance or disallowance of the discounts they obtain from you. They cannot alter this system of long credits, and net prices would be absolutely disastrous to them. Further, it is by no means certain that, if established, net prices could be maintained when the reaction which is absolutely certain sooner or later to follow the present appreciation of prices arrives. It is impossible to imagine anything more disastrous both to producers and merchants and more calculated to destroy the good relations that ought to exist between them than repeated changes in the system of doing business in trades so important and so open to foreign competition as the iron and steel trades. We beg to protest most strenuously, both individually and collectively, against such a change, and to ask you in both your own and our interests, and we feel sure in the interests of the trade, to vote against it. We believe that 75 per cent. of the iron and steel made in Great Britain is distributed by iron merchants, either home or export, and we think this is an additional justification for our drawing your attention to it."

NEW PHOTOGRAPHIC CAMERA.

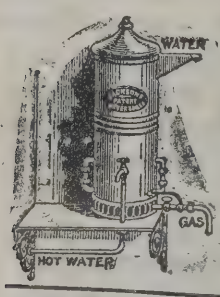
MESSRS. MARION'S most recent introduction is their "cut-film" Swallow hand camera, which will be found to possess many advantages. For a neat-looking and useful camera we can confidently recommend it, and the reasonable price at which it is offered should make it extremely popular. It measures outside 8¼ by 6¾ by 4½ inches, and when loaded with thirty flat quarter-plate films weighs only 4 lbs. The lens is a single achromatic of fixed focus, having three diaphragms, and the definition of the resulting picture is all that can be desired. It is provided with finders for vertical and horizontal pictures. After each exposure, by the turn of a lever, the exposed film is dropped out of the way, and the next one comes into register; at the same time the number of remaining unexposed films is automatically indicated at side of camera. This is the only movement necessary, as the shutter is one of the ever-set type, so that even the novice in photography (provided he uses films of good repute) should be able to produce satisfactory negatives.

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THE "Luxurious" bolt is the appropriate name given to an exceedingly ingenious and up-to-date little door-fastener, which is just ready to be offered to the public.

Its mechanism is of the simplest and its efficiency the most complete. An air piston, which can be fixed in any desired position, communicates by means of a small pneumatic tube with the door lock, a bolt in which is thrown or withdrawn by the mere closing or opening of the piston. If, for instance, the piston were fitted at the side of a bed the occupant of the bed could by touching the piston withdraw the bolt to admit a domestic, and on the latter going out of the room the door would automatically lock itself. It is not, however, necessary that the piston be fixed in any special position within the limits of the pneumatic tube, which can be of any length *à discrétion*; it can be shifted about a room or attached to a writing-table or fireside chair to suit the convenience of the occupier. At present the invention is worked out in two forms, *i.e.* as a door-lock and as a simple bolt. The action in both is similar, except that the bolt is not self-closing but must be fastened by means of the piston. We understand that the cost of these appliances, which are suitable for hotels, offices, or private houses, is very small.

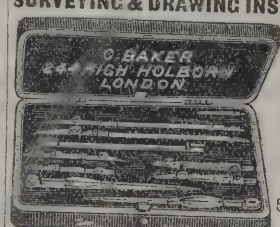
THE Town Council of Aberdeen have sanctioned the laying out of the first portion of a boulevard which it is proposed to ultimately carry from Bridge of Dee to Bridge of Don. The thoroughfare will commence in Great Western Road and run thence in a northerly direction to South Stocket Road, opposite the lands of Summerhill. It will be 82 feet in width. The carriageway will be 40 feet wide, and on each side there will be a verge of ground planted with trees, a 10-feet wide pathway, a second verge of ground planted with trees, and a foot pavement 8 feet in width in front of the dwelling-houses which may be erected along the boulevard, and which must be retired back from the centre of the thoroughfare a uniform distance of 25 feet.



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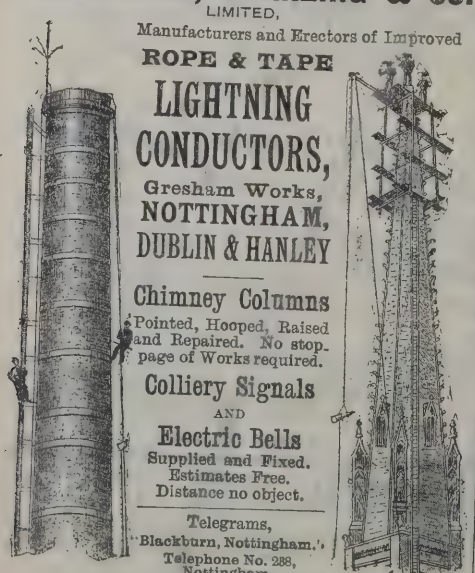


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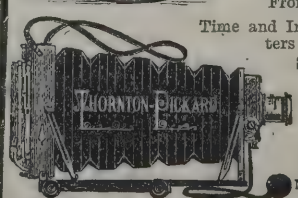


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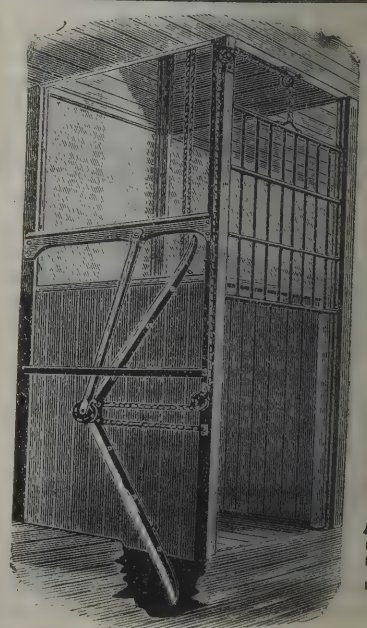
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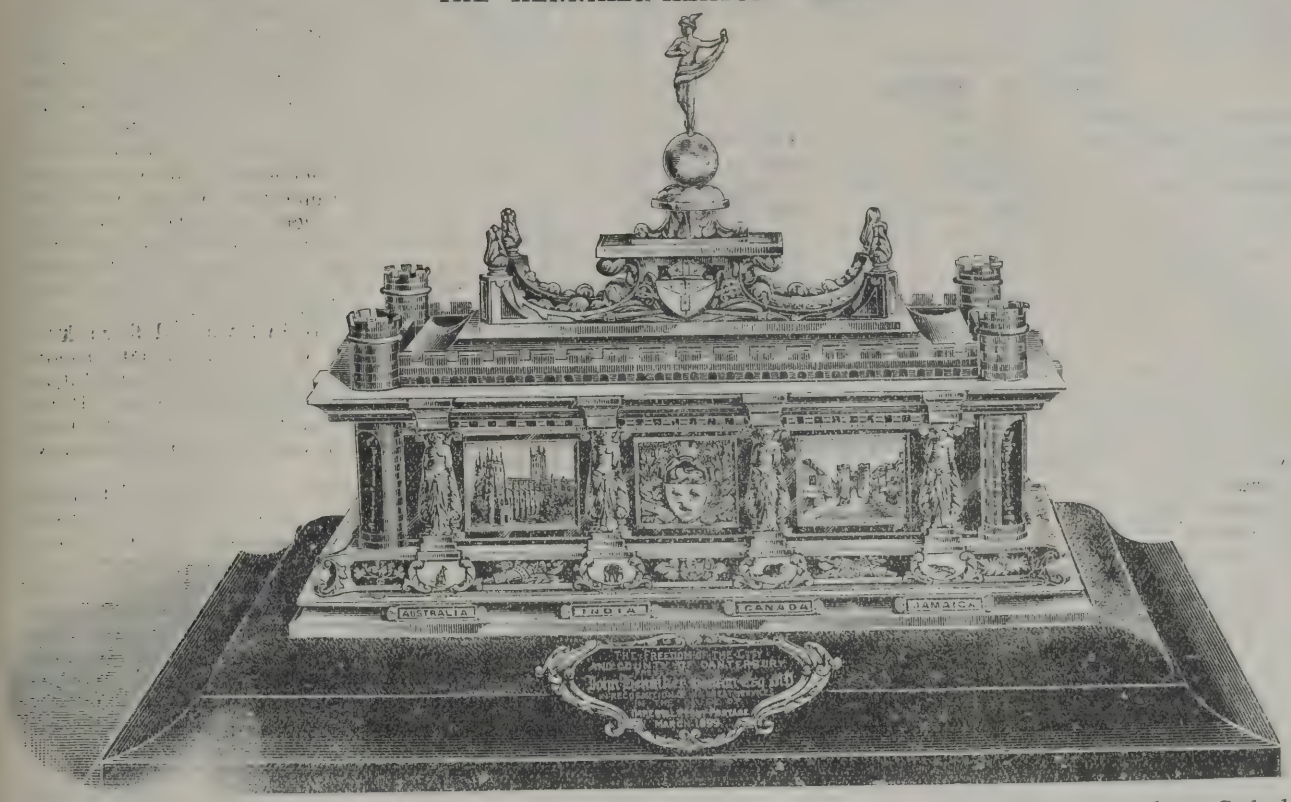
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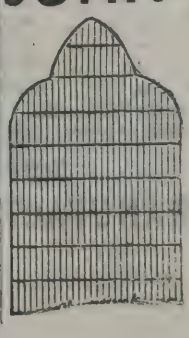
THE handsome casket portrayed above is that in which the freedom of the city and county of Canterbury was recently presented to Mr. John Henniker-Heaton, M.P., in recognition of his efforts in connection with Imperial penny postage. It was manufactured by Messrs. Vaughton, of Gothic Works, Birmingham, from oak taken from Canterbury Cathedral, ornamented in silver gilt with enamelled panels, and surmounted by a beautifully modelled figure of Mercury on an enamelled globe and carrying a letter. On the centre panel are the arms of the see of Canterbury, combined with those

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of the city, while round the base are a series of enamelled emblems, each representing one of the colonies which has been affected by the postal scheme.

PENICUIK HOUSE.

ONE of the most disastrous fires which have occurred in Mid-Lothian for many years occurred on the 16th inst., when Penicuik House was practically destroyed, involving an irreparable loss to art in the destruction of Runciman's magnificent mural painting on the ceiling of Ossian's Hall. The central portion of the mansion, says the *Scotsman*, was built in 1761, to the instructions of Sir James Clerk, in the purest style of Italian architecture. The master builder, as an inscription at the archway under the entrance to Ossian's Hall sets forth, was Master John Baxter, sen., while Master James Blaikie was master carpenter. In the fifties of the present century wings were added to the central portion to the designs of Mr. David Bryce, with a façade of 180 feet and a depth of 78 feet. The mansion thus covered a superficies of 15,000 square feet, and contained sixty-four rooms, arranged in three flats. The building was associated with some of the richest memories of Scottish literature, and only the other week an Italian contributor to the *Scotsman* testified how far-reaching these associations were. At one time it was stored with historical paintings, rare books and many exquisite works of art; but within recent years the mansion has been greatly denuded of its art treasures, many of these being dispersed under the hammer of a London auctioneer, and only a few weeks ago some of the rarest books in the library realised, in a three days' sale in the Metropolis, a sum of over 1,700*l.* For about 130 years the mansion was the abode of the Clerks, but three years ago it was let to Lord Kinnear, who occupied it for two seasons, and at present it is tenanted by Mr. R. B. Ranken, W.S., Edinburgh.

Mrs. Ranken was the only member of the family at home at the outbreak, Mr. Ranken having gone to his office in Edinburgh, whilst the other members of the family were either at business or at school. The fire was noticed by several of the servants almost simultaneously, but by that time it seemed to have got a firm hold. The butler states that he resides at Corntown, and was returning to the mansion about 12·55, when he observed smoke issuing from the side of the kitchen chimney. He went to the top of the house upon the flat roof, and found the north wing on fire. Mr. Buchanan, land steward, was early notified of the outbreak, and he despatched messengers on cycles for assistance, while at the same time he assembled the estate fire brigade, who set to work with their manual engine, drawing water from a tank attached to the house, and afterwards from Scobie's Well. Mr. Buchanan and his men were driven back by smoke, and soon it was seen that the most powerful appliances were necessary to cope with the fire. No time had been lost in telegraphing to Edinburgh for assistance, and Police-Inspector Reid also telephoned to the county police office, where in turn they communicated with the central fire brigade office in High Street. Lieutenant Allan immediately had a steamer and eight men under way, and they covered the distance in fifty-eight minutes. Meantime Bailie Wilson had despatched the Penicuik Fire Brigade, and Messrs. Cowan kindly lent their steamer from Valleyfield, and the alarm having reached Glencorse Barracks, Captain Nash and fifty soldiers, with their engine, were despatched. An unfortunate accident occurred to the Valleyfield steam-engine, which disabled it, and the most of the work fell to the Edinburgh steamer. It drew water from the pond referred to, which is 200 yards distant from the house, and the Penicuik and military engines also did good service.

Hundreds of people gathered to the scene, and there was no lack of willing service. In the course of the afternoon Firemaster Pordage arrived, and assumed the direction of affairs. The energies of the men were concentrated on saving the lower floors, and special attention was given to the charter-room, in which are stored some invaluable historical documents, many of which were recently collated by Professor Lauler, Dublin. In the work they undertook the firemen were fairly successful. The saddest incident of the afternoon's havoc was the crashing-in of the ceiling of Ossian's Hall, which occurred at four o'clock, and which carried with it to utter ruin Runciman's great masterpiece.

Early in the afternoon Mr. Buchanan directed attention to saving the movables in the various rooms, and scores of willing workers joined in the salvage. Soon the spacious lawn was filled with the articles thus saved, which comprised furniture, paintings, &c. A body of workers paid special attention to the paintings, which are of great value. Ample accommodation was found at the stables and offices for the articles saved. Many antique works were included, and special attention was devoted to the famous Equation clock, which is entailed on the estate, and is one of the most wonderful timekeepers in the world.

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By six o'clock the firemen had obtained in great part a mastery over the fire, but such was the extent of the building that for hours afterwards parties of firemen found ample employment in quenching the embers. A fresh detachment of men arrived from Edinburgh, and prepared to remain on duty all night. No serious casualty occurred, although Private Barron, Royal Scots, got his arm severely cut by a falling window. Hundreds of spectators visited the fire in the evening, but they were kept at a convenient distance by the police. The damage is estimated at between 30,000*l.* and 40,000*l.*, and the building is insured.

THE READING SYSTEM OF FILTRATION.

THE chairman of the waterworks committee of the Reading Corporation, Mr. Alderman Hill, lately invited the members and some friends on an excursion to the various works which have been undertaken to supply water to the town.

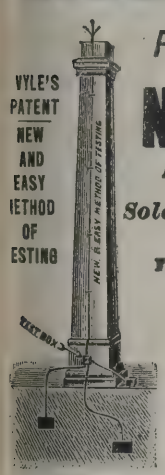
Arrived at the Bath Road works, says the *Reading Mercury*, Alderman Hill explained in detail the damage caused by the recent giving way of the bottom of the southern reservoir, and also gave information as to the general works at this, the headquarters of the present water-supply to the borough. He said that until a few years ago the water was pumped up absolutely unfiltered from Fobney or Southcote into the reservoirs, with the result that leeches and other objectionable things were frequently discovered in it. However, the filter area at Fobney was gradually increased as time went on, and by the use of polarite and other systems of filtration at Southcote the difficulty of providing the town with a pure supply had been satisfactorily grappled with. The water is now filtered and pumped up into the northern reservoir, then into the middle well, and then by engines into the high level tanks, and so distributed throughout the town. The works at Fobney can be relied upon to pump 4,000,000 gallons per day. At a future date it was proposed to cover the southern reservoir, which has so unexpectedly collapsed, in order that the filtered water should not be exposed to the air. It is the intention of the committee to have everything at the Bath Road works in duplicate so as to avoid any possibility of a failure in the supply. Having referred to the manner in which the southern reservoir suddenly developed a leak owing to a shifting bed of loose sand, Mr. Hill explained the objects served by the various wells, &c., upon the site.

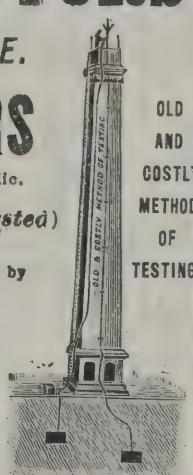
The Proposed Reservoirs at Tilehurst.

The company next drove to the site of the proposed high-level service reservoir at Tilehurst, which is on the crown of the hill, near what is locally known as the "City." Here the Corporation have acquired five acres of land.

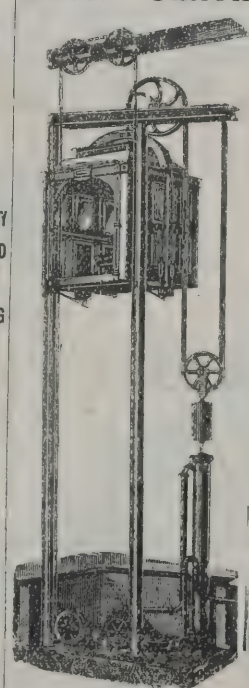
Alderman Hill said that the great difficulty in Reading in regard to the water supply is connected with the high-level supply, the whole of which is obtained from the tanks at Bath Road and Whitley. These tanks are not sufficient to keep the supply going at times when the demand upon them is very great, notwithstanding the fact that the engines are always pumping. The supply is consequently somewhat intermittent occasionally. As the inconvenience arising from this cause increases year by year, as the town grows in size, the water-works committee, rightly considering that such a state of things was not to be tolerated in a town like Reading, decided that the best course of action for them to adopt was to obtain a piece of high land near the town and build a reservoir thereon capable of commanding the water supply of every house in the borough. A plot of ground has accordingly been secured near Tilehurst "City," and there as soon as the provisional order is obtained a reservoir to hold five million gallons will be constructed, the basin being kept constantly filled by means of steam pumping power. Care has been taken to secure a sufficient quantity of land to enable the Corporation to provide additional storage capacity if in years to come the growth of the town should render this desirable. To show the importance of the question of levels and the value of the new site, it was pointed out that the tank at Whitley, including the standpipe, is 295 feet above Ordnance datum; the crown of Marshall's Hill, the highest point in Reading, is 266 feet; Emmer Green, 269 feet, and Caversham Warren, 253 feet. At Tilehurst an elevation of 337 feet has been secured, or 40 feet above the standpipe at Whitley. When the new reservoir, therefore, is completed, the question as to the supply at high level will be settled for ever. And it must be borne in mind that in addition to the improvement in the pressure the town will have the benefit of an increase in the volume of water stored ready for use, so that the necessity of pushing on the work of construction as much as possible will be readily understood. The mains will proceed down Langley Hill to the Bath Road, and thence to the Borough, and as no private property will be interfered with, and no easements have to be secured, it is anticipated that no difficulty will be experienced in laying the pipes, this being of considerable

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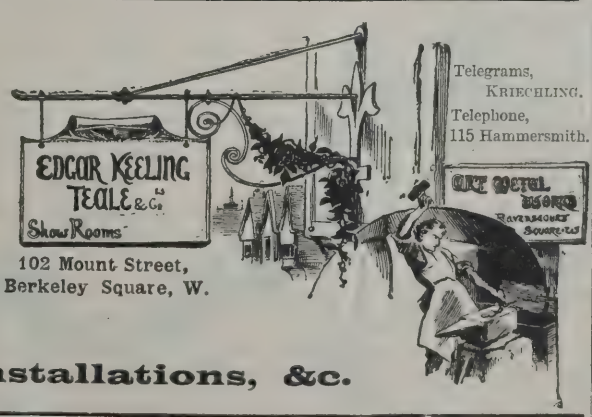


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advantage in connection with public works executed under Parliamentary powers.

In reply to questions, Alderman Hill said that when the works at Tilehurst are completed the pressure will be sufficient to admit of a jet of water 30 feet high being thrown over any house in Reading. It was not proposed to always admit the pressure to the lower parts of the town, because of the damage which would result to fittings and so on; the supply would be regulated by means of valves, so that if in a case of emergency a pressure of water greater than the ordinary was necessary, the temporary requirements of the district could be met in suitable fashion.

The party then drove, *viâ* Langley Hill (following to some extent the route which will be traversed by the mains from Tilehurst reservoirs to Reading), to the new Southcote works, formerly known as the "Weir Mills."

Here Alderman Hill explained the system of water filtration, and had it practically illustrated under the management of Mr. Walker, who passed the Kennet water through the various sections, the result being a perfectly clear and pure effluent. The practical introduction of polarite as a purifier of water is due to Mr. Walker, the next town to successfully adopt this splendid system of filtration (which is now known far and wide as "the Reading system") being Hastings. Mr. Walker's method provides for perfect filtration, combined with remarkable economy in area and cost; and this was fully and practically demonstrated when the company saw the process, being aided in their appreciation of the works by the remarks of Alderman Hill, and the practical demonstrations by Mr. Walker and his son. Upon leaving the Kennet the water first passes through a bed of coke, next through two beds of polarite and two beds of sand alternately. It is then transferred to the filter well, and finally pumped by water power into the Bath Road reservoirs. By the adoption of water as the motive power of the pumps at Southcote the necessity of providing fuel is obviated, and consequently there is a great saving here in working expenses when compared with the cost of the Fobney works, where steam power is employed. When the polarite and sand need cleansing they are taken by barges to Fobney. The coke is not used a second time, it having been found that as fuel its value does not deteriorate in consequence of the use to which it has been put. At Southcote, as at Tilehurst, the committee have had the forethought to secure sufficient ground to allow of an extension of the works if necessary. In the course of his remarks here, Alderman Hill said he thought it was right that the waterworks committee should justify themselves as far as possible from time to time. The estimate for all the work executed at Southcote was put down at 4,000*l*. Of that sum 2,919*l*. had already been spent, and when everything had been completed he hoped that the total cost would not exceed 3,100*l*. Considering what some people's estimates were, he thought that that condition of affairs was to the committee's credit. It had been largely brought about by the fact that their engineer had experienced less difficulty than he had anticipated with regard to the rising main, and also because he had used a great deal of old material.

PATENTS.

[*This List of Patents is compiled specially for this Journal by Mr. G. H. Rayner, of the firm of Rayner & Co., Consulting Patent Agents, 37 Chancery Lane, London, W.C., from whom all particulars and information relating to Patents may be had gratuitously.*]

APPLICATIONS FOR PATENTS.

12198. William Henry Wynn, for "An overlapping brick."

12332. Cesare Spighi, for "Wooden blocks covered with asphalte, mastic, cement, plaster or other analogous material."

12453. Edmund Hodgkinson, for "Improved method of and apparatus or machines for making ridge-tiles, and in attachments to clot-rolls for use in making such tiles."

12482. George William Winn, for "Improvements in or relating to machines for the manufacture of roofing or flooring tiles and the like."

12513. William Winship Wardle, for "Improvements in apparatus for removing wet bricks from brick-making machines."

12639. William Henry Sladdin, for "Improvements in sink-stones."

12648. John Grayson Lowood, William James Gardner and John William Armstrong, for "Improvements in machinery for the manufacture of bricks and similar blocks."

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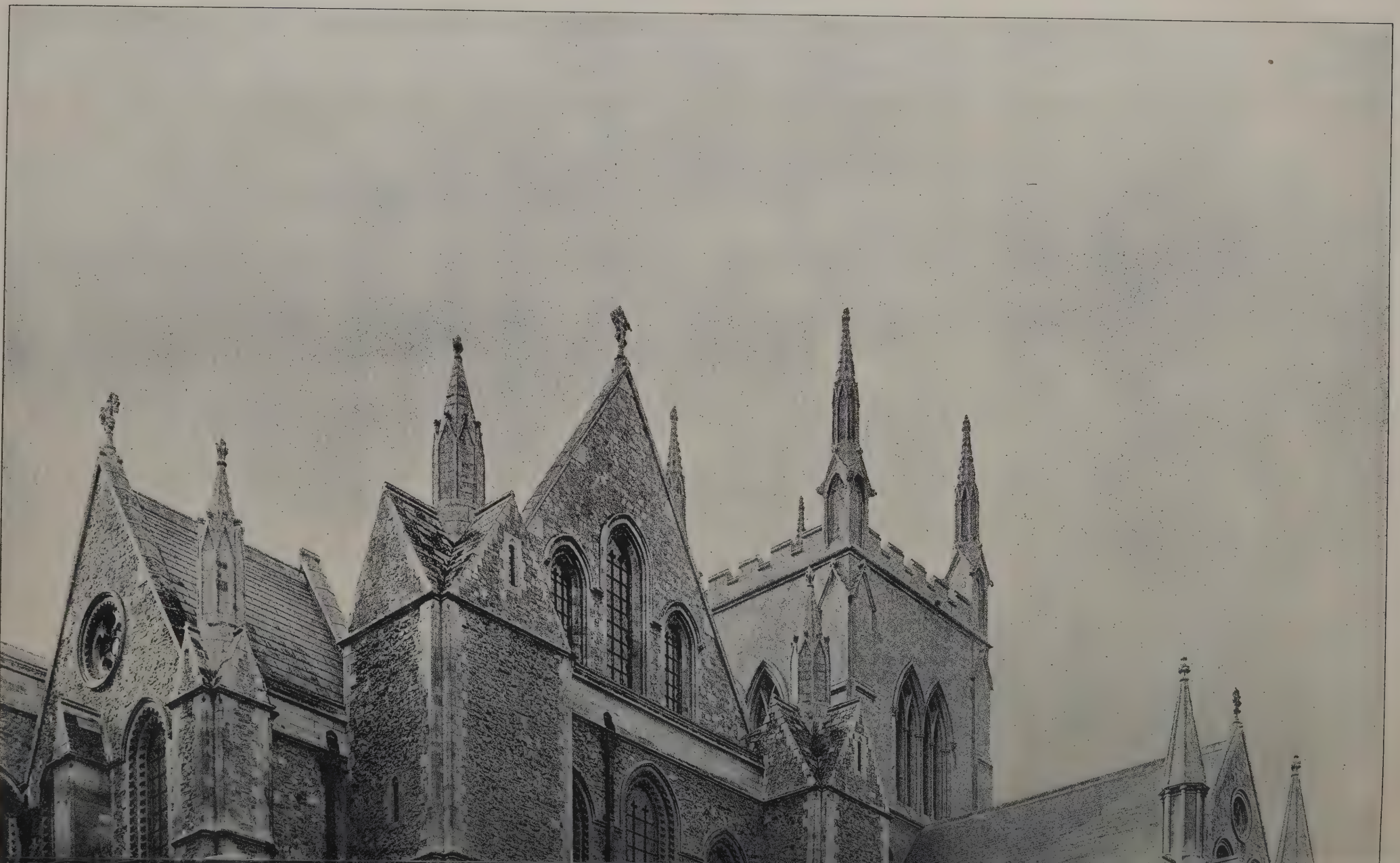
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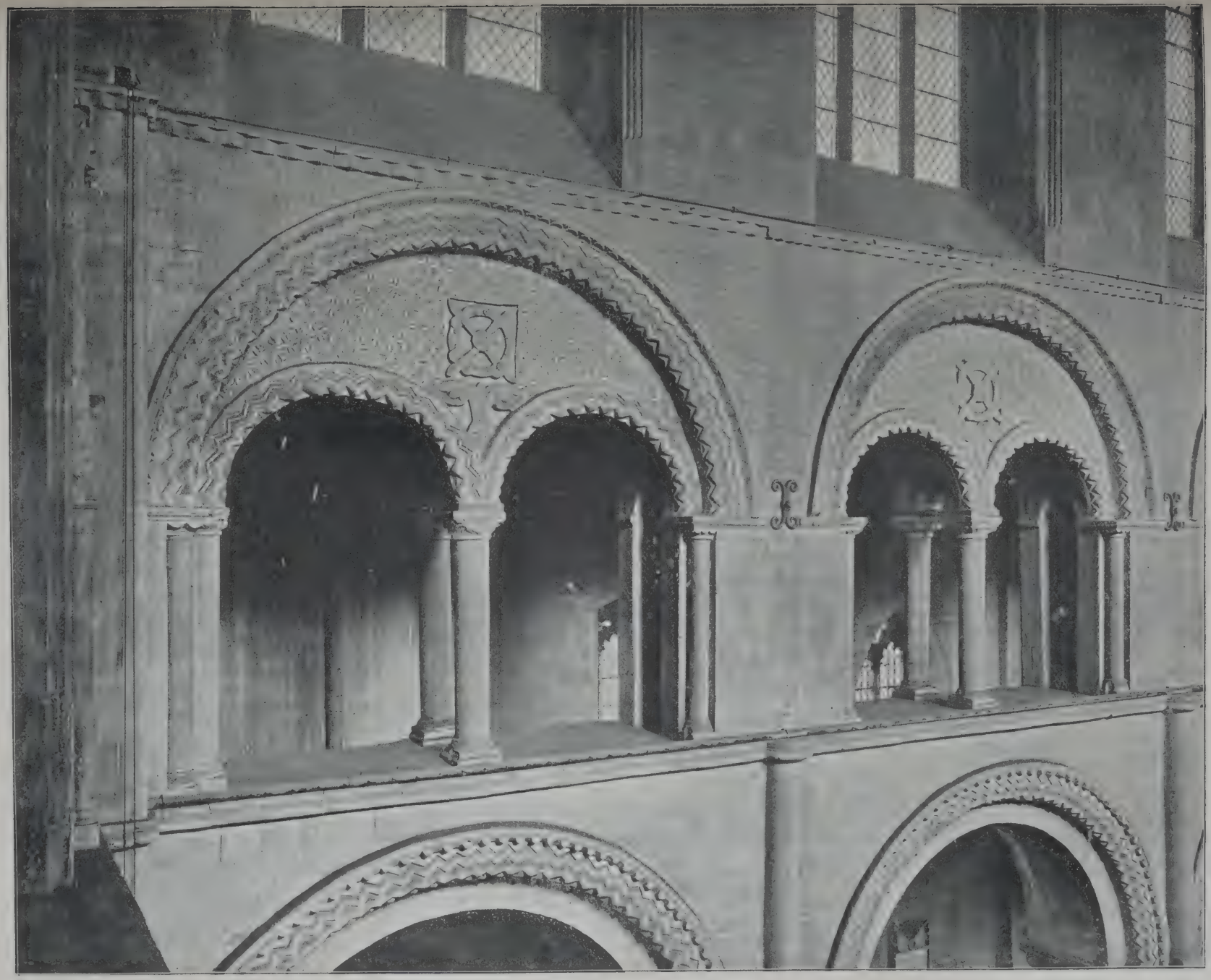


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CATHEDRAL SERIES, No. 243.—ROCHESTER: THE WESTERN TURRETS.

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